Final Report

HIGH IMPACT, PRO-POOR e-GOVERNANCE APPLICATIONS:
Identifying "Killer Applications" and Best Practice Models of E-Governance through Community e-Centers in the Philippines

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Preface

This report is the result of technical assistance provided by the Economic Modernization through Efficient Reforms and Governance Enhancement (EMERGE) Activity, under contract with the CARANA Corporation, Nathan Associates Inc. and The Peoples Group (TRG) to the United States Agency for International Development, Manila, Philippines (USAID/Philippines) (Contract No. AFP-I-00-03-00020-00, Delivery Order 800). The EMERGE Activity is intended to contribute towards the Government of the Republic of the Philippines (GRP) Medium Term Philippine Development Plan (MTPDP) and USAID/Philippines' Strategic Objective 2, "Investment Climate Less Constrained by Corruption and Poor Governance." The purpose of the activity is to provide technical assistance to support economic policy reforms that will cause sustainable economic growth and enhance the competitiveness of the Philippine economy by augmenting the efforts of Philippine pro-reform partners and stakeholders.

The EMERGE Last Mile Initiative-Philippines (LMIP) team, in partnership with the United Nations Development Program and at the request of former Secretary Ramon P. Sales of the Philippine Commission on Information and Communications Technology (CICT), conducted extensive research and field surveys and interviews in 12 eLGU Community eCenters across the country with 4 CeCs in each major island grouping (Luzon, Visayas and Mindanao), which resulted into 2 reference papers that can now be used by the CICT as it pushes forward with efforts to use the CeCs as conduits for e-governance. This is the main report from that effort. The second report, "Setting up Community e-Centers for e-Governance in the Philippines: A Preliminary Assessment of the Community e-Center Program," is published separately. These papers provide the CICT with a suggested methodology for identifying "killer" e-governance applications for CeCs, and also document initial lessons learned in the course of an evaluation of CeCs set up under the Philippine Government's Community e-Center Program.

The views expressed and opinions contained in this publication are those of the authors and are not necessarily those of USAID, the GRP, EMERGE or the latter's parent organizations.

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EXECUTIVE SUMMARY

The use of *killer applications* – i.e., applications and services that create such a high and pro-poor developmental impact, and encourage replication – is a prerequisite to the long-term sustainability and viability of community e-centers. These include, particularly, services that residents find relevant enough that they are willing (and able) to pay for their use such as internet access, communications software, and productivity suites. It also covers other services such as photocopying and CD replication that, while not necessarily internet or computer-related, do provide CeCs with additional sources of revenue that help ensure their survival, especially in rural and underserved areas.

These basic applications are condition precedents for more advanced CeC uses such as e-governance, and will provide the foundations for the use and appreciation of e-governance applications by community residents. It is the demand for these basic applications that are presently driving the set-up and development of CeCs throughout the Philippines.

This paper focuses on two interrelated points. First, this paper proposes a methodology or guide for evaluating killer applications. And second, this paper identifies possible killer applications and best practice models, and discusses how different communities have benefited from their use. The list is by no means comprehensive, but ideally, LGUs and CeC managers would be able to look at this list, and then use the methodology outlined in the previous section to determine which might or might not work in their respective CeCs.

Community e-Centers are in a strategic position to offer e-governance applications at the local levels. CeCs can impact communities and citizens in several ways. By making the right tools and applications available, it can improve accountability and effectiveness of government services and operations, it can enhance government service delivery for industry and businesses and more importantly, it can modernize and ensure the efficient delivery of services to the citizens

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The Philippine government particularly Local Government Units (LGUs), have utilized the CeC model to offer various e-governance services. Although most of the LGUs are still in the infancy stage offering basic access to government information, some made great strides in offering killer applications. Distance learning and skills enhancement applications have been exploited by LGUs especially for remote schools. On the other hand, CeCs have been instrumental in efficient delivery of national government and LGU services to citizens, businesses and even other government agencies. Further, CeCs act as one-stop-shop portal in health care and preventive medicine, business development, agriculture, livelihood promotion and jobs creation. Finally, CeCs can be catalysts for change within the local government units themselves. The bureaucracy becomes more open and receptive to government efforts to use ICT to improve work productivity and service delivery to people.

The challenge for government is to take it one step further and to take full advantage of all these initiatives – of all these CeCs -- to deliver its services down to the remotest areas, and in a manner that is relevant, efficient and effective.

INTRODUCTION

The world has experienced and continues to benefit from tremendous developments in Information and Communications Technology (ICT), and ICT now permeates even the political sphere in ways that have never been possible in the past.

ICT increasingly and demonstrably creates opportunities for governments to innovate services, create new approach in leadership, develop better policymaking strategies and find new ways of making the bureaucracy more effective and efficient. It helps to broaden the involvement of citizens and makes it possible for them to participate in government's decision or the policymaking processes. ICT also helps government to provide better and faster services, extend its outreach and access even in the remotest areas, and reduce the cost of both running and transacting with government itself.

In short, ICT fosters good governance – or the exercise of political, economic and administrative authority in the management of a country's affairs – by promoting public participation, transparency, efficiency and government accountability.

The use of ICT to enhance, undertake or provide for the efficient, speedy and transparent delivery of government services is now broadly taken to mean digital governance or e-governance.[1]

International Experience in e-Governance

More than 90% of all developing countries now practice e-governance.[2] In Southeast Asia, for example, ASEAN has committed to employ ICT in the provision and delivery of services by the government. Included in its e-ASEAN Framework is a commitment to take steps to provide a wide range of ICT-enabled government services and transactions to facilitate linkages between public and private sectors; as well as to enhance inter-governmental cooperation for promoting the use of electronic means in the procurement of goods and services,

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[1]   E-governance definition culled from the UNESCO website available at http://portal.unesco.org, Accessed on November 2006. Note that e-governance and e-government are used often interchangeably in defining how government uses ICT in its services. Strictly speaking, these two terms can be differentiated as the latter focuses on the development of online services to the citizen while e- governance deals with the usage and application of ICTs covering the whole spectrum of relationships and networks within the government. (Riley, Thomas B. 2003. "E-government s. E-governance: Examining the Differences in a Changing Public Sector Climate". International Tracking Survey Report 3)

[2]   Statistics based on OECD, ' Information and Communication Technology (ICT) in Poverty Reduction Papers (PRSPS)', 2003.

thereby promoting transparency and facilitating the freer flow of goods, information and people within ASEAN (ASEAN, 2000).

Governments are also using ICT as tools to improve service delivery. For instance, citizens of Bahrain can file their Visa applications online while Bangladesh developed an Electronic Birth Registration system to reduce error rates in birth registration. Citizens can also participate in the decision making processes of the government through online discussions in government portals.

Access to education also improved through ICT. The blind in Ethiopia are trained to use Braille Technology using computers. In Ghana, farmers and traders are trained to keep farm records in simple databases. Tunisia has a virtual university set up to provide open distance education at all educational levels using multimedia technology. Skills of African writers were also improved through linkages formed between them and UK mentors.

Women greatly benefited from the introduction of ICT in developing countries. In Egypt, APC-Africa-Women, an organization which works for the empowerment of women in Africa, utilizes ICT to promote equality and development by providing information about gender issues and health care as well as basic ICT skills training to women.

The agriculture sector in China and India has also benefited from ICT. Farmers can access agricultural weather messages, farm produce supply information through information networks and skills training using ICT. They can also buy and sell products online.

ICT has also helped to deliver health care services. The Healthnet and the MARA (Mapping Malaria Risk in Africa) Projects of Ghana were developed by the government to reduce malaria deaths using digital maps. In Uganda, the use of personal digital assistants (PDAs) in field surveys by medical practitioners resulted in improved information sharing and quicker medical response among health practitioners. India uses a system to enable donors of blood to register online.

The United Nations has created a compilation of innovative e-government applications from all geographical regions of the world to learn from country experiences, create a venue for promoting e-governance solutions, share in the global knowledge pool, and replicate best practices.[3]

More examples of e-governance solutions and best practices are provided in Annex A.

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[3] Compendium of Innovative e-Government Practices. United Nations, Department of Economic and Social Affairs. New York. 2005

The need for a methodology to evaluate "killer e-governance applications" and best practices for Community e-Centers in the Philippines

One ICT development tool now used by a number of developing countries, including the Philippines, is a shared ICT resource model called the community telecenter or e-center. Community e-centers are seen as effective and affordable tools for bridging the digital divide and harnessing the full potential of ICT. They provide new opportunities for social and economic integration and can serve as a catalyst for synergies between development goals and good governance.

The Philippine Government, through the Commission on Information and Communications Technology (CICT) launched the Community e-Center (CeC) Program to provide the general public with meaningful and affordable access to voice and data services through CeCs. The CeC Program intends to set up 1,500 CeCs all over the country by 2010 through which citizens will be able to participate in electronic commerce, distance learning and e-government, among others.

The CeC Program involves more than simply providing ICT equipment and facilities. CeCs require affordable bandwidth, as well as applications and content that will create a compelling reason for citizens to use CeC facilities and services. Consistent with this, the Commission on Information and Communications Technology (CICT) of the Philippines, therefore, is prioritizing the identification of high-impact e-government applications and replicable best practice models that can be offered by CeCs.

This paper responds specifically to a formal request from the Philippine Commission on Information and Communications Technology (CICT) for assistance in determining effective ways of attracting citizens (especially the urban and rural poor that have never used an Internet application in their life) to the CeCs and, more particularly, to develop a methodology or a guide for identifying "killer applications" and best practice models of e-Governance that might be suitable for deployment in Community e-Centers throughout the Philippines.

What makes an application "killer?" For purposes of this effort, *killer e-governance applications* is loosely defined to mean applications, and/or uses of the CeC in a particular community that improve or innovate upon the delivery of government services (e-governance), create such a high and pro-poor developmental impact that measurably benefits residents, and encourage replication as best practice models in other similarly situated communities.

In other words, the adjective is not limited to those applications that will likely have universal impact (in the way that, say, email was a killer application for the

Internet). Rather, we sought to find those applications that could have a profound or significant impact on a given community, and that likely will have similar beneficial effects on similarly situated communities.

It is in this context that brings about the need of the CICT and local governments for a methodology to identify and/or evaluate a particular killer e-governance application or best practice model in terms of its relevance and potential impact on a given community.

If government is to push, or if a local government is to invest, in particular applications or models, what steps can they take to ensure that such will have the desired impact? Given the perceived needs and capabilities existing within the community, what applications or models will yield the greatest benefit for the constituents?

This document therefore seeks to provide guidance for the CICT as it pursues its efforts to identify, develop and/or deploy e-governance applications through CeCs.

Specifically, this paper focuses on two interrelated points. First, this paper proposes a methodology or guide for evaluating killer e-governance applications. The effort to provide such killer applications and best practice models can come from above as government pushes applications and models throughout the CeCs all over the country; and it can also come from below as innovations and best practices that emerge from the experience of the communities themselves. Depending on the flow (top-down or bottom-up), what factors and issues need to be clarified to ensure the successful deployment of such *killer* applications?

And second, this paper identifies possible killer applications and best practice models of e-governance, and discusses how different communities have benefitted from their use. The list is by no means comprehensive, but ideally, LGUs and CeC managers would be able to look at this list, and then use the methodology outlined in the previous section to determine which might or might now work in their respective CeCs.

A Final Note

It is important to point out that the identification of such applications and models is premised on one basic assumption. That is, e-governance applications are relatively advanced tools, and the successful deployment and use of such presupposes that the foundations for such deployment and use are already in place.

The pursuit of e-governance through the CeCs, in other words, presupposes that CeCs are able to get the basics right first.

In many parts of the Philippines, especially rural and remote areas, the challenges facing CeCs are much more basic. Many constituents could be seeing computers for the first time, or could be intimidated or uncomfortable with new technologies, or might not have a good grasp of how ICTs can tangibly affect their daily lives.

Basic applications and services such as Internet connectivity, web browsing, and productivity software (for word processing, spreadsheet applications and presentation, among others) need to be in place.

Infrastructure and sustainability are also issue of paramount importance, and are preconditions for the deployment of e-governance and indeed, other more advanced applications and services. How will connectivity be obtained? How will the CeC pay for connectivity, and other necessary expenses like salaries, utilities, or rent? Is there a market for their services, and can that market be expanded?

Basic training needs on how to manage and run the CeC effectively, as well as sustainability issues. How will it be funded? What is the business model? How will it pay for set-up and recurring costs? These should be addressed by CeCs first, before they can truly be used as conduits for e-governance on an effective, and sustained basis.

These issues are beyond the scope of this present paper, but nonetheless, as part of the field research for this paper, the authors visited several CeCs – pre-identified with the CICT – and conducted surveys, focus group discussions and in-depth interviews with community stakeholders. The results of these efforts, including data and information that directly address these basic questions are the subject of a separate paper, herein attached as Annex B.

I. COMMUNITY E-CENTERS AND E-GOVERNANCE IN THE PHILIPPINES

Before going into the main points of this paper, it is useful to begin with an overview of the Community e-Center Program in the Philippines and to outline the existing programs and efforts that are being pursued to utilize CeCs for e-governance.

Community e-Centers in a Nutshell

Developing countries such as the Philippines are characterized by relatively low PC penetration and poor bandwidth capacities compared to first world and newly industrialized countries. Low PC penetration and internet usage especially in the rural areas partly reflect the financial inability of citizens to own their own computers (much less with internet connectivity) and relatively low skill levels in using computers and online applications.

The use of *shared facilities*, such as community e-centers (CeC), has been shown to help to increase PC penetration and internet usage. The core concept of a CeC is the ability it affords community members to pool community resources so that residents would be able to afford the use of ICT services, that otherwise would have been beyond their means as individuals.

Community e-centers are strategically located, and offer the public with access to ICT-based equipment, services and applications. They are commonly equipped with information infrastructure such as telephone lines, computers, printers, facsimile, internet connection, and content applications to address the needs of a community .

A basic feature that distinguishes a CeC from a typical public phone access is that a variety of services are made available via the telecommunication link – voice, fax, email, web, etc. In this way, CeCs exploit the convergence in computer and telephone technologies, making investment in telecommunication infrastructure more attractive because the telecom facility can now deliver more services than simply voice telephone calls (Basilio, et.al., 2006).

The "shared access" approach has already been shown to be successful in launching public calling telephony stations in rural and remote areas in developing countries. In the same way, CeCs allow telephony, Internet connection, and other ICT services to be economically and technically feasible.[4]

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[4] Handbook on "New Developments in Rural Telecommunications," Telecommunication Development Bureau, International Telecommunication Union Study Group 2, Document 2/12 –E, 3 August 1998, p. 42.

And with such shared access enabled, it becomes possible for e-government services to efficiently and effectively be extended, even to far flung areas.

CeCs can then use information technology to offer a variety of different activities and can serve as providers of:

(a) information and access to internet;
(b) learning centers for different sectors of the society;
(c) assistance for business development, health, finance and agriculture; and
(d) government services; *among others*.

In this manner, CeCs can facilitate and enhance the delivery of public services. The ability to access and share information through the CeCs can also contribute to the development process by improving effectiveness, efficiency and equity.

Apart from providing ICT services, CeCs are also expected to have a positive impact on social development, poverty alleviation, skills development, employment generation, good governance and the integration of isolated communities into the national and international information network.

Community e-Centers as Conduits for e-Governance in the Philippines

Important elements of Philippine e-governance efforts include infrastructure development, establishment of an appropriate and effective legal and regulatory environment, increased capacity of local government units to act as conduits of e-governance, increased and affordable access of ordinary citizens to e-governance, among others. The Community e-Center (CeC) Program of the government plays a critical role in providing these elements, particularly as avenues for facilitating e-governance and moving towards universal access to information and communications technologies.

The CeC Program is part of the national development strategy of the current administration to increase access to infrastructure. CeCs are envisioned to provide greater access to and affordability of ICTs, in line with the Medium-Term Development Plan of the Philippines 2004-2010 which states that

> *The digital divide within the country will be reduced by establishing more public access points such as CeCs for delivery of e-government and other services to provide universal access to information and communications services in unserved areas, link communities, facilitate*

Basilio, Faustino, Mirandilla and Umali. "Achieving Universal Access in the Philippines through Community Telecenters. International Development Research Center. September 2006.

trade and commerce, and empower rural communities socially, economically and politically.

In 2003, with leadership from the Commission on Information and Communications Technology (CICT), the concept of a national Community e-Centers (CeC) program was developed. The CICT's CeC program has three sub-programs each handled by an Office within CICT.

The iSchools program, managed by the Human Capital Development Group, equips schools with ICT infrastructure, enhancing their capabilities for e-learning skills development. These iSchools are also transformed into CeCs, which are then opened to use by community residents after school hours. To date, 40 iSchools are currently being deployed and 320 more are expected to be all operational by 2010.

Another CeC program of the CICT, handled by the Telecommunications Office (TelOf), aims to transform existing Public Calling Offices (PCOs) into CeCs thereby upgrading the PCOs from merely offering voice calls to a complete data center where communities can use computer and internet applications. The CeC is equipped with 3-4 computers, a digital camera, overhead projector, a colored laser printer and a 3-in-1 printer. The services range from internet access, to making national and international phone calls, to email and texting services, to money transfer and remittances, to sending facsimile and social telegram, and to common services found in a computer shop such as printing, scanning and photocopying services. As of June 2007, the Telecommunications Office had already deployed 120 Community e-Centers in its PCO centers.

To fast track the implementation and deployment of the CeC program, the CICT established a CeC Project Management Office (CeC-PMO) to establish Community e-Centers with other stakeholder such as LGUs and cross oriented institutions.

Each CeC deployed by the PMO will be equipped with four (4) interconnected computers, an internet connection, office equipment such as photocopier, printer, scanner and digital camera and basic data processing software. Assessment of needs of the municipalities were also done by the PMO prior to the implementation of the project to further explore how the CeC can be of help to the community. As of June 2007, 259 CeCs sites were deployed across the country. However, only 101 sites have broadband internet connection as connectivity in remote areas are not yet available.

In addition, the NCC, an agency attached to the CICT, is one of the leading government agencies promoting Community e-Centers at the local level. Its **"Jumpstarting Electronic Governance in the Local Government Units"** or the **e-LGU** Project aims to assist LGUs in making headway in their computerization initiatives**.**

Each CeC under this Project will receive three (3-4) computer units, a four-in-one equipment package consisting of a scanner, printer, facsimile machine and copier, one (1) web camera and local area networking peripherals. The LGU will be provided with basic training for the personnel and assistance in social preparation for the local residents. NCC's partner research institution, the Development Academy of the Philippines (DAP), will handle social preparation in Luzon while CVISNET will be tasked to handle Visayas and Mindanao.

As counterpart, the host LGU shall provide the Internet connection, telephone lines, a 30-square meter office space to serve as the e-Center, and personnel to manage the Center. The first CeC under this program was established and launched on October 20, 2004, in the Municipality of Upi in Maguindanao Province, which is under the Autonomous Region for Muslim Mindanao (ARMM).

As of June 2007, 103 Community e-Centers have been deployed by NCC in LGUs across the country.

The following are the major e-government-related services available at these e-LGU CeCs:

- **eLGU services** – access to LGU information, which includes the issuance of barangay clearances, residence certificates, real estate tax payments, business permits and licenses and complaints desk;

- **National Government Online Services** – include NSO birth certificates, Social Security System (SSS) loans, Philhealth, PagIbig and GSIS (Government Service Insurance System (GSIS) loans and contributions tracking, Philippine Overseas Employment Agency (POEA) overseas application;

- **Community-based services** - like price monitoring of agricultural products, local tourism tour packages/bookings, local content development and data entry;

- **Special OFW services** like VoIP, e-mails with webcam, job search and placement;

To further boost efforts for Community e- Center development, the NCC signed a partnership with the Development Academy of the Philippines (DAP) and the Department of Science and Technology (DOST) Regional Office VII to set-up, launch and pursue the programs under the different components of the CeC Project. This includes the establishment of CeCs in 43 LGUs in Mindanao, 21 in the Visayas and 49 in Luzon. The MOU included, among others, provision of equipment, the conduct of appropriate, training and social preparation activities.

DOST Region 7 and DAP will cover the provision of the trainings, community mobilization and social preparation for the earlier identified 33 Year-1 CeC recipients.

To harmonize all CeC initiatives, the CICT created a Program Management Office, headed by the NCC, to synchronize all CeC efforts within the CICT and other concerned organizations and agencies. The Program Management Office provides management, and technical support to all CeC related programs of the government.

Aside from managing CeC deployment and overseeing CeC initiatives of the government, the NCC has been at the forefront of bringing together experiences of all CeC initiatives of both the public and private sectors. For the past three years, it has organized three knowledge exchange conferences for all CeC stakeholders. Further, it has created the Philippine CeC Network where stakeholders can share and discuss CeC best practices and experiences.

The CICT is now spearheading an effort to create the Philippine CeC Roadmap which will serve as the country's blueprint for CeC initiatives and provide overall policy direction and strategies in CeC development. In parallel with the Roadmap formulation, the NCC is also developing the Philippine CeC portal as a tool to realize the goals of the roadmap and to provide online support and services to all CeCs.

Other Public-Private Partnerships to Support the Community e-Center Program

In sum, the establishment of Community e-Centers is seen as a way for the government to bridge the digital divide between the rich and the poor and between urban areas and rural areas. CeCs can help to alleviate poverty they will open new opportunities for creating jobs, selling products, promoting tourism, extending government and public health services, and competing in the larger domestic and global markets.

To be sure, beyond the CICT, there are numerous government, private sector and non-government initiatives that pursue or support similar set-ups.

One of the pioneers of ICT innovations in the Philippines is the Global Learning Opportunity on the Web (GLOW) Centers[5]. The GLOW centers originated from Australia with pilot centers in Southeast Asia, particularly the Philippines. It seeks to provide opportunities for poor young deserving people in urban areas to learn vocational and Internet skills for free. At present, 20 centers in the rural areas of Australia and developing countries such as in the slum areas of Metro Manila in the Philippines and East Timor were established and operational.

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[5] Full prospectus of the Glow Program is available online at www.digitaldividend.org

The DOST, through the Philippine Council for Health Research and Development (PCHRD) established pilot Multipurpose Community e-Centers (MCTs) in four barangays in Mindanao with existing public calling offices (PCOs).[6]

The government of Cebu along with the private sector, non-government institutions and barangay leaders initiated the "Barangay.net" Project to increase IT awareness and appreciation down to the grassroots level through Internet connectivity. The project's goal is to establish "e-centers" or one stop information resource center in every barangay. The e-center will serve as a venue for the residents to avail and access information for their needs, and trainings on ICT and development applications can also be held in the e-center. Ultimately it is hoped that all barangays will be e-enabled and able to open opportunities for jobs, and business and trade among communities.

The private sector and development organizations have also utilized the telecenter model in developing their own CeC programs. Public schools are mostly the beneficiaries of private sector led initiatives such as the Gearing Up Internet Literacy and Access for Students (GILAS), SMART Schools of the PLDT and SMART Telco, Microsoft Connected Learning, Engineers without Borders and the CLIC Program of USAID GEM. On the other hand, the B2BPriceNow organization targets cooperatives and entrepreneurs who will set-up and manage B2B CeC Centers.

Finally, development institutions such as the Last Mile Initiative-Philippines of the USAID seeks to develop innovative CeC models which can be scaled and replicated by the CICT.

[6]   Opena, M. (1999*). Multipurpose Community Telecenters in Selected Philippines Barangays.* International Development Research Centre (IDRC.), Ottawa.

II. THE CHALLENGE: IDENTIFYING "KILLER E-GOVERNANCE APPLICATIONS" FOR COMMUNITY E-CENTERS

Killer applications for CeCs certainly exist and have been documented. Indeed the use of such are prerequisites to the long-term sustainability and viability of community e-centers. That is, CeCs must provide services – killer applications, if you will – that residents find relevant enough that they are willing (and able) to pay for their use.

These include, particularly, internet access, communications software (email and increasingly video-enhanced chatting applications), office productivity suites (word processing, spreadsheets, presentation software), as well as more business-related services such as photocopying and CD replication that, while not necessarily internet or computer-related, do provide CeCs with additional sources of revenue that help ensure their survival, especially in rural and underserved areas.

These basic applications, it should be emphasized, are condition precedents for more advanced CeC uses such as e-governance, and will provide the foundations for the use and appreciation of e-governance applications by community residents.

It is the demand for these basic applications that are driving the set-up and development of CeCs throughout the Philippines.

The challenge for government is to take it one step further and to take full advantage of all these initiatives – of all these CeCs - to bring its services to the remotest areas, and in a manner that is relevant, efficient and effective. What killer applications and best models *of e-governance* can they provide?

E- governance facilitates efficient, speedy and transparent process of disseminating information to the public, and other agencies, and for performing government administration activities through the electronic medium (UNESCO,2005). It seeks to increase the participation of citizens at all levels of governance through the provision of online services to citizens in an efficient manner. E-governance applications are government services for the people that use ICT as tools for delivery and enhance access to services.

CeCs are rightly seen as potentially very effective conduits for e-governance, and killer e-governance applications will not only help to attract citizens to use CeC services, they can help make government more relevant and effective in the delivery of their services, particularly in rural and remote areas.

Moreover, choosing to push or promote a particular service, model or application inevitably requires investments and costs, which government – whether on a national or local level – must be able to justify.

What makes an e-government application *'killer[7]'*? How does government choose – or is it even wise to attempt to choose? Would it not be better to let these developments emanate from the bottom-up, rather than to push the choices from the top-down?

A Proposed Methodology for Identifying and Evaluating Killer Applications and Best Practice Models of e-Governance for CeCs

In this section, we propose a framework methodology that hopefully will aid government decision and policymakers in identifying effective high impact, pro-poor e-governance applications that can be deployed in CeCs.

As stated earlier, we use the term *killer e-governance applications* loosely to mean applications, and/or uses of the CeC in a particular community that create such a high and pro-poor developmental impact that measurably benefits residents, and encourage replication as best practice models in other similarly situated communities in the Philippines and elsewhere.

The identification and selection of e-governance applications that can and should be deployed through CeCs can be pushed by government or pulled in by community needs or realizations.

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[7] Please see definition of killer applications on page 16

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                    ┌─────────────────────────────────────┐
                    │        ICT Needs Identification       │
                    │  Aggregated needs of CeCs, sector      │
                    │    needs, and/or government targets    │
                    │  • Government directive and priorities │
                    └─────────────────────────────────────┘
                                     │
                    ┌─────────────────────────────────────┐
                    │     Alignment to government goals     │
                    └─────────────────────────────────────┘
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(Government push)

- ICT Needs Identification — Aggregated needs of CeCs, sector needs, and/or government targets • Government directive and priorities
- Alignment to government goals
- Potential impact of killer app • Cost efficiency • Citizen empowerment • Citizen participation • Accountability and transparency • Efficiency and effectiveness
- Narrowed down list of application • CeCs matching where application will be pilot tested
- High impact cec "killer app"
- Inception → Pilot-testing and training → Deployment

(Community Pull)

- Needs analysis and evaluation of potential impact of killer app • Citizen empowerment • Citizen participation • Accountability and transparency • Efficiency and effectiveness
- Knowledge Sharing
- Community-Discovered Killer Apps
- Set-up Basic CeCs

Government Push: A Top-Down Approach

CeCs, provides effective and affordable access to ICT and fosters good governance – or the exercise of political, economic and administrative authority in the management of a country's affairs – by promoting public participation, transparency, efficiency and government accountability.

Government can proactively push certain models and applications as part of its implementation of strategic plans to promote, deploy and use ICT for development. Through national level agencies such as the CICT and the NCC, the national government can and does deploy tools for e-governance, such as ICT tools to facilitate business registration or real property tax collections, or simply requiring government agencies to have an online presence that allows for web-based transactions.

In this approach, then, government must start by identifying the needs that it wishes to respond to, and that can be addressed by using ICT and particularly, CeCs. Data can come from sector needs identified by the government, aggregated needs from CeCs, or government thrusts based on consultations with various

stakeholders. Additional data can be sourced from national and regional plans, as well as relevant information on population and ICT literacy, international best practices, and through the conduct of surveys and need assessments.

Once these needs are identified, a broad list of applications can easily be made based on innovative ideas from government and other stakeholders, international best practices, and CeC experiences on what works. It is thus important to develop a databank of local best practices of CeCs to serve as repositories of ideas for benchmarking and formulation of innovative ideas.

Each of potential applications can then be evaluated against the government's goals and objectives, and their capacity to actually implement them.

- *Does it support existing national/local development plans and goals?*

- *How much investment is needed, and how will this investment be sourced (grants, loans, savings)?*

- *Is this something government should push, or is it better left to the private sector? Are there openings for public-private partnerships?*

- *How does can government deliver the services on a sustained basis? Does ICT, in this case, promote cost-effective delivery? Is the technology/software/infrastructure needed affordable and/or available?*

Potential benefits of the applications should also be fleshed out, and measurable parameters identified that will allow for objective evaluations of their respective development impact. For instance,

- *Who are the target users/beneficiaries of the application? How will they benefit (e.g., Increased income? Increased exports? Increased literacy levels? Lower incidence of disease? More jobs?)*

- *Does the potential benefit outweigh the expected cost?*

Finally, pro-poor and high impact applications should be analyzed based on its value, benefit and replicability. As a framework of analysis, potential solutions are considered in the context of broader social goals that are sought to be obtained by the promotion of e-governance:

- Citizen Empowerment – *Does it provide the citizen with more tools to participate in the global economy? Does it help him/her to identify new opportunities, challenges, useful information, etc. that will improve his/her quality of life?*

- Citizen Participation – *Does it encourage and increase citizen involvement and awareness of government policies, goals, programs and services? Does it make it easier for citizens to transact with government and provide government with feedback, comments, suggestions and criticism?*

- Accountability and Transparency – *Does the model, application or service promote greater transparency in the delivery of government services? Does it deter, if not prevent, corruption and fraud in government transactions?*

- Efficiency and Effectiveness – *Does it help make the delivery of government services more effective and efficient? Is it more responsive, both in substance and in terms of time of delivery?*

The result of the process flow should be a narrowed down list of potential high impact pro-poor applications to be pilot-tested in CeCs. These applications should be matched with specific CeCs with needs that can be addressed by the identified e-governance solution.

iSchools Web Board: An Example of Killer Application Identified using the Top-Down Approach

The I-School Program is an initiative under the Commission on Information and Communications Technology's (CICT) Community e-Center (CeC) program to help the Department of Education by providing computer laboratories, e-learning resources and capacity building trainings for teachers in more than 5,000 public high schools by 2010. One of the components of the I-school program is to help public school teachers develop their own web boards which would enable them to develop and share e-learning resources.

"I always thought that building a website for the schools and the regional office is such an expensive endeavor which requires technical know-how and huge funding. This is partly why we haven't really used ICT for improving education," said Mr. Alfonso Estolas, a Regional ICT Coordinator of the Department of Education. "The training (iSchools Web Board) taught us how to use free online resources which are all useful in improving the educational system in public schools."

"This is the first technical training we attended that really equipped us on how to maximize the potential of internet resources for learning. Now, we have a digital space where we can share lesson plans, multi media materials, educational content and even monitor web boards and ICT competencies of teachers," said Dr. Cathy Petilos, regional ICT coordinator from Region 8.

The training seeks to build a regional web board where individual teacher web boards are integrated for interaction, sharing of best practices in teaching and development of educational materials.

The iSchools Program is a good example of a government-led identification of a killer application deployed through CeCs that supports government's larger development goals for education. The plan is to deploy the web board model in all Deped organizational structure levels, including more than 5,000 iSchool CeCs throughout the country.

In the past year, the Last Mile Initiative – Philippines, a USAID funded project to support the CICT's CeC Program already conducted web board trainings at the regional, division and school levels with more than 120 participants from 40 schools. The LMIP will also conduct management training for the national office to equip them with skills on how to manage the web board program and how to deploy and cascade it to all public high schools.

Community Pull: A Bottom-Up Approach

The bottom-up approach or a demand-driven approach recognizes and in fact celebrates the fact that many, if not most, of the truly transformative innovations are unanticipated, serendipitous and emerge on the field. It is almost an expectation that such practices naturally result from the new ability of people to explore and push the applications of ICT that they can now access through CeCs.

CeCs provide an invaluable starting point to introducing ICT tools; demonstrating them to be convenient, relevant, affordable and useful; reassuring community residents and making them comfortable in being around and in using new technologies; and initially providing but ultimately allowing users themselves to find and make useful content to add value to the CeC.

Using this approach, the starting point then is to make CeCs relevant and immediately useful to community residents, believing that with repeated and collective use, the community itself will eventually call for, identify or even discover the e-governance applications that will best address their needs analysis from the citizens, and different stakeholders the CeC is serving and provide the greatest impact.

Proactively, a needs assessment for the citizens, and different stakeholders can be undertaken by the CeC as the initial step in identifying high impact e-governance applications. ICT needs can obtained from consultations with various sectors, surveys, group discussions and client exit interviews.

Government's role then is to put into place a program that encourages the free development of community-based innovation; enables it to learn of best practices that emanate from the ground; and then to systematically document and share these with other communities for appropriate scaling and replication.

The criteria for evaluating such community-discovered models, and classifying them as "killer applications" or best practice models can largely be the same as the top-down approach:

- Citizen Empowerment – *Does it provide the citizen with more tools to participate in the global economy? Does it help him/her to identify new opportunities, challenges, useful information, etc. that will improve his/her quality of life?*

- Citizen Participation – *Does it encourage and increase citizen involvement and awareness of government policies, goals, programs and services? Does it make it easier for citizens to transact with government and provide government with feedback, comments, suggestions and criticism?*

- Accountability and Transparency – *Does the model, application or service promote greater transparency in the delivery of government services? Does it deter, if not prevent, corruption and fraud in government transactions?*

- Efficiency and Effectiveness – *Does it help make the delivery of government services more effective and efficient? Is it more responsive, both in substance and in terms of time of delivery?*

- Sustainability – *How does government deliver the services? Does ICT, in this case, promote cost-effective delivery? Is the technology/software/infrastructure needed affordable and/or available?*

Using CeCs for Job interviews: An Example of Killer Application Identified using the Bottom-Up Approach

It all started with a simple idea of providing the municipality of Manolo Fortich the province of Bukidnon in Mindanao, with a CeC that local residents could use.

As Congressman Nereus Acosta related, "We wanted Manolo Fortich to serve not only as a gateway to central Mindanao but also as *the* gateway of Mindanao to the 21st century. Through this CeC, this Municipality will be the model of others in taking the last mile initiative to a new future," Cong. Acosta said.

It was a simple set-up: five computers in a room set aside in the municipal hall. The Last Mile Initiative-Philippines provided assistance by introducing the local government to a broadband provider, and later providing trainings on how to sustainably manage the CeC and train community residents on Internet and productivity applications.

The municipal government eventually got into the act. It got its Public Employment Service Office involved, and soon, citizens were going online to find jobs being offered by Manila-based Internet jobsites. The CeC also arranged for interviews with Manila-based employment agencies using webcams and the VOIP facilities of the center.

Mayor Acosta spoke with pride over the immediate impact of the CeC, as she related how numerous job interviews between locals and Taiwan-based firms were made possible by access to VoIP and webcam facilities. This resulted in the successful placement of 10 applicants on their very first try at online job interviews.

"Ultimately, we want out Municipality to become the center for people looking for opportunities through our job database," Mayor Socorro Acosta added. "Through our CeC facilities, applicants can now arrange for online interviews and eventually land jobs."

News of the services and benefits being provided by the CeC in Manolo Fortich traveled fast, and nearby municipalities in Bukidon and provinces such as Misamis Oriental have already inquired with Mayor Acosta on how they can participate in or replicate the CeC in Manolo Fortich. This early success, and the interest shown by other local governments and communities, provides encouraging signs for replicating and scaling up the model to other community e-centers throughout the country.

Beyond merely sharing best practices and success stories, then government must proactively move to identify those communities, areas or sectors where bottom-up-identified killer applications can be replicated and deployed.

The following questions can serve as guides – both for governments and for stakeholders within the communities themselves – for evaluating the relevance and possible use of an identified application or service:

1. Inception

    - *Is there critical mass of potential users where the application will be deployed?*

    - *Are there appropriate skill sets in developing the application?*

    - *Are there resources to develop or adapt the application in the local setting?*

    - *Are there mechanisms to generate participation of stakeholder in providing inputs for applications development?*

    - *When is the most appropriate time to deploy the application considering manpower, financial resources, capability building, community awareness, social prep, and marketing?*

2. Pilot testing

    - *Does the community have the necessary skills set to develop, test, deploy and evaluate and monitor the application?*

    - *Are there appropriate pilot sites for the deployment?*

    - *Are stakeholders including the LGU, community, CeC management and users involved and/or supportive of the project? Have they been consulted for comments and inputs? What are their roles?*

3. Monitoring and evaluation

    - *What monitoring tools are going to be used to evaluate the acceptance, usability, sustainability and impact of the particular application?*

    - *Are performance monitoring system set in place at the CeC?*

    - *Who will be in charge in monitoring outputs and outcomes, and have they been adequately trained/briefed for such duties?*

III. POTENTIAL E-GOVERNANCE KILLER APPLICATIONS AND BEST PRACTICES FOR COMMUNITY E-CENTERS

Community e-Centers are in a strategic position to offer e-governance applications at the local levels. CeCs can impact communities and citizens in several ways. By making the right tools and applications available, it can improve accountability and effectiveness of government services and operations, it can enhance government service delivery for industry and businesses and more importantly, it can modernize and ensure the efficient delivery of services to the citizens.

Annex B documents initial best practise and lessons learned in the course of an evaluation of CeCs set up under the government's Community e-Center Program. Summary and detailed assessments of twelve (12) CeCs across the archipelago are presented based on interviews, surveys and focused group discussions.

BASIC CeC APPLICATIONS

It cannot be overemphasized that there are certain basic services that all e-centers should be able to provide if they are to truly get community residents to use their CeC facilities on a regular basis.

Getting these foundations right is key and is a precondition to sustainably providing e-governance applications which are relatively more advanced. These basic applications also serve to introduce constituents to the benefits of using ICT in their daily lives, and help make technology less intimidating.

Equally, if not more important, they lay the predicates for more innovation as users begin to explore and find more and better uses for the technologies and the CeC facilities.

Basic ICT Services

The CeCs should offer a wide array of basic productivity applications such as basic word processing, Internet access and web browsing, and spreadsheet and presentation software.

It is also important that CeC managers and staff be trained as trainers who can teach constituents – many of whom may be seeing a computer for the first time – on how to use the facilities, and the software and services that they have to offer. This not only enhances the skills of the community residents, it also expands the market base of users thereby increasing the prospects for long-term, fee-based sustainability.

Internet Access

Of the various CeC services, internet service is one of the most accessed services. Clients use the internet to chat, email, research for school work, find friends, download multimedia and use government online services. CeCs with webcams and headsets for chatting are observed to have more frequent and regular clients. Users also frequent the CeC to use office applications (both Open Office and MS Office), print and photocopy documents and also for VoIP and telephony.

Basic and Advanced Trainings

Eight CeCs offer basic ICT literacy training including the use of office applications and how to use the Internet. This is one way of increasing the knowledge base of citizens skilled with the use of ICT and at the same time increase the demand for CeC services – the trainings help to increase the number of community residents who will find the CeCs useful.

Of the eight CeCs offering training, three are equipped to offer advance training courses such as web making and design, information systems and elearning. ICT training not only provides ICT skills to the community but also serves as a source of revenue such as in the case of the Tanauan CeC where the LGU charge fees for advanced training. One-on-one computer tutorials are also offered by CeCs that do not offer formal ICT training services.

Internet Telephony

The overwhelming users of CeC facilities have immediate family members, friends or distant relatives working abroad as Overseas Filipino Workers. Gaining a deeper understanding of the role of the CeC as a channel for more affordable means of communication – particularly as a provider of Voice over Internet Telephony (VoIP) – is, therefore, an important issue.

Note that, based on informal field surveys, mobile phones are the preferred and most convenient choice for communicating with their friends or loved ones abroad. It is cheaper, however, to receive calls from abroad, rather than calling abroad from the Philippines. Thus, Filipinos are likely to send a text message, or deliberately make a missed call, following which they are called back by the overseas Filipino with whom they wish to speak.

VoIP makes such call-backs unnecessary. Several respondents with access to broadband internet at home already use instant messaging and VoIP (e.g. through webcam chatting or Skype). Some of those without internet connectivity at home visit their CeC to access the webcam and VoIP services. They also prefer to use emails rather than the traditional snail mail system as emails are faster, cheaper and have the ability to send audio, video and pictures.

A number of CeCs already use VoIP services so as to provide cheaper overseas calls to the community. The San Remigio CeC for instance can be reached via communication link with their website. CeCs in Maramag and Manolo Fortich have VoIP handsets which clients can use for international calling.

Other CeC Services

CeCs can also offer a wide array of services, not all of them necessarily ICT-related, such as basic telephony, computer applications, photocopying, graphic design, research, printing, scanning, internet applications, online government services, among others not only to serve the community better, but equally important, to enhance its sustainability and income generating capabilities. In other words, CeCs can act as a one-stop shop that caters to community interests and needs by offering services that allow community users to use its facilities for activities ranging from research and other work-related activities to communications (email, chatting, VoIP) to searching for jobs to accessing government services online.

POTENTIAL E-GOVERNANCE KILLER APPLICATIONS FOR CeCs

The following discussion deals with potential killer *e-governance* applications, classified along sectoral lines or development goals, which governments (top-down) or communities (bottom-up) could consider for deployment either on a national/regional scale or for their own more limited areas, respectively. The list is by no means comprehensive, and is offered merely as a starting point for further discovery and exploration.

Education and Human Resource Development

- *Distance Learning.* In addition to **iSchools** (see box, pp. 20), CeCs can be used for alternative learning. They can use VoIP and webcams for distance learning. For instance, CeCs are avenues for the Philippines' **eSkwela program**, an alternative education program of the CICT where out-of-school youths use the ICT-based learning modules on basic subjects such as math, science and English to prepare for equivalency exams that, if they pass, will earn them their high school diplomas. Deployment to CeCs can either be web-based, or done through CDs (especially for CeCs that are not or have difficulties in being reliably connected to the Internet).

- *Skills Enhancement.* Citizens visit the CeCs to learn basic ICT skills. ICT training offered by the CeC is among the top services that empower citizens and make them more productive. To the extent that increasing the basic ICT skills of constituents helps to increase the market base of the community, increases demand for CeC services, and helps people become more productive

even beyond the confines of the CeC, local governments can easily justify providing these trainings for free or at heavily subsidized rates. Training modules are already readily available from the CICT or through Last Mile Initiative-Philippines (www.lastmileinitiative.ph), as well as through various non-profit organizations like World Corps and CANVAS (www.canvas.ph).

- *Accreditation.* CeCs can tie up with government's accreditation institutions such as the Technical Education and Skills Development Authority (TESDA) in training, testing and giving out official certificates which can be used by the citizens in applying for work to show that they possess ICT skills needed for the job.

- *Responding to Special Needs.* CeCs can also offer innovative applications to allow marginalized sectors to participate in development. For instance, the CeC can offer training modules for persons with disabilities such as ICT training, computer repairs and livelihood modules all tailor made for their specific disabilities. In Ethiopia, for example, a computer training center was created for the blind. It provides training, software and equipment for the visually impaired through the use of Braille technology.

Citizen empowerment

- *Providing access to information.* Community e-centers can harness a wealth of information from the net to empower citizens and uplift their welfare. CeCs can provide relevant information on agriculture, health, education, environment, among others. The task at hand is to find good materials and transform them to appropriate and relevant training courses. It is also important to consider developing courses using the vernacular language.

- *Self-expression.* CeCs can help individuals to express themselves to further enhance e-democracy. CeCs can teach citizens how to use emails, create blogs and websites, build and upload multi media content, among others.

  The **iSchools Web Board**, again, is a good example to the extent that it enables teachers to develop and share their own lesson plans, based on content found on the Internet, and still would conform with education standards set by the Department of Education. The various features of the Web Board can be accessed at www.ischoolwebboard.orgfree.com and www.ischoolwebboard.edublogs.org

- *Database management and usage.* CeCs can be access points for community-centered database systems. CeCs can provide a graphical user friendly interface for users to access certain information that are useful to them. For instance, database of programs and projects, infrastructure of the town, tourist destinations and contacts, health records, LGU income and expenditures,

demography and other information can be shared. This is useful not only for the local constituents but for national government, donors, civic groups.

The **CeC of Barangay Basak Pardo** in Cebu, for example, utilizes a GIS based database map to account for the infrastructure and demography of the town including number of roads, hospitals, schools, lamp posts, etc. This is an invaluable tool to determine the areas for improvement and to address gaps in development. In the recently concluded elections, barangay residents could go to the CeC and plug in their names to verify their status as registered voters and obtain a personalized map showing them exactly in what room of what precinct in what school they were supposed to vote.

- *OFW Services.* CeCs can extend ICT based Oversees Filipino Workers (OFW) services to its constituents. It can provide basic ICT training on how to use the PC and internet to make them more productive. CeCs can build a database of OFW information to track and monitor OFW status. Lastly, they can help OFWs build an online presence where CeCs can teach OFWs to create email and how to use it to communicate with people in the Philippines and provide status of their living conditions.

> **Idea for a killer e-governance application**: The amount of remittances (over $12B annually) provided by the OFW community, government can and should more proactively encourage OFW participation in Philippine, particularly countryside, development. Government can provide the impetus for the creation of an OFW-centric portal that can be accessed through CeCs. This portal can provide web-based VoIP services to allow OFWs to communicate with loved ones back home. It can host moderated chatrooms and forums where OFWs can share practices and models they see abroad that might be applicable in local settings. It can even adopt a **donors-choose** model (see www.donorschoose.org) where CeCs to propose development projects on behalf of their communities by posting requests and justifications for funding small community-based projects or investments on the portal, and OFWs choose which of these they wish to donate to. The idea is that a portal could provide OFWs with a digital bridge to participate more directly and proactively in Philippine development.

Direct Government Services

- *One-Stop Shop for Government Services.* CeCs can be accredited as one-stop-shop for citizens' transactions with the government. This significantly saves resources and time in securing certificates and permits. CeCs can be access points for birth certificate application, business clearances and permits, passport renewal, security clearances, etc which can be processed online.

CeCs can be instrumental in facilitating efficient and accountable business permit processing. CeCs can be set-up as one-stop-shop business permit processing where permits are simplified and coordinated online. Users will

just have to access an online system using a single form where application is processed electronically through the different LGU offices instead of the applicants going to the various offices for permit or approval.

Virtual bidding or the **Government Electronic Procurement System (GEPS)** (www.procurementservice.org) provides a transparent mechanism for private sector to participate in developmental projects. Through this system, corruption and red tape are minimized as all information on project costs, bidders and fund availability and releases are made public through online access. To augment the GEPS program, the CeC can provide an online update on the entire bidding process and can even extend monitoring to implementation until final delivery of outputs. CeCs can build online forums to track any government project life cycle and allow citizens to provide feedback, inputs or comments.

CeCs can also be **accredited payment agents of government institutions** for permits, clearances and fines as well as for payments of utilities such as water, electricity, etc.

In areas without **postal services**, CeCs can function as a postal or courier service serving as drop-off and pick-up partners of major private delivery companies

The CeCs can help the LGU by developing an **automated barangay or municipal clearance for citizens**. Clearances are used by citizens in applying for work or establishing a business. The system can include a webcam snapshot of the citizen and all citizen's records are kept in a database.

A database of **Voters' Information System** is an e-governance solution that ensures the transparency of the electoral process. A database of voters with their information improves transparency and can even avoid confusion during Election Day and minimize flying or unregistered voters. It also accounts for the total voting population and thus minimizes errors and cheating. In Basak-Pardo, a Voters' database was created complete with voter's information. In the recently concluded elections, barangay residents could go to the CeC and plug in their names to verify their status as registered voters, and obtain a personalized map showing them exactly in what room of what precinct in what school they were supposed to vote.

Public Health

- CeCs can act as one-stop-portal in health information such as preventive medicine, traditional herbal medicine, reproductive health care, etc.

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Last Mile Initiative-Philippines is working with the University of the Philippines College of Medicine (UPCM) on a **telemedicine training program**. The UP College of Medicine is implementing a project called Buddyworks (www.telehealth.upm.edu.ph) that utilizes ICT to provide and support health care for underserved communities and geographically remote areas where health care expertise is largely unavailable. The LMIP and UPCM partnered to develop four audio videos providing information on how to deal with common emergencies such as poisoning, stroke and tuberculosis; and to prepare for or prevent possible health crisis like the avian flu. These videos will be posted and made available on the web, and will be used to train rural health workers remotely. CeCs will schedule exhibitions of a video for health workers and community residents, and on the scheduled day, doctors from the UP College of Medicine will be available by VoIP (and if possible, video IP) to answer questions and conduct actual demonstrations.

From here, it is not far-fetched to see CeCs acting as conduits for more advanced telemedicine applications, such as using IP-enabled ultrasound machines that are connected to CeC broadband facilities, and operated by trained rural health workers so that professional doctors can actually see and make diagnosis remotely in real time.

Remote access to Philippine doctors also bears special applicability to OFWs, who may not have easy access where they work. There is anecdotal evidence to indicate that many OFWs actually make long distance calls to their doctors in the Philippines, often because it is cheaper to do so, but also because they encounter language barrier problems as well. Government can easily provide creative and innovative solutions – for instance, this could be a service that could also be provided by the OFW Portal proposed above.

Agriculture Promotion

- CeCs can partner with government institutions promoting livelihood by developing self-help multimedia interactive modules to be lodged in its website. Topics can include backyard livelihood opportunities, food processing, handicrafts, livestock, etc. Further it can also tap e-commerce opportunities such as enrolling in the Cat Gen portal (www.catgen.com) where it can advertise products over the net.

  The CeC should be aggregators of sectoral information needed by the citizens such as materials on agriculture, health and livelihood. For instance, it can use materials from the **Philrice website** (www.philrice.gov.ph) and tailor it to the needs of the particular landscape and topography and language. Further, CeCs can link up with the Department of Science and Technology's (DOST) Farmers' Information and Technology Service Center or FITS (www. http://opendbs.pcarrd.dost.gov.ph/fits/) for various information and materials on agriculture and fishery.

CeCs can assist farmers and fisherfolks in having better access to market prices, technology and even trade their goods online using the **b2bpricenow portal** (www.b2bpricenow.com)

E-Commerce and SME Development

- CeCs can be instruments for business promotion and e-commerce, and can help community-based SMEs with electronic marketing and selling of goods and services. CeCs can partner with online trading portals such as the catalog online portal of the Center for International Trade, Expositions and Missions (www.citem.gov.ph/catalogonline), tradelinephil (www.tradelinephil.dti. gov.ph), sme.com.ph, among others, to assist SMEs in e-commerce and marketing.

  CeCs can also be utlized to aggregarte information, training materials and entrepreneurship courses to assist SME in business development. CeCs can tap the DTI's Go Negosyo program (www.gonegosyo.net) for training, online consultations and information on various enterprise tools

  The CeC can also develop livelihood programs in coordination with other government agencies such as the Department of Trade and Industry, and the Technology Livelihood Research Center which have developed **computer-based multimedia self-learning courses on entrepreneurship**.

  CeCs can be used as channels or access points for courier services especially in rural and remote areas where there is no private presence. It can partner with cargo and forwarding companies as drop-off or pick-up points and thus extend the outreach of its local products.

Marketing and Tourism

- CeCs can be tapped to advocate tourist destinations, local products and skills. CeCs can develop multi media presentations which it can upload to its website or in video online communities such as YouTube.

  The town of Kiangan in the Province of Ifugao, for example, lies in the heart of the Banawe Rice Terraces, a UNESCO World Heritage Site. Its CeC served as the catalyst and meeting point for stakeholders (led by the local government unit and a local nonprofit organization) to create a website that promoted its **natural environment and ecotourism** attributes. Last Mile Initiative-Philippines (www.lastmileinitiative.ph) and CANVAS (www.canvas.ph) trained them in website and graphic design as well as

internet marketing. Within two months of the training, their internet marketing efforts paid off in the form of more than 100 new tourists, collectively generating in excess of $6,000 in tourism-related fees.

Marketing tourist destinations

CeCs began using VoIP facilities not only to enable families to call their relatives abroad but also to market community products and tourist destinations.

    The San Remigio CeC in northern Cebu is using VoIP services in promoting its tourist destinations. In the town's website, a tourist can find information on resorts, pricing and transportation services. More importantly, tourists can call the Community e-Center for free to do some inquiries via a direct VoIP service in its website. All they have to do is to click a service icon from the CeC's website to be able to speak to a CeC

CeCs serve as an excellent avenue for aggregating information on community products and services and marketing them online as a product of the entire community. CeCs can dedicate a webpage in its website for marketing and promotion of local and indigenous products or advertise products in various online trading sites. Moreover, CeCs can provide support on how SMEs and businesses can trade online including support for payment facilities. The CeCs can also partner with the DTI's One Town One Product (OTOP) Program (www.otopphilippines.gov.ph) for product promotion.

Jobs Creation

- A jobs database management system which can be integrated to the CeC website seeks to provide an automated, intelligent, and interactive storage system which will allow the LGU, employers and applicants to aggregate availability of jobs and skills. This can also be linked and integrated with the PhilJobsNet (www.philjobs.net) of the Department of Labor and Employment (DOLE) for access to both national a nd international jobs.

  And, as demonstrated by the **CeC of Manolo Fortich** (Please see box, pp. 22), this can be complemented by the joint use of VoIP and webcams to facilitate online interviews. Note that in this model, everyone – even those who were not offered jobs – comes out ahead, as all applicants would not have to incur transportation and other incidental expenses to travel to the interview location, which is usually in Manila or regional/provincial financial centers.

> **Idea for a killer e-governance application**: CeCs can assist citizens in **job matching**. The CeCs can be access points of local government units through their respective Public Employment Service Office (PESO) and national online jobs portal. Many LGUs already help job applicants to find relevant jobs through the following: 1) assisting employers in disseminating information on job openings by posting of vacancies in bulletin boards, and 2) referring potential applicants to employers.
>
> This process can be made more efficient and timely by linking the PESO with the CeC, as is currently being pursued by the local government of Calamba. In this case, the plan is to create a jobs database management system which will be integrated to the LGU website to provide an automated, intelligent, and interactive storage system which will allow the LGU, employers and applicants to systematically match employment opportunities with applicant skills.
>
> LGUs can also integrate its own database with the national jobs search portal of the Department of Labor and Employment called the PhilJob

Gender and Development

- Field surveys and interviews (see Annex B) indicate that female users of CeCs outnumber male counterparts. Females usually use CeC services for internet surfing, chatting, communicating with friends, read news online, apply for a job and avail of ICT literacy courses. They usually frequent online sites such as friendster, myspace, classmate, hi5 and chat applications such as msn and yahoo messengers. Indeed, interviewed CeC managers related that the webcam, which is used for chatting, is among the top demanded product of the center especially by females who have chat mates from other countries.

  Anecdotal evidence suggests that CeC facilities are being used extensively by females seeking companionship or even marriage, in part as a means of opening doors to better lives. While the view of the study team is that, given user rights to privacy, it is not the place of government to either encourage or discourage such use or practice, nonetheless, government can and should play a role in providing through the CeCs, information or training on the possible dangers or consequences of such activities. CeCs can and should play a role in gender and development with emphasis on women and children. CeCs can build multimedia presentations on the rights of women and children which can be deployed through a website or an intranet system. CeCs can develop specific training modules for women in terms of using the computer and internet and livelihood opportunities, as well as increase their awareness of possible online fraud and mischief that, unfortunately, also exists in the online world.

CeCs as Catalysts for Good Governance

Finally, CeCs can be catalysts for change within the local government units themselves. In the case of the local government of Calamba, the presence of a

CeC in the local government unit building, by itself, demonstrates the use and benefits of ICT in a manner that government personnel cannot ignore. Interviews with LGU officials revealed that the deployment of new ICT-enabled procedures were made easier because personnel were already and increasingly becoming aware of the practical relevance that ICTs play in their individual lives – from emailing to getting information over the Internet and even to playing games. From these humble starts, the bureaucracy becomes more open and receptive to government efforts to use ICT to improve work productivity and service delivery to people.

- Accountability of government officials can be improved through CeCs by utilizing ICT channels such as emails, online fora, discussion groups, among others. CeCs should be able to develop, using open source applications, mechanisms on how citizens can monitor performance of employees and status of government programs and projects including bidding, implementation and finances.

- CeCs are in a strategic position to network with national and international institutions to mobilize resources. CeCs can build a website or blogsite to mobilize funds for socio-economic development. For instance, the Nueva Viscaya CeC partnered with the University of Basque in Spain for an Academic Exchange program and jobs placement. On the other hand, the Barugo and Tanauan CeCs use the internet to generate funds from OFWs and migrants to upgrade CeC and public school's computer systems. Lastly, the Upi CeC in Maguindanao was able to receive international grants from aid institutions to create a hospital, all through the capacity of the CeC to reach out to these institutions.

- One of the most effective e-governance applications deployed over CeCs is the **LGU/CeC website**. It provides a self-help portal for users to easily access information in the net. To maximize participation of the citizens and communities, CeCs need to develop the following website features:

    o Basic information such as demographic and economic information, infrastructure, programs and projects, services, news and issuances,
    o Links or materials to relevant materials on health, agriculture, education, livelihood, among others.
    o Interactive features such as downloadable government forms (i.e., birth certificate application, business clearances, permits, etc) which can be downloaded in several formats.
    o Online consultations and interactive feedback features to encourage citizens to participate in policy making, planning, monitoring and governance.

- o Build a platform for articulating inputs of civil organizations through online forums, community groups, emails and discussion boards.
- o Online status of project implementation.
- o Develop a website with a mirror site using the local language to facilitate knowledge exchange. Relevant content using the local language can also be developed to further assimilate ICT into the daily lives of the citizens.

- Effective tax administration is one of the critical elements in good governance. CeCs can act as conduits to various government services such online tax inquiry and payment.

- Government accountability and preparedness in times of disaster can be improved by CeCs. Disaster management, using ICT tools such as international weather reports, downloadable weather forecasts, Google earth satellite imaging and other portals can be used by the LGU to create scenarios and forecasts on the degree of impact of weather disturbances. Weather disturbances can also be broadcasted to fisher folks and farmers who on the other hand can take early precautionary measures. In short, disaster management can be greatly improved through the aid of the CeC.

IV. CONCLUSION

Community e-centers, by properly and effectively identifying and deploying killer e-governance applications, can help to bring governments closer to the people in a more efficient, transparent and accountable method.

The identification of possible applications and models is the first step towards this end.

The successful examples provided above are just a start. Other models and killer applications exist, both in the Philippines and elsewhere, that are worth considering.

The second step, equally critical, is to then choose from among these applications and models which ones would be most relevant, applicable and affordable for the community.

The methodology offered above provides a system for winnowing and analyzing these choices, so that scarce resources can be channelled to those applications that will yield the greatest benefit, given the concerned community's unique and particular socio-political and economic context.

To conclude, it bears emphasizing that there are no single CeC model or e-governance applications that can be considered as the most effective, efficient or the one that provides the greatest impact. Each community would have to determine for itself what needs and opportunities their respective facilities will seek to tap. The word "community" needs to be stressed, too, as the success of the endeavour will be greatly enhanced if everyone in the community – from government, the private sector, civil society, and the residents themselves – truly consider themselves as stakeholders in the CeC.

In this light, it is important to realize that *killer* e-governance applications, like all other applications, should be understood in the context of specific community needs.

Government must therefore actively and consciously play its role, not only in replicating and deploying killer applications, but also in ensuring that an effective system for documenting and sharing of these best practices and lessons exists – precisely to ensure that communities are able to sift through as many options as possible, as they move to enhance the relevance, use and capabilities of their respective CeCs.

It is hoped that lessons learned from the Philippine experience will ultimately serve as models for other developing countries that are struggling with similar problems.

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Innovative E- government Practices from All over the World[*]

Africa

Country	Service	Description	Who Benefits	Impact
Egypt	Public Access Points	Telecentres which have internet access and equipped w/10 computers and offers training in variety of fields related to IT were set up in urban and rural areas of Egypt.	Egyptians without private access to Internet, based in rural areas, children with the establishment of a computer club	Women and youth empowerment, on the process of bridging the digital divide between rural and urban communities
Ethiopia	Adaptive Technology Centre for the Blind	A computer training center for the blind. Provides training, equipment and software for the visually impaired through the use of Braille technology.	500,000 blind people gets access to ICTs through an information resource center	The computer centre aided the visually impaired to develop new skills. Improvements on Braille Technology. Internet was opened up to the blind market of Ethiopia.
	CyberEthiopia Initiative	The organization's website offers info relevant to Ethiopians, fosters dialogue and knowledge sharing through e-forums and provides electronic services.	Ethiopians	The use of Amharic language in the web enabling full participation from Ethiopians. Has set an example for other African countries to adapt their own languages and alphabets to the Web.
	Aid Management Platform	An information sharing tool that allows govt of developing countries to streamline the handling of intl aid, provides a virtual workspace where govts and their donors can share aid info.	Government of Ethiopia(aided on handling intl aid)	Increase in transparency, reduced administrative burden, closer coordination with donors
Ghana	Health net project	A research center which has a large database containing the names, ages, illnesses and other related info that is helpful for health care; a digital map to track the info and educate the population; a computer map w/c shows where planning is being practiced.	Children, citizens in Northern Ghana.	Reduced malaria deaths on children with info from the research centre. Better communications and information exhange through computers and modems. Identification of high risk areas that could be avoided to save lives through digital mapping.
	E-commerce for Non Traditional Exports	Installation of computers in 2 districts and has trained farmers and traders in keeping farm records in simple database on the computer at the centre. Relevant info from the database are hosted in the internet by project staff.	Farmers and traders	Provides efficient promotion and increased market access, improved negotiation between small and medium scale producers and traders
Kenya	AfriAfra: The African Network for Health Knowledge and Management and Communication	Was able to set up a small coordinating hub which disseminates info via e-mail, printed material, diskettes, CDROM to 7 field centers which is used by the communities.	Rural and marginalized Kenyan communities	Improved communication of health information and was able to demonstrate practical methods of applying ICTs in rural Kenyan communities.

[*] Culled from Compendium of Innovative e-Government Practices. United Nations, Department of Economic and Social Affairs. New York. 2005.

Country	Service	Description	Who Benefits	Impact
Mozambique	GovNet (Government Electronic Networking)	Establishment of a govt electronic network to stimulate more efficient communication and efficient info-sharing with/in and between govt agencies.	Citizens	Effectiveness of government operations, improved service delivery, strengthened policy formulation, promoting good governance, combating corruption
Nigeria	Nigeria Working Group on Globalization, Trade and Sustainable Development	A platform for articulating inputs of Civil Organizations into the Nigerian trade arenas. Establishment of the TSD-Nigeria website.	Civil Society Stakeholders	Improved communication between the govt and the civil society through the website.
South Africa	Cape Gateway Portal	A govt portal which has a detailed structured data model and a content management system to provide efficient service to the citizens.	citizens	Transparency on govt departments, convenience for the citizens, 24/7 portal, simplicity of use, empowerment on the citizens
Tunisia	Maghrebmed Portal	A one-stop portal of online info about health, medicine and dental care.	Health professionals, public	Enhanced medical care in the country, thermal health was promoted to the tourists
	Virtual University of Tunis	Provides open distance education using multi media technologies in all educational levels, involved in development of ICTs in Tunisia.	Young professionals, students	Improved the quality of education, enhanced academic skills of Tunisians
Uganda	SATELLIFE Personal Digital Assistants	The use of personal digital assistants in field surveys by medical practitioners and students.	Health professionals	Improved health care and reduced costs at the same. Digital divide between health practitioners was addressed through the use of PDAs.
	Telecentre Manager Software	A software package which can generate an auto registration report and an auto daily user report from the user's identification number.Used for managing telecentre business.	Managers at telecentres	Efficiency in tracking the users' activities in telecentres
	Documenting Women's Experiences in Situations of Armed Conflict	This project targeted areas that have or are experiencing armed conflict in Uganda. It was accomplished w/the full participation of women war survivors and local leaders using appropriate ICT tools.	women	Increased awareness on the effects of conflict and the need for peace. The documentaries were used by lobbyist for peace building purposes
Regional-Africa	APC-Africa-Women	A network of organizations that work to empower African women's organizations to access and use ICTs to promote equality and development. The programme provides info to women about gender and ICTs, conduct research on gender ad ICTs and delivers training activities to women.	African women	Empowerment of African women through access, training,research and information in the field of ICT.

Country	Service	Description	Who Benefits	Impact
	Multipurpose Community Telecentre Network	The project was able to set up 100 telecentres. Was able to develop links with educators and share their facilities to train users in computer literacy, use of computer applications, Internet and email. The telecentre also provides public telephone, fax, and internet connectivity.	African women, citizenry	100 multipurpose telecentres were established in more than 20 countries, created employment opportunities for women as they are the owners and managers of telecentres; provided affordable and easy access of information and telecommunications in the communities.
Regional-Africa	African Online Digital Library	Through the Greenstone's Library software, the project was able to generate 1, 300 localized documents (agriculture, history, science and technology, and govt) bundled in 2,000 CD ROMS to be distributed to the marginalized sector. Computers and printers were also provided to educate the public.	Marginalized segments of society	Availability of public information that can improve their socio economic positions, enabled participation of the people n the global information society
	Global e-schools and Communities Intitative	Established by UN ICT Task to facilitate and support ICT4E initiatives, provide assistance w/ the planning of ICT4E initiatives, providing national plans for developing countries.	Citizenry (32 schools, 1,920 teachers, 30,000 students)	Improved education, community empowerment, socio-economic growth, created Internet enabled schools in Uganda
	High-tech Weather Services Network	A pilot project of the World Meteorological Organization that seeks to use the network of ham (amateur) radio operators to improve the reporting of meteorological observations to the national meteorological centres in the region.		Improved quality and quantity of surface observations relating to weather forecasts and climate predictions in Africa region
Regional-East, West, Southern and Central Africa	Crossing Borders Initiative	A cross-cultural distance learning center scheme linking young African writers with experienced UK mentors in developing their work through e-mail tutorials.	African writers	Improved skills of African writers, enhanced their writing prowess. Created a dialogue between Africa and the English-speaking world
Regional-Sub Saharan Africa	Acacia Initiative: Communities and the Information Society in Africa	An integrated program of research and devt plus demonstration projects to address issues as applications relating to community needs, infrasructure and policy in the Sub Saharan African communities.	People in Mozambique, Senegal, South Africa and Uganda	Increased number of schools with Internet connection in South Africa; in Mozambique, jobs and education were provided by telecentres, number of tourists also increased from the use of the Internet; in Senegal, up-to-date health info was provided; economic empowerment of women
Regional-Sub-Saharan Africa	Mapping Malaria Risk in Africa	A massive information collection and database project containing malaria research. Has provided the first continental maps of malaria distribution and first-evidence based burden of disease estimates	African researchers, Africans	Through the use of GISs, MARA has made steps in geographical modelling of malaria. Enabled African researchers to access accurate info efficiently through the developed CD-ROM

Annex A

Country	Service	Description	Who Benefits	Impact
Regional-Middle East and North Africa (MENA)	Virtual Souk	An internet based market place that provides direct access to international markets for artisans from the MENA region.	Artisans	Created opportunities for small-scale artisans to go for international markets. Empowerment of local artisans and NGOs through training and access to information technology

Asia and the Pacific

Country	Service	Description	Who Benefits	Impact
Australia	Information Management Initiative	Information access(and sharing)	Government agencies, citizens	Public sector is more reliable and efficient. Agencies are linked together in an integrated network thus making transactions easier and efficient through the use of Open Source Technology.
	Brisbane City Council Green Home	Sustainable development	Administrations, citizens	The product can be used to create more efficient and environmental friendly buildings and houses. The users designing skills were also sharpened.
Bahrain	Bahrain eVisa System	Security	Individuals who intend to visit the country, residents of Bahrain looking for multiple re-entry visas	Acquisition of visa is much faster and easier. Processing of visa requires no human intervention. The process is transparent, efficient, and cost effective.
Bangladesh	Electronic Birth Registration Information System	Citizen's service delivery	citizens	The system eliminated duplication and redundancy from birth/registration records through the centralized storage data. Error rates have also been reduced. Registration and immunization rates have increased.
China	Tianfu Agriculture Information Network	Information access	Minority groups in Western China, 3 million farmers	The network helps farmers to access relevant information such as agricultural weather messages, farm-produce supply information and status of demand. A call center and hotline support was also set up to bridge the gap between people in poor areas the rest of the world.

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Country	Service	Description	Who Benefits	Impact
	Information Network for the Dissemination of Agricultural Technology	Information access (and sharing)	farmers	Used for selling products and attracting investment. Farmers were given access to agricultural information through information centres and its website.
India	Web-based Blood Bank Management System	Health	Citizens, Dept of Health and Family Welfare	Registration of donors can be done even at home with its online registration, the Dept can collect info regarding various blood groups. Updates on blood donation camps can also be received by the citizens.
	Computerized Bus Pass System	Citizens' service delivery	Bus commuters, Delhi Transport corporation	Time in the issuance and renewal of bus passes was reduced increasing convenience and commuter satisfaction. Possibility of fake and duplicate passes was also reduced. The corp also experienced considerable savings in salaries.
	Management Information System for Education	Education	986 govt schools	Improved efficiency, rapid retrieval of information for efficient policy-making. Updates on employee and school database is also done efficiently.
	Public Distribution Management Systems	Citizens' service delivery	public	Improved management of public distribution systems. Error-free ration cards can be prepared and distributed. All databases can be generated through LAN.
India	Tender Notice Information System	E-procurement	Department of Administrative Reforms, citizens	Easy access, online availability and listing of tender notices by category and department have improved efficiency and benefited the citizens. More competitive prices were also received by the dept as they are published widely in the internet.
	Gyandoot: Community-owned Rural Intranet Kiosks	Information access (and sharing)	Farmers, marginalized tribal citizens	Farmers have more access to market rates. Awareness of computers and IT has increased in rural areas.
Japan	E-Japan Strategy (e-government)	Government portal	citizens	96% of the targeted national procedures could be conducted and completed online

Country	Service	Description	Who Benefits	Impact
Korea	Cyber Policy Forum	E-participation	Public, youth, govt	Public awareness was raised. Through the online discussion, communication between the public and the govt improved. The public officials also benefited as time and cost to formulate policies are reduced.
	Govt for Citizen Civic Service Innovation System	Govt portal, citizens' service delivery	Citizens, govt (A single service window now provides info on all govt offices are linked together)	Efficiency and transparency in the civic service. Administrative savings as govt documents that the citizens must obtain was reduced as govt offices now share information.
	Public Procurement Service	E-procurement	30,000 public institutions (the service was reorganized from an administration centered one to customer-oriented)	Improved efficiency of procurement operations, potential irregularities were prevented, and costs were reduced by 300 billion won a year. Corruption was rooted out.
	Online Procedures Enhancement for Civil Applications	E-democracy, information access	Citizens (the system was recognized as good practice at the 9th Intl Anti Corruption conference in 1999)	Greater transparency of service. Minimized the potential for collusion and municipal bureaucracy. Enabled real-time monitoring of the progress of an application for a permit or license.
New Zealand	Early Childhood Development Website	Information access (and sharing)	Parents, early childhood centres, playgroups, wider community	Advice, support and info about early childhood and parenting to parents was provided by the website. Costs in sharing the content in the website was reduced as the info would be expensive to produce and maintain in print.
	Upper Hutt City Council Website	Information access (and sharing)	Upper Hutt residents, The Council	Services of the council are brought together in the website which has resulted to greater convenience to Upper Hutt residents. Property records and information can be downloaded in the website using XPLORER technology.
Singapore	Car Park Portal	Citizen's service delivery	motorists	Has increased customer convenience. Motorists can make season parking ticket applications, renew season parking tickets and make payment of their offenses online.

Country	Service	Description	Who Benefits	Impact
	e-Consultation module	e-participation	URA (Urban Redevelopment Authority), citizens	Through the websites, citizens and industry partners can participate in the physical planning of Singapore. Various visions and plans are published online for understanding and consultation.
	Electronic Development Application Module	Citizen's service delivery	URA, Citizens	URA is among the first planning agencies of the world to use the Internet to offer an electronic submission platform for development application proposals on a nation-wide scale. Applications were also processed electronically at the back end. Has resulted to manpower savings for URA. Convenience and cost savings and greater efficiency were experienced by the customers.
	Home Office Scheme	e-commerce	Entrepreneurs, URA	3,000 home businesses have been set up in 2003 offering web design, IT consultancies, real estate services, etc due to the lower registration costs, flexibility of applying from their homes offered by the e-service.
	Online Application System for Integrated Services	Citizens' service delivery, e-commerce	Government agencies, businesses	Has enable citizens to apply online for 69 licenses from 19 agencies. Updates and renewal and termination can also be done online via the same portal.
	Real Estate Information System	Information access	URA, public	One of the first online real estate portals provided by a government in Asia. The govt of Thailand has signed a memorandum with URA to adopt some of the good practices and implement it in Thailand. Flash estimates of property price index are provided online.
Solomon Islands	People First Network	Information access and sharing	Residents of Honiara, social groups	Through the internet café established in Honiara, residents can browse the web for information. It has facilitated point-to-point communication to and from the remote provinces of the Solomon Islands using affordable, sustainable and appropriate technology.

**Setting up Community e-Centers for e-Governance in the Philippines
A Preliminary Assessment of the Community e-Center Program**[*]

By

Gigo Alampay & Joel Umali

July 2007

Table of Contents

I. Introduction

In the Philippines, Community e-Centers (CeCs) are seen as the principal vehicle for bridging the digital divide. As shared facilities, CeCs can provide effective and affordable access to ICT, and empower communities and residents by opening opportunities in education, commerce, tourism, public health, and to participate in governance, among others.

This paper, therefore, documents initial lessons learned in the course of an evaluation of CeCs set up under the Philippine Government's Community e-Center Program, which was undertaken as part of a larger effort to identify how these facilities can best be used as conduits for e-governance. [1]

The conclusions and observations in this paper, it should be noted, are hardly scientific given the relatively short experience that the country has had on CeCs, which, in turn, limited the number of CeCs that were actually visited to those with at least a year of actual operations. Nonetheless, there are lessons to be learned, and clues that should prove useful for government and other community stakeholders.

The following section provides an introduction to this effort, and discusses the overall framework and methodology.

This is followed by a comprehensive discussion on the study results, which provides a snapshot of the typical CeC and CeC user; including findings on CeC infrastructures, organizational structures, ICT services, and e-governance services.

II. Methodology

The study focused on several research tools, and a combination of methods to capture the "public value" or benefit and effectiveness of applications and services deployed through Community e-Centers.

Specifically, data gathering techniques included the following:

- *Summary assessment,* including a socio-economic scanning of CeC development in the Philippines, with emphasis on the CICT's CeC program. Preliminary interviews with key government, private sector and civil society entities and personalities were conducted to identify existing initiatives, models and best practices; validate priorities and options for bridging the digital divide and promoting e-governance; as well as to

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[1] This paper actually supports a main document ("High Impact, Pro-Poor E-Governance Applications") prepared by the same Authors, which proposes a methodology for identifying and assessing "killer e-governance applications" and provides an in-depth discussion of best practices and models of e-governance through CeCs.

tease out other ideas and recommendations to maximize the effectiveness of the research and data gathering process[2].

Key persons interviewed included:

- eLGU program managers from CICT-NCC
- Program managers of CICT's CeC – PMO
- Program managers of TelOf CeC program
- Key personnel of CICT's Human Capital Development Group (HCDG)
- Service providers of CeC deployment namely: the Development Academy of the Philippines and the CVisNet

- *Detailed assessments to gather primary data* from Community eCenters were also conducted. Several tools were employed to arrive at a detailed evaluation of CeC programs, services and operations.

First, the CICT's National Computer Center identified selected sustainable CeCs operating for at least one year, as well as those CeCs with innovative solutions, best practices and local champions for consideration as samples for the study.

The research team then visited twelve (12) eLGU Community eCenters across the country with four (4) CeCs in each major island grouping (Luzon, Visayas and Mindanao), and conducted:

- In-depth interviews with CeC proponents, managers, stakeholders, partners and volunteers were conducted to determine CeC services, policies, programs, costing and future directions. Policy and process reviews were also incorporated to assess the sustainability of CeC operations. A total of twelve interviews with CeC managers were conducted by the team.[3]

- Client Exit Surveys with existing users to determine the satisfaction and response of current users in terms of CeC services and operations. The survey also helped to provide a quantitative overview of community information and communication needs, priorities and usage patterns such as frequency, sources, target priority uses and penetration of product and services. Finally, the survey was used to develop a sample profile of current CeC users and the CeC services and e-governance solutions they access.[4]

- Needs assessments through a Focused Group Discussion (FGD) in pre-selected CeCs to clarify and deepen the understanding of issues, and patterns that emerged from the interviews and survey were also conducted, with an emphasis on gathering participants' perspectives on ICT needs and exploring

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[2] See Annex 1 for Summary of Interview Results
[3] See Annex 2 for a summary of the CeC manager survey form and Annex 3 for Interview Highlights.
[4] See Annex 4 for the Client Exit Survey questionnaires and Annex 5 for the result of the survey.

the diversity of viewpoints rather than pushing towards consensus. A total of six FGDs were conducted for the study.[5]

▪ An online survey to determine the various services that are currently being offered. This should provide baseline information on the available e-government solutions, and will help to create a profile and compendium of existing e-government services deployed through the CeCs.

III. Study Results: Philippine experience in e-governance through CeCs by the Numbers

To obtain a snapshot assessment of the effectiveness and benefits of CeCs, and their services. the Team visited a total of twelve (12) Community e-Centers located across the country: five (5) in Luzon, four (4) centers in the Visayas region, and three (3) CeCs in Mindanao[6].

Of the twelve CeCs, three CeCs (Bayombong in Nueva Vizcaya; Manolo Fortich in Bukidnon, and Basak Pardo in Cebu) were established through the initiative of local government units (LGUs)[7].

The rest were set up under initiatives of the CICT's National Computer Center (NCC), but still working through and with the LGUs.

A. CeC Profile

All of the Community e-Centers serve as one-stop shops to address the ICT needs of the community, and offer a variety of services, including Internet access, office applications, printing, desktop publishing, photocopying, telephony and VoIP, ICT training, among others.

Infrastructure

All the NCC-deployed CeCs were provided with four (4) computer units, a 4 in 1 printer, network system and cabling system. LGUs, on the other hand, provided at least one workstation, space, facilities and manpower through their municipal funds.

Enterprising LGUs solicited additional workstations from civic groups, OFWs and business institutions. For example, the CeC in Barugo, Leyte which had the most number of computers obtained 21 computers (out of 25) from their community's OFWs. The Tanauan CeC was also able to solicit additional five units from their OFW community which they turned over to the public high school. Other CeCs were

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[5] See Annex 6 for the FGD questionnaires and Annex 7 for a summary of FGD results.
[6] See Annex 8 for the Municipalities' Profiles
[7] See Annex 9 for a summary of CeC profile and services

equipped with multimedia equipment such as LCD projector, scanner, digital camera, laminator and fax machine.

The eLGU CeC program encourages the use of open source software for the operating systems, and for the main productivity applications such as Open Office.

While the choice of open source systems and applications did result in a lower initial investments, it would appear that it is not necessarily a better choice for long term sustainability.

Based on interviews with CeC operators, most would currently prefer to use Microsoft Windows as their operating system because of its perceived interoperability and compatibility with other devises, easier networking solutions and capabilities, and the sheer volume of downloable applications it supports.

On the other hand, they found the Linux version of the operating system deployed by the NCC more difficult to configure and understand relative to Windows. And while the NCC does provide training, most of the CeC staff could not fully comprehend the system due to lack of appropriate ICT skills. CeC staff, more often than not non-IT professionals, have a hard time configuring Linux since it requires more technical know-how.

Most important, they encountered compatibility problems with some hardware which require drivers that are written only for Windows. These include webcams, scanners, printers, storage drives, among others, which are crucial to the services offered and to the customers of the CeCs.

Thus to make the CeC more viable, most of the CeCs installed a dual boot system where users can use either Windows or Linux operating systems.

On the other hand, open source applications which can also run on the Windows platform such as Open Office are slowly gaining popularity in the Philippines due to similarity of features, content and approach to licensed productivity suites such as Microsoft Office.

CeCs also use a host of other productivity and security software. All CeCs have anti-virus software which are either downloaded or purchased. A few have Java development tools, animation software, accounting and database applications and elearning solutions.

All the visited CeCs are now on broadband, the cost of which has significantly decreased over the past months due to competition and rapid deployment by the private sector telecommunications companies. Half of the CeCs visited use DSL connectivity from national or local telecommunications companies.

A number of CeCs are now using the "Smart Bro" wireless broadband connection deployed by Smart Telecoms where clients use a wifi system from an antennae installed at their location with direct line of sight to the cellphone base station. Smart Telecoms claim that they cover about 90% of the population and almost all base stations will be equipped with broadband capability.

Table 1 summarizes the infrastructure profiles of visited CeCs.

	Computer	Printer	Photocopier	Digital Camera	Scanner	Webcam	Headset	Other equipment	Windows	Linux	MS Office	Open Office	Graphic Tools	Anti-virus	Internet tools	Connectivity
Nueva Vizcaya	14	3	●		●	●		Lcd projector	●		●	●	●	●	●	DSL
Bayombong	13	3	●	●	●	●	●	Lcd duplicating machine	●		●	●	●	●	●	Smart Bro
Roces. Ave	6	2	●		●	●		fax	●		●			●	●	DSL
Pinamalayan	6	2			●	●			●	●	●	●		●	●	Smart Bro
Calamba	17	2	●	●	●	●	●		●		●		●	●	●	DSL
Barugo	25	2	●		●	●		cd writer, computer books	●	●	●	●	●	●	●	DSL
Tanauan	9	4	●	●	●	●			●	●	●		●	●	●	DSL
San Remigio	6	2			●	●		cd writer	●	●	●	●	●	●	●	DSL
Basak Pardo	6	2							●		●			●	●	DSL
Manolo Fortich	6	●				●	●	Handset for VoIP	●		●			●	●	DSL
Maramag	5	1	●		●	●		Laminator, risograph, fax phone, handset for VoIP	●	●	●	●	●	●	●	Smart Bro
Balingasag	6	2	●	●	●	●		Lcd projector	●		●			●	●	Smart Bro

Location

Almost all CeCs are located inside the municipal hall or within the municipal compound for several reasons.

First, for administrative simplicity, LGUs want to visually monitor the CeC operations. As such, placing it inside the municipal hall would allow easier access to the CeC.

Second, for cost-effectiveness, LGUs would not entail additional costs of renting space for the CeC and to be able to maximize shared facilities.

Third, since it is conceived as an eLGU program, it is part of the computerization of the LGU.

And fourth, it serves as a showcase of effective LGU programs and as a support tool for other LGU interventions such as one stop shop centers.

While hosting the CeC in LGU premises have certain advantages, it also poses some disadvantages. Nine of the CeCs are located in the Municipal/City Hall compound, four of these CeCs (Maramag, Nueva Vizcaya, Calamba, and San Remigio) are far from the center of the community, making public accessibility less than is ideal . As a result, users are comprised mostly of LGU or government employees.

The other 3 CeCs are located in a more strategic area. In the case of the Balingasag CeC, it is located near schools within the center of the community. Moreover, the Bayombong CeC is likewise located at the town center near the public high schools. Plans of moving the Maramag CeC to the public bus terminal beside the market is in the pipeline so as to better reach the community.

Organizational set-up/core group

The LGUs follow a common organizational structure recommended by the NCC. The NCC supervises the operations of the CeC for a period of one year and provides technical training to the CeC staff through DAP in Luzon area and CVISNET in Visayas and Mindanao area.

The LGU, composed of the Mayor and the Sangguniang Bayan is the approving body for CeC policies or funding initiatives.

Policy formulation, pricing and rules of CeC operations are implemented by a "Core Group," which ideally should be composed of representatives from different sectors of the community. It is responsible for the creation of the Strategic and Financial Plan and Operations Manual of the CeC prior to its establishment. The Core Group is also responsible for decisions on purchases, product enhancements and policy changes in the CeC.

However, not all of the CeCs' Core Group is multi-sectoral in composition. Only 4 of the CeCs have multi-sectoral Core Groups which is composed of women, academe, business, farmers, LGU,etc. Other Core Groups are mostly composed of government sector representatives.

NCC — LGU
Core Group
CeC Manager
Staff | Staff | Staff
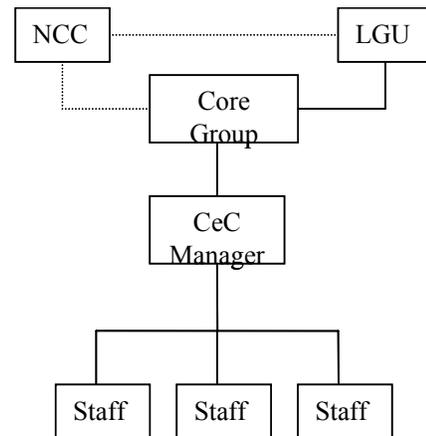
The CeC Manager is tasked to manage the daily operations of the CeC. However, due to lack of ICT structures at the local level, most of the CeC Managers come from existing offices and are just detailed on a temporary or shift schedule. CeC managers usually have other jobs/mandate aside from managing the CeC. They are either a concurrent MPDO Officer, Mayor's assistant or in the case of Basak Pardo CeC, the Brgy. Captain. On the other hand, to focus efforts on CeC management, CeCs such as the Barugo and Calamba CeCs hired permanent IT staff or contractual IT personnel tasked to man the center daily.

Most of the CeCs are under the MPDO or the Municipal Planning Development Office. The Nueva Vizcaya CeC is the only CeC under a mandated IT Division set in placed by the Provincial Government. The Barugo CeC is under the ICT Department which is connected to the MPDO of the said municipality. Lastly, the Tanauan CeC is under an IT unit of the LGU.

Most of the CeCs have hired 3-4 staff for customer and technical assistance not just for the CeC but for the entire LGU. They also serve as IT support for the whole organization such as maintenance of the entire IT system of the LGU. In the case of Balingasag CeC, they have a group of volunteers for the CeC's cleanliness and orderliness, customer assistance, for safe-keeping of the center's valuables and the monitoring of income.

ICT Services

The CeCs offer a wide array of services from basic word processing to advanced website development and egovernment applications. CeC managers and staff have been trained to offer various ICT services.

1. Internet Access

Of the various CeC services, internet service is one of the most accessed services. Clients use the internet to chat, email, research for school work, find friends, download multimedia and use government online services. CeCs with webcams and headsets for chatting are observed to have more frequent and regular clients. Users also frequent the CeC to use office applications (both Open Office and MS Office), print and photocopy documents and also for VoIP and telephony.

2. Basic and Advanced Trainings

Eight CeCs offer basic ICT literacy training including the use of office applications and how to use the Internet. This is one way of increasing the knowledge base of citizens skilled with the use of ICT and at the same time increase the demand for CeC services – the trainings help to increase the number of community residents who will find the CeCs useful.

Of the eight CeCs offering training, three are equipped to offer advance training courses such as web making and design, information systems and elearning. ICT training not only provides ICT skills to the community but also serves as a source of revenue such as in the case of the Tanauan CeC where the LGU charge fees for advanced training. One-on-one computer tutorials are also offered by CeCs that do not offer formal ICT training services.

3. Internet Telephony

A number of CeCs use VoIP services so as to provide cheaper overseas calls to the community. The San Remigio CeC for instance can be reached via communication link with their website. CeCs in Maramag and Manolo Fortich have VoIP handsets which clients can use for international calling. Further, the Manolo Fortich CeC was able to utilize VoIP through webcam in interviewing possible applicants for overseas work. The CeCs can earn revenues from cheaper calling services as well as promote jobs generation.

4. Other Services

Other CeCs offer creative services such as video editing, cd burning, making of souvenir programs and invitations, card printing, games, video showing, among others. These services not only increase the viability and sustainability of the CeC but address the informational needs of the community in a single office.

Table 2, below, summarizes the services offered by the CeCs.

Table 2. CeC Services

	Internet	Office Applications	Desktop publishing	Basic ICT training	VoIP	Website presence	Others
Nueva Vizcaya	●	●	●	+web making,GIS,information system		●	Network/linkaging, e-gov
Bayombong	●	●	●				Video showing
Roces Ave.	●	●	●				Video showing, games
Pinamalayan	●	●	●			●	Computer tutorial, computer repair
Calamba	●	●	●			●	Computer tutorial, cd burning, video editing,
Barugo	●	●	●	+skills training of teachers		●	e-gov
Tanauan	●	●	●	●		●	e-gov video showing,
San Remigio	●	●	●	+web making and design	●	●	e-gov, Souvenir program, video showing, games, cd burning, card printing, ecotourism
Basak Pardo	●	●	●	●	●	●	e-gov

Manolo Fortich	●	●	●	●	●	●	Jobs , e-gov
Maramag	●	●	●	●	●	●	
Balingasag	●	●	●	●		●	Video showing

Cost of Services

CeCs differ on how they price their products and services. Most CeCs charge on a pay-per-use basis, or else request for users to give donations for the maintenance of the CeCs, although some, as is the case for the CeCs in Nueva Vizcaya and Manolo Fortich, do offer all their services for free to the community.

To be sure, however, both of the latter CeCs would choose to charge for the use of the CeCs, except that neither have been able to muster the political will, or have been able to adequately explain why charges are necessary to their respective constitutuents. As it stands for now, both local governments are constrained by a traditional view among constituents that that government services should be free, and that CeC services have already been paid for by taxes.

On the other hand, more progressive and innovative LGUs believe that minimal user fees should be charged to keep the CeC sustainable, provide more and better services and be up to date with technology developments. CeCs which charge user fees either remit all revenues to the treasury or deposit in a trust fund which can be accessed for repairs or equipment upgrade.

It is crucial to note that charging minimal, i.e., reasonable charges, apparently has little effect in terms of usage by community members. The argument could be made that if LGUs could only muster the will, they would find that people are willing, and able to pay for CeC services.

Prices being charged by pay-per-use CeCs are generally lower compared with other internet shops in the community. This is not surprising principally because some of the costs of operation, such as space, utilities and salaries, are actually being subsidized by the LGU. Second, as a form of service to the citizens, CeCs managed by LGUs deliberately price their services lower than market rates to make ICT more affordable for the community. On the other hand, a few CeCs such as the Tanauan CeC follow the rates of the market to encourage competition and avoid crowding out investments in the ICT sector, although it still does provide discounts for students and senior citizens.

CeC services that bring the highest revenue differ from one CeC to another. For instance, internet service is the top revenue stream for half of the CeCs visited. Printing and photocopying are also revenue generating services for the Maramag CeC, Calamba CeC, and Pinamalayan CeC. On the other hand, CeCs in Leyte (Tanauan and Barugo) identified ICT Training as the service that brings the highest revenue. Lastly, in San

Remigio, games is one of its services that brings the highest revenue aside from Internet and telephony service (VoIP).

Online and e-government services

Aside from basic ICT services, CeCs serve as vehicles for the online deployment of government services and e-solutions offered by national agencies and LGUs.

A number of municipalities have government online services which can be accessed through the LGU website.

- Government forms for birth certificate, business permits, certifications, bidding forms, etc. can be downloaded from the websites of Pinamalayan, Nueva Vizcaya and San Remigio.

- The constituents of San Remigio, Tanauan and Basak Pardo can post their complaints and grievances through their respective websites' online forums.

- A number of CeCs offer e-government applications deployed by the CICT/NCC. CeCs in Nueva Vizcaya and Balingasag have installed the Real Property Tax System and Treasury Operations Management applications, while Barugo and Balingasag LGUs have installed the Business Permit Licensing application.

- Ten of the twelve CeCs visited have websites of their municipalities. Developed by the National Computer Center to jumpstart e-governance by LGUs, these websites are mostly informational in nature. Profiles of their municipalities, tourism information, information on requirements of obtaining certificates (birth/death/marriage, etc), municipal news, etc are some of the information that can be found in their websites. Contact information of government officials can also be found in the LGU websites. A few LGUs have interactive applications which allow citizens to post their comments and suggestions.

- LGU websites managed by the local governments of Basak Pardo, San Remigio, Pinamalayan, Calamba, and Tanauan already allow virtual bidding/ procurement as part of their online services.

- The Manolo Fortich and San Remigio CeCs were able to utilize VoIP solutions to enhance governance. San Remigio was able to utilize its website in promoting their municipality as an eco tourism destination. Its website contains a unique feature which enables potential tourists to communicate with the CeC for free through VoIP. On the other hand, the Manolo Fortich CeC was bale to use VoIP for online jobs interview with overseas employers through VoIP.

- The Basak Pardo CeC is, by far, the most advanced CeC in terms of the deployment and impact of ICT in the performance and use of government functions. The

barangay captain sends memoranda and official letters to its staff and officials through e-mails. Accomplishments reports of the officials and barangay are also sent through email, making the entire staff monitoring and performance assessment paperless. Aside from basic information about the barangay, the CeC offers a range of e-government services which includes tax inquiry and payment, business permit application, online barangay clearance, and online grievance system, among others. Their GIS-based mapping system (which allows the barangay to use online maps for disaster management) and a voter's information system (that provides not only an electronic list of all voters in the barangay, but also allows each voter to easily confirm their vital information and see an online map of where they are supposed to vote) are two examples of best practices on the use of ICT for governance.

Table 3 summarizes the various online and egovernance services of CeCs:

Table 3. Summary of e-governance applications

Location of the CeC	E-governance Applications	
	Basic Services	Website Content
Nueva Vizcaya	1. RPTS 2. Treasury oper. Mgmt 3. biz permit licensing	1. has detailed barangay level information 2. provincial profile\ 3. directory of officials 4. Downloadable forms
Pinamalayan, Oriental Mindoro	1. Bidding/ procurement	1.Information on the requirements in the registration of the business 2. municipal profile 3. has downloadable forms
Calamba, Laguna	1. Bidding/ procurement	1. information on municipality, demographics
Barugo, Leyte		1.blog content of the municipality 2. you need to login first to download government forms
Tanauan, Leyte	1. bidding/ procurement 2. RPTS 3. VoIP	1. Information on requirements for application of birth certificate, marriage and death certificate can be seen in the website 2. Has links to other govt agencies 3. Complaints can be posted online through the guestbook 4. currently developing a database-driven website 5. tourism information 6. municipal news
San Remigio, Cebu	1. bidding/ procurement 2. VoIP 3. Online job search	1.Tourism information 2.free VoIP call in the website 3.has links to other govt agencies 4. downloadable govt forms 5.online forum (constituents can post their complaints)
Maramag, Bukidnon		1. Tourism information 2. Municipal profile 3. Directory of municipal officials and offices 4. Municipal news 5. information regarding requirements for bidders
Balingasag, Misamis Oriental	1. RPTS 2. Treasury oper. Mgmt 3. biz permit licensing	1. blog content of the website 2. municipal profile 3. pictures of historical sites

B. CeC user profile

To determine the satisfaction and response of current users to CeC services and operations, client exit surveys were conducted in selected CeCs. The survey results provide clues on community information and communication needs, priorities and usage patterns such as frequency, sources, target priority uses and penetration of product and services.

A total of 135 respondents participated in the survey conducted in eight selected CeCs that have been in operation for more than a year namely: Bayombong in Nueva Vizcaya, Pinamalayan in Oriental Mindoro, Calamba in Laguna, Barugo in Leyte, Tanauan in Leyte, San Remigio in Cebu, Maramag in Bukidnon, and Balingasag in Misamis Oriental.

Typical users of CeC facilities would be under the 30 years of age (61% of users), single (61% of users) and female (59% of users). They use the CeC principally for internet access, telephony, productivity applications and ICT training courses.

Of the nearly 60 percent female respondents who use CeC services 36 percent are single, 19 percent are married and 4 percent are widowed. Female users would likely use CeC services for chatting, email, communicating with friends and loved ones and availing ICT training courses.

Gender Distribution

CeC users also vary across sectors and economic status. Students from both public and private schools represent 36 percent of all users. Most of them are high school students with a few from the tertiary level. More female students use the center than do their male counterparts.

Government employees, mostly from the LGU and secondary public high schools, represent another 36 percent of all users. As would be expected, LGU based CeCs which are located within the municipal hall premises are usually accessed by LGU staff who work at the LGU or public high school teachers. Female government employees such as teachers access the center more than male government employees do. In fact, close to 70 percent of government employees who access the center are females. The rest of the users who access the center come from the private sector, academe, self-employed entrepreneurs, farmers and retirees.
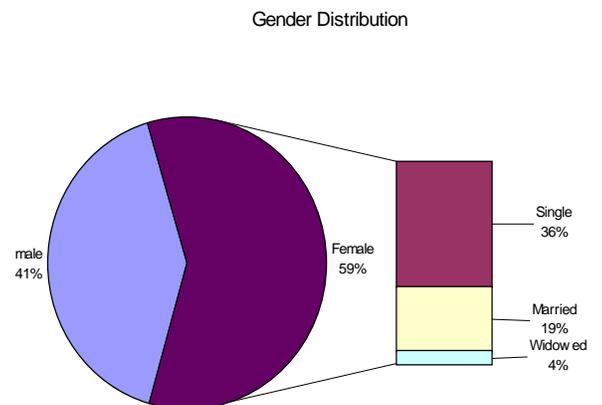
Of the 135 respondents, only around 30% (or 42 respondents) already own a computer, while only 24% (or 32 respondents) have their own telephone line at home. Over half those who own a computer are government employees (51% percent), who use it principally for work, and also for their children to use for schoolwork, while 29% are students. Similarly, most of the users with their own telephone lines are government employees or students.

Economic Status of Users
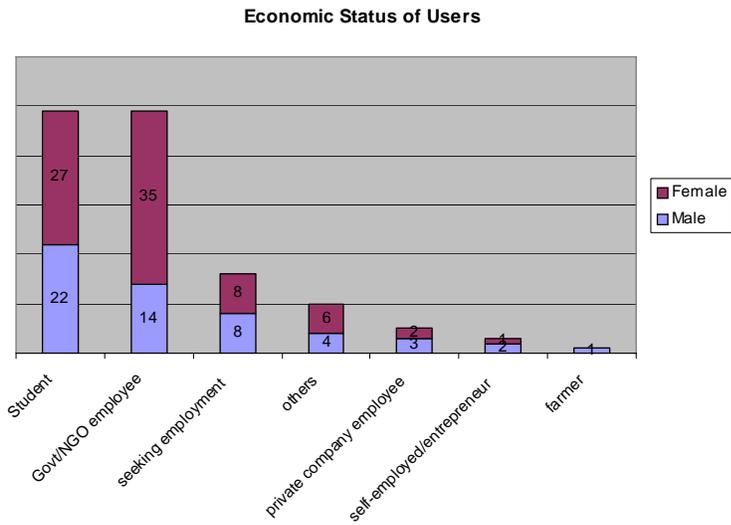
C. CeC usage pattern

In order to establish a general picture of how, when and what the users access from the CeC, the survey included questions to determine user behavior and usage patterns.

General Findings

- More than 60 percent of users visit the CeC either daily or more than once a week. For purposes of this study, persons who visit the CeC more than once a week are considered "regular users" and it is the usage pattern for this group will be analyzed and considered for purposes of analyzing the services being generally accessed and demanded by users in general.

- As noted previously, because of the proximity of the LGU-run CeCs to government offices and schools, government workers, teachers and students comprise the bulk of regular CeC users.

  Thus, government employees would use the CeC facilities – often located in the municipal

Frequency of Access and Civil Status
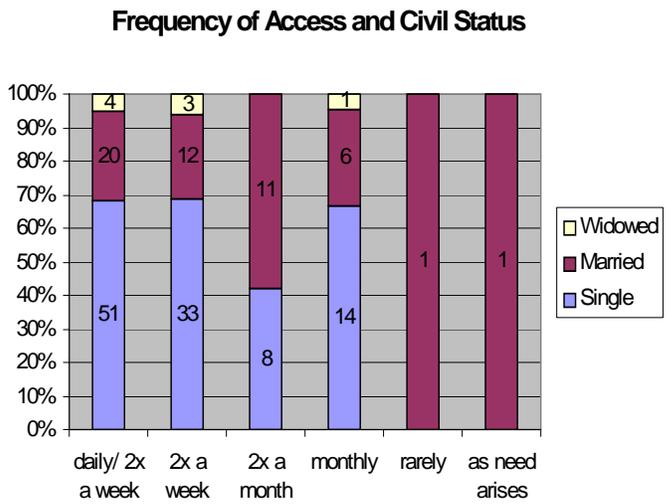
hall where they work itself – during their break time to email, research, chat, read news, download multi or communicate with their loved ones. Meanwhile, schools too, are usually located near the municipal hall making the CeC very accessible to teachers and students for research, elearning, emailing, finding friends, search for employment and downloading multi media. Not surprisingly then, majority of all government employees (60%) and students (57%) who access the center are regular users, i.e., they visit the CeC at least twice a week.

- Unmarried users (single and widowed), who represent nearly 75% of all regular users, use the CeC to find work, chat, email and surf the web.

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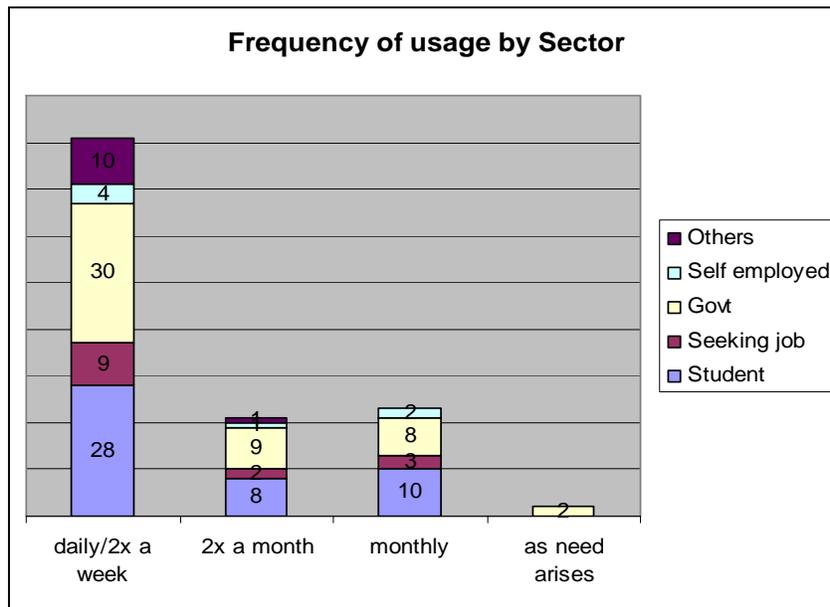
- Surprisingly, based on the survey results, the income of users does not appear to be directly associated with frequency of usage. For instance, citizens who use the center regularly (ie, persons who are using the center for more than 2 months) have income levels of Php 5,000 and below followed by users with income levels between Php 5,000 to 10,000. Moreover, people from lower income brackets of Php 5,000 and below tend to be regular users more than people with higher income.

One very important insight that is revealed by this data is that even people with lower levels of income are willing and able to pay reasonable rates for CeC services. To be sure, it should be noted that CeCs are generally more affordable than other commercial internet cafes, as stated previously. Moreover, people with higher incomes likely would have other sources for access to the Internet, perhaps through more expensive internet cafes, or through their own computers with internet access in their homes.

- Students frequent the center to finish their school requirements, search for learning materials, use online communities such as myspace and friendster, chat using yahoo or msn messenger sometimes with webcam, encode and print.

- Government employees avail of encoding services, research on work assignments, print memoranda, view government issuances, access GSIS accounts and communicate with their loved ones. Others use it to find work, livelihood materials, research, read news and weather, ICT training, among others.

- Female users outnumber male users. Females usually use CeC services for internet surfing, chatting, communicating with friends, read news online, apply for a job and avail of ICT literacy courses. It is interesting to note that in terms of telephony usage such as phone calls, VoiP and emailing/chatting, females outnumber males three to one. They usually frequent online sites such as friendster, myspace, classmate, hi5 and chat applications such as msn and yahoo messengers. Based on the team's observation, webcam which is used for chatting is among the top demanded product of the center especially by females who have chat mates from other countries.

  Anecdotal evidence suggests that CeC facilities are being used extensively by females seeking companionship or even marriage, in part as a means of opening doors to better lives. While the view of the study team is that, given user rights to privacy, it is not the place of government to either encourage or discourage such use or practice. Nonetheless, it seems prudent to suggest that LGUs should offer through the CeCs, information or training on the possible dangers or consequences of such, largely to protect their constituents against possible online fraud, mischief, identity theft or worse.

Telephony and internet usage by gender

Category	Female	Male
communicate w/ friends	Female, 51	Male, 33
email/chat	Female, 59	Male, 29
internet	Female, 65	Male, 46
telephony	Female, 31	Male, 13
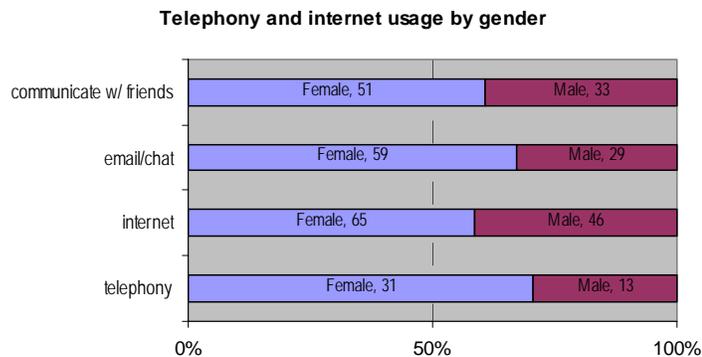
Internet Usage by Sector
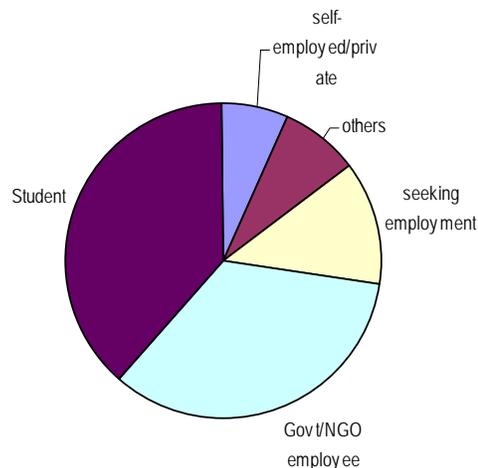
- In almost all CeCs, internet access is the top accessed service, and usually, but not always, the highest revenue generating service. Students access the internet more than most, with government employees ranking second. About 12 percent of all users access the internet principally to look and apply for jobs, for instance by using the PhilJobNet web portal.

- Internet usage varies across age distribution. For instance, citizens above 40 years old rarely use the internet compared to younger age brackets. On the other hand, people below 30 years old, represented by students and government employees list internet access as among the top services they use at the center. Based on interviews, most users aged 50 years and above lack the necessary skills in using the internet and are too shy to ask CeC staff for tutorials. Further, most users 50 years old and above are already retired and don't see the value of internet in their lives.

- One of the most popular applications of the internet is the use of email and chat programs. Users typically use free email servers such as Hotmail, Yahoo and Gmail. On the other hand, instant messenger programs such as MSN and Yahoo messengers are popular especially among students and government employees.

- In terms of sectors which use email or chat, government employees registered as the top users with 39 percent of all users. Government employees are slowly utilizing email services as tools for more efficient work especially in sending correspondences across offices, communicating with colleagues, and receiving government memoranda and issuances.

- Students represent another 33 percent of all sectors which use email or chat services. Popular applications for students include finding or creating friends online through chat and instant messengers especially webcams equipped PCs for chatting.

- Based on trends observed for this study, internet usage such as email and chat tend to decrease as one become older. On the other hand, in terms of civil status, there are 2 single users of email or chat for every one married user.

- A number of CeCs offer basic ICT literacy courses ranging from word pressing, spreadsheet, presentation making and to how to use the internet. Females avail of the training services more than males do. Further, government employees and

those seeking for work avail of training courses to augment their skills on ICT especially how to use word processing and the internet.

E-Governance Findings

- Almost all CeCs visited by team offer some form of electronic governance. Applications range from barely informational such as project and service information to interactive applications such as online processing of documents, online grievance system and VoIP for tourism queries.

- Again, women access online government services more than men do (60%). Female users search government sites for employment, to download forms and read government news and to access elearning content more than males do.

- In terms of age distribution, citizens aged 30 years and below represent 52 percent of all who access government online services.

Age Distribution of eGovernance Users
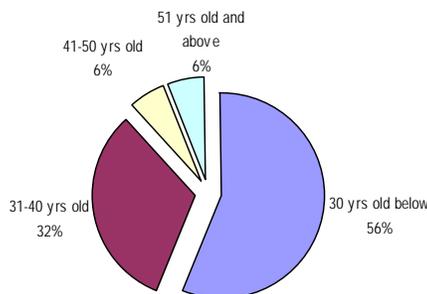
- Downloading of government forms such as birth certificate applications, business permits, clearances, etc are among the top egovernance applications being accessed by CeC users. Half of all egovernance users are government employees. Government staff use egovernance applications such as GSIS loan information and processing, birth certificate requests, passport renewal, business permit applications, research on work assignments, viewing of issuances and memoranda, among others. Meanwhile, citizens within the working age group (40 years old and below) access egovernance applications and download forms which they would need for employment or business development. Lastly, students and government employees are the top downloaders of educational materials.

- Income levels appear to have no effect on the usage of egovernance applications. Indeed, survey results show that the lower the income level, the higher the usage of egovernance applications. For instance, 39 percent of all egovernance users have monthly income levels of Php 5,000 or less and another 25 percent belongs to the Php 5,000- Php 10,000 monthly income bracket. At the very least, this reveals that egovernance services are considered relevant and useful, particularly by citizens

with lower incomes, and should be seriously considered and deployed especially in connection with government efforts to bridge the digital divide.

eGovernance Users and Income Levels
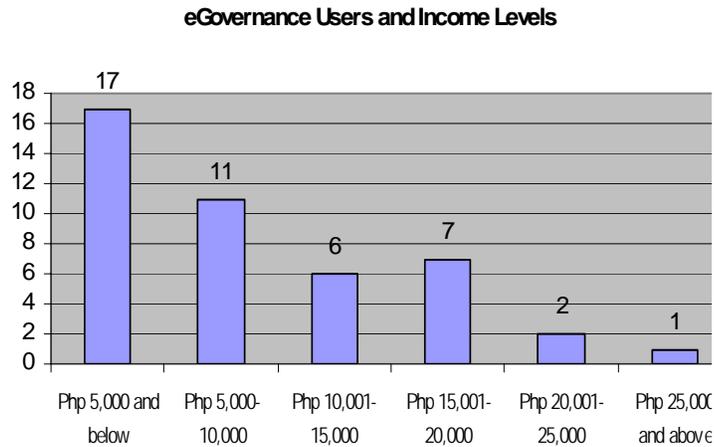
- CeCs can play a role in helping to institutionalize the use of ICT to make LGU operations and communications more efficient, which hopefully will also translate into better public service delivery to citizens.

  CeCs can start with simple steps. For example, CeCs can assist the LGU creating an email account for all its employees. This is very helpful in developing a paperless administration and facilitates intra-LGU communications. CeCs should make sure that LGU staff are well acquainted with the various services being offered online and should be able to guide users to access services. Third, CeCs can also make the gov.ph portal as the home page for their internet browsers, and can likewise encourage and assist LGUs to provide a link of the Philippine portal with the LGU website.

D. Needs Assessment

CeC services, especially e-government services, should be aligned with the citizens' information needs. A needs assessment, through Focused Group Discussions (FGD) and exit surveys were conducted to particularly flesh out unarticulated demand for e-governance applications. (see Annex 7 for a summary of FGD results)

Respondent Profile

A total of sixty (60) citizens from different sectors and age levels from six (6) CeCs (two each from Luzon, Visayas and Mindanao) participated in the needs assessment process. Thirty-one or 52% of the respondents were men while and twenty-nine

Gender Distribution

female 43%

Male 57%

>20 years old - 2%

21-30 yrs old - 20%

31-40 years old - 29%

41-50 years old - 32%

<51 years old - 12%

or 48% were women. More than half of the male participants belong to the 31-50 years old bracket while the female counterparts are younger belonging to age 21-40 years old. 42 respondents were employed by the government either from the LGU or the regional offices.
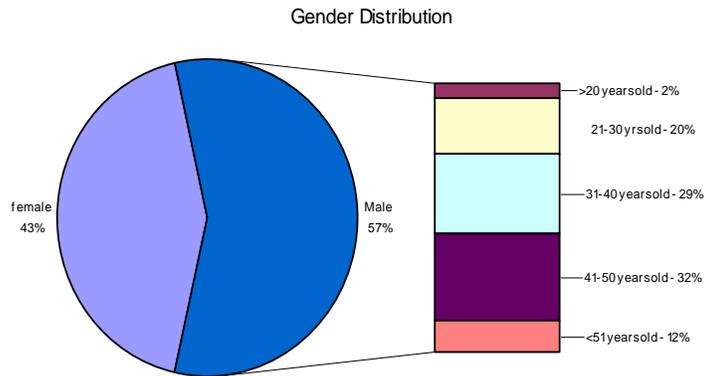
On ICT Skills and Trainings

- Almost all of the respondents were familiar with computers, and understood the basic uses of the computer such as word processing, spreadsheet, games, multimedia, internet, among others.

- ICT skills were accumulated from different and several channels. Students learned using the computer and the internet from their schools as part of their courses or through family and friends. On the other hand, government employees or office workers learned computer skills basically from their own initiative as it is generally used for their work. Others developed their skills through the ICT programs of the CeC or through tutorial sessions with a CeC staff.

- The respondents indicated an interest in taking advanced ICT training if offered by the CeC in the areas of internet research, presentation making, digital editing, and word processing and spreadsheets, provided that the training is conducted for free or at minimal cost. Interest in enrolling in ICT courses would increase if offered after office hours or during weekends. Currently, most CeCs offer basic ICT skills development during CeC operating hours only thereby only a handful government employees availed of the service.

On Communications Needs

- Sixty percent of those who participated in the needs assessment have immediate family members working abroad as Overseas Filipino Workers. Everyone else said they had friends or other distant relatives similarly working abroad. Gaining a

deeper understanding of the role of the CeC as a channel for more affordable means of communication – particularly as a provider of Voice over Internet Telephony (VoIP) – is, therefore, an important issue.

- All of the respondents have access to voice calls either through a mobile phone or a landline telephone. Only twenty three percent or 14 respondents have landline phones but all have cellular or mobile phones.

- Mobile phones are the preferred choice for communicating with their friends or loved ones abroad. It is cheaper to receive calls from abroad, rather than calling abroad from the Philippines. Given, too that overseas Filipinos would likely have a greater capacity to pay for the long distance call, Filipinos are likely to send a text message, or deliberately make a missed call, following which they are called back by the overseas Filipino with whom they wish to speak.

  VoIP makes such callbacks unnecessary. Several respondents with access to broadband internet at home already use instant messaging and VoIP (e.g. through webcam chatting or Skype). Some of those without internet connectivity at home visit their CeC to access the webcam and VoIP services. They also prefer to use emails rather than the traditional snail mail system as emails are faster, cheaper and have the ability to send audio, video and pictures.

On Other CeC Services

CeCs should offer a wide array of services, not all of them necessarily ICT-related, such as basic telephony, computer applications, printing, scanning, internet applications, online government services, among others not only to serve the community better, but equally important, to enhance its sustainability and income generating capabilities. In other words, CeCs should act as a one-stop shop that caters to community interests and needs by offering services that allow community users to use its facilities for activities ranging from research and other work-related activities to communications (email, chatting, VoIP) to searching for jobs to accessing government services online.

Table 4 summarizes the top CeC services being accessed by the citizens.

Table 4. Services of the CeC

- Internet access
- Digital Printing
- Word Application and Excel
- Social and Economic services (E-commerce)
- ICT training
- Online job search
- e-Learning services
- Government Online Services
- Scanning
- Faxing

On Barriers to CeC Use and Access

The various reasons given by respondents as to why they would *not* patronize the CeC yield lessons just as important as knowing the factors that encourage CeC use. Understanding these concerns would not only reveal obstacles to CeC viability and sustainability, it would also help determine the best marketing and advocacy strategies that CeCs can employ to better serve its constituents.

- Most of the respondents revealed that lack of time to go to the CeC hinder them from accessing CeC services. Since most of the participants are either government employees or students, their usual free time would be during lunch breaks, after school or office hours or during week ends. On the other hand, most CeCs operated by the LGU serve the community from 8:00 am to 5:00 pm only, from Monday to Friday. As such, the operating time of the CeC is usually not aligned with the time availability of citizens. Further, citizens stressed that during their free time, ICT training courses are being offered by the CeC which uses all the PC for training limiting further, their access to the CeC.

- Broadband connection are sometimes slow, unpredictable and in some instances, down for the entire day. This would affect most of the online services of the CeC. Respondents revealed that they would go to an internet café instead of the CeC if they experience slow or unpredictable internet speed. Moreover, users would prefer internet cafes over CeCs due to more up-to-date equipment such as more advanced webcams, faster computers, better facilities, among others.

- Lack of availability of PCs is among the reasons for not utilizing CeC services. Since most CeCs are equipped with 5-6 PCs which are always occupied during peak hours, users would just prefer to go to internet cafes equipped with more computers.

- Location is critical. Since most municipal offices aren't located inside the town

center (ie business center, marketplace), citizens would rather go to an internet café which is inside the town center to save time and transportation cost.

- Lastly, financial constraints also hinder citizens from accessing the CeC services. Even though the CeC offers very competitive rates and on some instances subsidized rates, users want additional discounts especially for students and senior citizens. Note that even the lack of pricing information can discourage users from using the CeC. One interviewee revealed that she was hesitant at first to even enter the CeC simply because she did not know how much it would cost. Preparing easily visible signs, as well as flyers and other marketing materials that clearly indicate prices and offerings are obvious simple steps that can be taken to make the CeC less intimidating to those who know little about it.

E. E-Governance Needs

The main objective of the focus group discussions (FGD) is to gather data and insights on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, employment needs and business development needs.

Some e-government applications such as the Government Service Insurance System (GSIS) electronic system which allows them to view their payment contributions or apply for a loan online are relatively well known by regular users of CeCs. The use of this service has been widely adopted particularly by government employees for whom its use is now mandatory if they want to avail of GSIS benefits.

Beyond GSIS, there is little awareness of other online e-government services, or even other online activities such as elearning, ecommerce, and online banking. Awareness even of the existence of a government portal (www.gov.ph) is low.

The use of email in government is prevalent, both by public workers who use them to correspond with each other or with other agencies; and by citizens use emails to send their comments and insights to the local government.

While there are kinks to be ironed out (e.g. respondents who have tried using the online services such as the GSIS and SSS checking of remittances and loans observed that information is not regularly updated, and that there are occasional disruptions in service), those interviewed revealed that they prefer the online service compared with the traditional way of doing it, recognizing it to be faster, more efficient, cheaper and transparent to all citizens.

Table 5 summarizes the e Governance needs of the respondents.

Table 5. E-governance needs of respondents.

Governance
- Online GSIS and SSS checking of remittances
- Birth certificate processing and application
- Online Application for Passport and Passport Renewal
- Online Application for Security Papers
- Online application for Business Permits and Real Property Tax
- Checking of updates on memorandums of DILG
- Information on guidelines set by different government agencies
- Department of Education orders
- PRC results
- Online Procurement

To date, the ten municipalities visited already have websites. Most of the these are still in the Stage I, and are mostly informational in nature, although others are already moving to more advanced stages.

Profiles of their respective municipalities, tourism information, information on requirements of obtaining certificates (birth/death/marriage, etc), requirements on bidding/procurement, municipal news, etc are some of the information that can be found in their websites, together with directories of government officials and their offices can be found in the websites.

Generally, LGU websites, where they are present, are not really being used or accessed, or else, there is little awareness of their existence.

One of the reasons why respondents have little knowledge about the LGU website was the lack of online services being offered through the website. Most of the LGU websites are merely informational, focusing on the municipality's demographic profile, economic status, infrastructure development, LGU profile, project and programs, events and tourist attractions.

There is a need to make them more interactive and responsive to actual needs. For example, some respondents indicated that they would like to see a local jobs database which would complement the various national job search portals through which they could work within or near their community.

Second, website information is not being updated regularly thereby curbing the enthusiasm of the users and eventually usefulness of the website for their needs.

Respondents would also be keen to utilize online complaints/feedback mechanisms which would allow them to give comments and suggestions, or to lodge complaints,

emphasizing too that they would expect prompt feedback or responses to their input or complaints.

Finally, security issues need to be addressed and not only at the local level. There have been instances when LGU websites were corrupted when the central server of the NCC was hacked.

IV. Recommendations & Best Practices

A. Community e-Center sustainability and technological attributes

The sustainability and viability of a Community e-center depends on having an efficient day-to-day operational management with a strong organizational structure, and technology, services and applications that community residents would be willing and able to pay for.

The technology and applications need not necessarily be the latest technology. What is important is that these enable users to do what they want or need to do – keeping in touch with or remitting money to loved ones, expanding the market reach of a business, interacting with government, or even simply playing games – at a price that they can afford and are willing to pay.

CeC operators and managers should therefore have the capability to balance new technologies with the needs of the community and the costs for the sustainability of the CeC in the long run.

Hardware

CeCs have several options in terms of hardware.

Local government units, for one, can and do allocate budgets to purchase computers brand new. Depending on specifications, computers can be bought for around US$400 to US$600, including peripherals such as printers and scanners.

CICT-deployed CeCs are provided with at least four People's Personal Computers (PCs). The Peoples PC is an initiative by the Commission on Information and Communications Technology and the private sector spearheaded by Intel which aims to increase the number of computer and internet users by providing low cost yet high quality computers to the public through partner retail outlets. People's PCs are currently priced below US$320, and includes an Intel Celeron D 315 processor, 128mb RAM memory, at least 20 GB of hard disk space, cd rom and floppy drives, 56k internal modem and 15-inch color monitor.

CeCs may also get older or refurbished machines if they want to increase the number of workstations on a limited budget. Costing less than US$100 in some cases, these may not provide all the services of a full multimedia PC but will allow for basic functions such as word processing or internet surfing.

<u>Software</u>

- *Open Source vs. Proprietary Software?*

  Because of the significant cost of propriety software, as well as the government's commitment to protecting intellectual property rights, NCC prefers the use of open office software for the operating systems of the computers of the CeC. Technical courses on Open Source Technology are therefore given to CeC Managers and alternate managers.

  Open source, however, still provides challenges for which some CeCs have found no ready answer. For one, compared with Windows, Linux is harder to configure, and Linux problems more difficult to solve. For instance, some CeCs found that webcams – which many customers require – are not compatible or are difficult to use with Linux. Moreover, more community residents are more familiar with Windows. In both cases, the CeCs would tend to lose out as the customers would go instead to competing Internet cafes.

  One possible solution for CeCs is to use a dual boot system configuration which enables users to choose between Linux or Windows operating systems.

  But more importantly, this problem underscores the need for CeCs to do a cost-benefit analysis if they have to choose between open source and proprietary software such as Windows. The cost of purchasing Windows, to be sure, is not trivial, but this has to be weighed against not only the availability of personnel who are trained and able to handle open source-based problems, as well as potential difficulties in terms of customer service and satisfaction.

  Should the CeC decide to go with open source, mechanisms should be in place not only to train the CeC operators, but also to cascade such trainings to the community residents as well.

  On a policy level, and keeping in mind a long-term view for the CeC itself, it may be worth it for government to increase support and efforts to encourage the development of a growing pool of programmers skilled in open source, who would be able to provide continuing support and trainings for CeC operators. This would make open source use more feasible to adopt from the onset, and over the long-term, could also make it more likely that CeCs will use if not cause highly beneficial innovations.

For example, the CeC of the City of Calamba developed a program that allows the center manager to control the use of the workstations from the administrator computer, and makes his work more efficient as it allows him to easily determine the number of hours of use and the corresponding fee, and to monitor compliance with CeC guidelines (such as disallowance of gaming or visits to pornographic sites). The CeC was able to do this in large measure because its personnel includes three computer science graduates trained, among others, in open source.

- *On Productivity Applications*

   Productivity applications such as Word/document processing, spreadsheets, database processing, presentation maker, image/graphic editing and desktop publishing are commonly used in computer-related services of the CeCs.

   As stated previously, CeCs are free to use either open source productivity applications such as Open Office or proprietary productivity applications such as MS Office. The center's budget, ease of use of the software, compatibility with other programs and equipment, and the demand of the clients should be taken into consideration in choosing for the appropriate application.

   Notwithstanding the above stated challenges posed by open source operating systems, users who patronize CeCs that have been using the Open Office productivity suite have generally found it to have the same usability, function and interface on all of its counterparts for MS Office.

   OpenOffice runs on both Windows and Linux platforms, and *the* key advantage of using OpenOffice is that it can be downloaded for free. This also makes it easy for government to deploy it, even in schools that are not yet connected to the Internet, through the distribution of CDs containing Free and Open Source Software (FOSS).

B. **Sustainability and Funding Options**

All of the CeCs are subsidized in part by LGU funds. The budgets for the CeC's operational costs is included in the yearly budget of the municipality.

As such, two concerns arise. First, the operational budget provided by LGU support is given on a year-to-year basis, making it difficult to develop long-term plans. And second, especially in election years, there is the possibility that a change in administration could see a lessening of support for the LGU.

It is therefore important that alternative funding options be found, preferably insulated from political whims.

<u>Pay per Use</u>

The obvious option for the CeC is to charge users on a pay-per-use basis. How and whether this option is exercised by the local government unit is a function, not only of competition (e.g., from internet cafes), but also of the political context that it sees itself in.

Earnings can be used to help maintain CeC facilities, upgrade software, purchase new equipment and pay for personnel. CeCs could also try to set up a trust fund to help with long term sustainability.

Community residents may not understand why they would be made to pay for internet access, particularly if provided within local government premises, and could be under the impression that such services should be covered by taxes already paid, or else are part of the services that LGUs should be providing anyway.

It requires a certain level of political will to charge fees in LGU-run community e-centers, as well as a deliberate effort on the part of the LGU to educate their constituents on the need both for the CeC itself, and for the fees that will be charged for its use.

Thus, a number of CeCs provide its services for free to the community. A few ask for donations to generate revenues while the rest charge user fees either at same or a little lower than prevailing market prices.

In addition to internet access, CeCs can also charge their users for ther services such as printing, and photocopying. and for ICT training.

- *Effect of CeCs on Private Sector Investment and Competition*

  It should be noted that CeC actions, particularly in terms of pricing and striving for sustainability has a potentially profound effect on local investment and competition.

  In areas where the CeC is the pioneer, i.e., the first to provide internet access in the area, its success inevitably encourages private citizens to set up similar facilities, having seen the CeC as a viable proof of concept.

  On the other hand, where internet access is provided by both the CeC and existing internet cafes, the LGU in effect competes with the private sector, but with built in advantages. Generally, LGU-run CeCs are able to offer their services at a lower price because many of the costs are subsidized by the LGU, as some costs of the center are shared by the LGU such as office space, staff compensation and utilities.

LGUs need to be careful that they do not unduly stifle or discourage private sector investment in this area, although, to be sure, the demand for internet access in the communities visited appear to be so great that private sector activity appears to have largely been unaffected. (See Table 6 below).

Table 6 . Average prices/rates of selected CeCs and Internet Cafes

CeC	CeC		Internet Café		First to be established	Effect of the CeC presence
	Internet	Printing	Internet	Printing		
Nueva Vizcaya	For free	No printing service	Php 30/hr	Php 4/page	Internet café	No crowding out of private investments as there is huge demand
Pinamalayan	Php 10/hr	Php 5/page	Php 20/hr	Php 8-10/page	Internet café	No crowding out of private investments as there is huge demand
Calamba	Php 10-students Php 12-regular	Php 3/page Php 6, if colored	Php 20/hr	Php 3 (ink refill)	Internet café	The rates of internet cafes were lowered due to competition
Barugo	Php 15/hr	Php 10/page	Php 15/hr	Php 15/page	Internet café	No crowding out of private investments as there is huge demand
Tanauan	Php 20/hr, Php 15/hr – students	Php 7/page, Php 5 – students	Php 20	Php 7/page	Internet café	No crowding out of private investments as there is huge demand
San Remigio	Php 18/hr	Php 5/page, Php 15, if colored	Php 25-30/hr	Php 5/page, Php 30 – colored	Internet café	No crowding out of private investments as there is huge demand
Maramag	Php 20/ hr	Php 5/page	Php 15/hr	Php 5-7/page	Internet café	No crowding out of private investments as there is huge demand
Bukidnon	For free	No printing service	Php 20/hr	Php 8/hr	Internet café	The rates of internet cafes were lowered due to competition
Balingasag	Php 15/hr	Php 10/per page	Php 20/hr	Php 15/page	CeC	Internet cafes were established, the CeC created a demand for it

In sum, LGU-run CeCs do play constructive roles, even where internet access can be provided by private sector-run internet cafés by:

(1) providing a proof of concept model that could encourage the private sector to invest in similar facilities;

(2) providing competitive challenges to internet cafes, helping to keep prices affordable;

      (3)   providing an alternative venue for citizens who may not be able to afford internet café prices.

Private Sector and Non-Governmental Support

Private sector involvement could help augment funding requirements of the CeC. All the communities do have a substantial number of former residents who now work abroad. Not only are these overseas Filipino workers more likely to have disposable income, many are also looking for meaningful ways to participate in Philippine development, and more immediately, in the progress of their communities of origin. Thus, the CeC of Barugo and Tanauan have been successful in obtaining donations from their community's OFWs.

Private sector participation is another source of support. The Last Mile Initiative has partnered with a number of private sector corporations, including Microsoft and Intel, to provide computers and software for some community e-centers. San Remigio was able to get donations from Globe Telecom.

Voice over Internet Protocol (VoIP)

The formal deregulation of VoIP, and its classification as a value-added service opened doors for non-telecommunications companies to enter this market, and is now fueling an upsurge of increasingly affordable products for consumers. Globe, PLDT, Skype, Bayantel, Chikka, Mozcom and Pacific Inernet are just among the VoIP providers in the country. US-based Cisco Systems Inc. claims to have sold more than 4,000 VoIP phones in the market.

Provinces and rural areas in the country are also benefiting from VoIP facilities through the Community e-Centers. A number of CeCs are offering VoIP services not only to enable families call their relatives abroad but also to generate jobs, assist OFWs and market its community as a tourist destination.

Other Fee-Based Services

CeCs can also get additional revenues from other services such as CD burning and lamination of cards (for licenses, IDs, etc.). CeCs can also take advantage of cd writer/burners to record, store and distribute CDs to the community.

For example, the CeC of Tanauan compiles their folk songs in the CDs that are sold during fiestas and festivals to tourists and visitors as souvenirs. The CeC of Maramag has a laminator which is offered as a commercial service to preserve documents from alterations, spillage, and damage. Identification cards of government employees are also laminated in the CeC.

Other equipment with revenue-generating potential are printers, digital cameras and photocopiers, which are in particularly high demand especially for CeCs located near schools.

C. Information security

All CeCs that were visited were protected by anti-virus software downloaded from the Internet. Spyware, adware, Norton and AVG anti-virus software should be regularly updated by the CeC.

The CeC of Pinamalayan has an anti-virus software but as an added precaution, allows clients to save their work only on personal removable hard drives, thumb drives or on CDs, and not on the workstation's hard drive.

D. Human Capital Development

CeC Managers and staff with formal IT background are likely to be more effective in the development of services of the CeC, including the development of the LGU website. Some of the best and most innovative CeCs visited (Tanauan, Calamba, Basak-Pardo and San Remigio) are managed by people who finish college with IT courses.

However, it is equally important that people designated as CeC Managers or as part of the staff of the CeC should have the skills to manage the CeC not only from a technical standpoint, but equally important, from the point of view of social sustainability. Will they be able to engage the community? What sorts of marketing and public relations strategies can they adopt to increase community awareness and use of the facilities? How do they determine appropriate pricing levels, if at all? How do they identify and take advantage of revenue-generating opportunities that are appropriate given the community's overall context?

High quality continuous training is also needed to ensure that the CeC managers and staff are capable to use technical resources effectively. A guideline or handbook on CeC operations should be developed to help ensure continuity in cases where key staff persons resign or are reassigned to other government positions.

Finally, community volunteers could be tapped to help out in the day-to-day operations of the CeC. To this end, CeCs should develop a program for recruiting, training, retaining and rewarding volunteers. The CeC of Balingasag, for example, relies on a pool of volunteers to maintain the cleanliness of the center, and provide customer assistance, in exchange for free ICT training and free use of computers at pre-designated schedules.

E. Location and Operating Schedule

The eLGU CeC program requires LGUs to provide space for the CeC. Thus, almost all of the CeCs are located within the premises of the municipal compound. This arrangement causes problems of accessibility for some CeCs that are far from the town proper. Ideally, to increase the likelihood of continuous community patronage, CeCs should be established on locations with heavy traffic of people, such as near schools or close to the town market.

Another factor to consider to ensure the sustainability of the CeC is its time of operations. As most of the CeCs are operated by LGUs and within the premises municipal building, they are usually open during office hours. However, users especially students can only access its services after their school hours. CeCs should provide more flexibility in its operations in order to reach more people.

One possibility is to limit the use of CeCs to students during school hours, and to open it up to the public – on a pay-per-use basis – after and/or on weekends.

F. Organizational Sustainability

As previously noted, the political nature of support given by LGUs for the establishment and maintenance of CeCs has a profound impact on the ability of the CeC, not only to sustain its operations, but also to plan for the long-term. Strong support from the local government executive makes life easier for the CeC. However, the relatively short terms of LGUs (3 years), makes it difficult to plan beyond such period, as possible electoral changes in local governance could see a new executive who may not see the CeC as a priority.

Local laws (to be passed by the Sanggunian or local government legislature) to:

- Establish and maintain the CeC;
- Form multi-stakeholder councils to provide supervision, monitoring and overall guidance; and/or
- Create ICT departments for the LGU could strengthen the CeC as an institution, and insulate it from local political developments.

Thus, for example, the Nueva Vizcaya provincial LGU has an ICT department at the provincial level specifically mandated to help the province to develop policies, programs, and collaborations with other organizations for the development of ICT.

In most cases, the LGU's Planning and Development Office is tasked to oversee, if not manage, the CeC. In such capacity, persons assigned to the CeC usually take on multiple concurrent roles, taking the role of CeC manager in addition to their other

administrative positions with the LGU. This stretches their time and work, and compromises CeC management.

This is a reflection, not only of the LGUs limited funding and human resource, but possibly, also of the need for increased appreciation by the LGU of the critical role of ICT in local governance and that they, therefore, need to consider assigning fulltime personnel to deal with ICT, particularly CeC-related issues, if not setting up a full-fledged ICT department for the LGU.

The CICT has a key advocacy role to play in this regard – and could develop a strategy to reach out to, increase awareness of, and provide training and logistical support for LGUs to train or hire persons who can effectively leverage ICT for better governance and public service.

G. Community-Based Content Development

CeCs should tailor their services and offerings to suit the needs and character of their community.

For example, most communities would likely have a substantial need for services that can help prepare migrants for life overseas. CeCs can help prepare OFW by providing basic ICT training on how to use the PC and internet to make them more productive, and to allow them to communicate with people back home. They can build an database that tracks contact details, and monitors skills development (which can then be tapped to place them in appropriate positions if and when they come home).

If the community has an artisan community or a handicrafts industry, it can train its citizens on the use of online e-commerce sites such as eBay or amazon.com, if not build its own e-commerce site.

As noted earlier, under the eLGU Program, CeCs are required to develop and manage their websites to include demographic and economic information, infrastructure, LGU programs and projects, services, news and issuances, among others.

CeCs can also play a role in gender and development with emphasis on women and children. CeCs can build multimedia presentations on the rights of women and children which can be deployed through the website or an intranet system. Further, as noted earlier, women are active users of CeCs. CeCs can develop specific training modules for women in terms of using the computer and internet and livelihood opportunities, as well as increase their awareness of possible online fraud and mischief that, unfortunately, also exists in the online world.

To maximize participation of the citizens and communities, LGUs and CeCs need to develop make their websites more interactive. One of the reasons of low e-

governance penetration is the lack of substantial and beneficial applications which the citizens can actually use, and not merely view or read from the website.

For instance, it should be simple enough to enable commonly sought application forms (such as for birth certificates, business clearances, permits, and the like) to be downloadable from website, as shown by the websites of Nueva Vizcaya and Pinamalayan.

Websites can also incorporate online consultations and interactive feedback features to encourage citizens to participate in policy making, planning, monitoring and governance.

CeCs can allow for inputs of citizens through online forums, community groups, emails and discussion boards. Thus, the websites of Tanauan, San Remigio and Basak Pardo allow constituents can post complaints in their websites through its guestbook and online forums. These complaints were then printed out and forwarded to the LGU. However, feedbacks or monitoring of the status of their complaints have still yet to materialize.

It is also important to consider developing a version of the website in the local language. Relevant content using the local language can also be developed to further assimilate ICT into the daily lives of the citizens.

V. <u>Conclusion</u>

Community e-Centers, as shared facilities, play an important role in bridging the digital divide, opens opportunities for improving the welfare of rural and underserved communities, and can bring e-governance solutions closer even to the remote areas.

The following table thus provides a summary of the sustainability considerations and possible initiatives that come into play in setting up and running a CeC.

Sustainability attribute	Description/Recommendations
Business fundamentals ■ Strategic planning	■ Secure strategic location either on the frequently, most accessible area within the LGU premises such as inside the library, beside the mayor's office or the LGU's business permit office or outside the LGU such as beside schools or marketplaces. ■ Develop strategic plan with all stakeholders including operations policies, marketing, financial and pricing management, staff manual, ICT course guidebook, user policies, monitoring and evaluation.
■ Financial sustainability	■ Develop pricing mechanism, to be approved by the Sangguniang Bayan taking into consideration cost of services, human resource cost, equipment cost, market prices, at the

	same time balance fees with the capacity of community to afford CeC services.
	▪ CeC services should not be priced substantially lower than prevailing market prices to cover costs of providing the service at the same time avoid crowding out private investments in ICT.
	▪ Mobilize resources from other channels such as donor institutions, grant agencies, OFWs, tourists and migrant communities
	▪ Set-up trust fund for CeC revenues and costs
Organizational structure	▪ Identify local champion to ensure continuous support for ICT programs
	▪ Establish ICT structures within the LGU such as a separate ICT division inside MDPO or a department level ICT group
	▪ Establish an ICT steering committee which will develop all policies and guidelines
	▪ Engage community as advisory group for the CeC
	▪ Invest in continuous training of CeC managers and CeC staff on technical and managerial skills. Develop manual of operations/staff handbook for continuity of operations despite change of management.
	▪ Engage volunteers as CeC staff

Technology
  ▪ Hardware
	Invest in appropriate and cost-effective technologies
	  ▪ At least four (4) Multi-media PCs with similar specifications with the People's PC to be augmented by refurbished units for tutorials, trainings, encoding, printing, etc. CeCs can also use network PCs which are more cost effective.

▪ Software	▪ Take into consideration budget resource, ease of use of the software, compatibility with other programs, and the demand in choosing appropriate application. CeCs can use dual-boot operating system with open source productivity applications. Use open source CeC management solutions such as accounting, book keeping, automated logon account applications, etc.
▪ Productivity applications and equipment	▪ Word/document processing, spreadsheets, database processing, presentation maker, image/graphic editing, desktop publishing, VoIP should be available. Other equipment should include photocopier, digital camera, scanner, voip stand alone units, webcams.
▪ Information security	▪ Use open source or proprietary anti-virus and anti hacking programs. Develop user policies to maintain information integrity such as no downloading of executable files, no using of diskettes, scanning and sharing policies, etc.

Content application	Promote the development of, and access to appropriate and relevant content to encourage the community to utilize the CeC, and more specifically, to understand and appreciate how the CeC can get them closer and more involved in governance.
	  ▪ Provision of useful governance services online such as downloading and online delivery of applications (e.g., birth certificates, business permits, etc.)
	  ▪ Telemedicine applications, not only for direct medical diagnosis or treatment, but also through the development of online

	materials designed to provide the public with greater awareness of preventive initiatives as well as first aid.
	▪ Promotion of e-commerce
	▪ Use of ICT for education, both to enhance teacher qualifications and skills, and to provide students with access to a wealth of information
	▪ ICT training in content development
	▪ Tutorials

In other words, the set-up and deployment of CeCs are not simple matters that merely require providing equipment, software and internet connectivity. The approach has to be holistic and community-based.

Programs and capacity-building initiatives have to be put into place so that the community e-center, wherever it is placed, is operated in a sustainable manner. It must provide relevant and useful services, content and products that community residents would be willing, and able, to pay for.

And finally, to conclude, given the relatively limited number of CeCs surveyed, as well as the fact that experience is really in its nascent stages, the conclusions and observations made here are, at best, preliminary and sometimes intuitive. Nonetheless, it is our hope that this briefer will be helpful, especially to the national and local governments, as they set-up and address sustainability issues pertaining to CeCs, and as a platform for exploring the viability of and possibilities for other more advanced applications and services, particularly the conduct of e-governance through these shared facilities.

ANNEX 1 – HIGHLIGHTS OF THE INTERVIEWS WITH GOVERNMENT AGENCIES AND PRIVATE SECTOR STAKEHOLDERS OF CECS

Interview with Miss Maria Teresa Camba
Director for Field Operations Office
National Computer Center

November 15, 2006
Commission on Information and Communications Technology

8 Established Community E-centers

1. Upi, ,Maguindanao
2. Zamboanga Sibugay
3. Sampang Batanes
4. San Remigio, Cebu

Philippine Community e-centers portal- can be used by OFWs for donations to communities

Major deployment Issues

1. Connectivity problems
2. Lack of budget especially if the counterpart is LGU

CeCs are fee based.

Interview with Engineer Dominador Garabiles
Chief, Operations Division, Telecommunications Office
Commission on Information and Communications Technology

December 5, 2006
3:00pm
Telecommunications Office, Roces Ave., Quezon City

Telecenter Start-up

Difference between the CeCs deployed by NCC and Tel of:

- CeCs deployed by Tel of are installed in the telephone exchanges office of tel of because the office has a building and is capable of Internet bandwidth already. If the area is too far, the CeC will be connected to the message telephone exchange center, also the tel of telegraph office so that it would be near to the people.
- A telecenter usually has 3-4 computers and servers running on microsoft. The computers are funded by e government fund. The number of computers is dependent upon the demand of the area. No demand analysis is being done before the deployment of the computers. The number is patterned after the 111 given telephone exchanges.
- Advocacy and social preparation of the community are components that are not implemented by the CeC program because of lack of funds.
- The standard equipment found in telecenter is 4 HP computers, overhead projector, digital camera, colored laser printer, and 3 in 1 printer.
- 119 telecenters are already established nationwide. The original target of tel of is just 111 CeCs.
- First CeC was established last February 2005 at Sta. Catalina, Negros Oriental and at Lapu-lapu city. The Sta. Catalina CeC is not operational right now because the PLDT cable was stolen 5 times making the PLDT Company furious and in turn stopped fixing the problem.
- Trends and CISCO are the outsourced companies of tel of to provide networking equipment such as router, etc. Advance Solutions is the provider of the computers.

Organizational Structure and Management

- A tel of employee from their regional office is assigned to operate the telecenter. No additional compensation is given. Usually he/she lives at the CeC.
- He/she is just trained how to operate not to manage the CeC.

Telecenter Products and Services

- Internet access, national and international phone calls, email and texting service, money transfer and remittances, facsimile and social telegram, scanning, printing, photocopying, DSL Connections to govt agencies.

Future Services

- VoIP, LGU services (Business permit, licenses, clearances, real estate taxes, etc), NGA services (Birth, passport,etc), community- based services (local content development, agri prices, local tourism) and commercial services (e- procurement, payment and collection).
- Remittance and money transfer will be stopped in the future because it is not part of the mandate of CICT.

- Services are with a fee. 21pesos/ hour for the use of computer in 2004. Now it is 15pesos/hour. The regional director has the authority to adjust the fee based on the prevailing rates in the area. At one time or another some CeCs experienced difficulty because of competition.
- Target location for the next years: Public High Schools. But this also has a problem, the schools are hesitant to accept the computers because of lack of funds of the school. They do not have the funds to sustain the facility.
- Most utilized service: Browsing, photocopying.
- The government subsidizes the CeC.
- The center also offers free ICT training.

Operations

- The operating time of the center is from Monday to Friday. But some CeCs are also open on weekends since some CeC managers stay at the center. The CeC is usually open from 8am to 10pm.
- There is no monitoring system that the CeC employs.

After the interview we had with Engr . Garabiles, we checked the CeC that they have beside their building. We talked to Lawrence Daraga, the CeC Manager. They have 6 computers, a telephone and a 4 in 1 printer. They have a performance monitoring system that has the name of the user, nature of use, time, etc. If there are internet cafés in the area, they experienced difficulty keeping up with the competition even if their fees are cheaper. The reason is they lack funds to upgrade their equipment. Their revenues go directly to the treasury agency budget so they cannot use the revenues to maintain the facility. They have to request first for budget to the head office for upgrading the equipment, etc.

Interview with Ms Mary Sagapan
Project Manager for NCC-CeC Project of Center for Sustainable Human Development
Development Academy of the Philippines (DAP)

December 07, 2006
9:00 AM
DAP

CICT commissioned Development Academy of the Philippines to be part of the NCC-CeC project. The MOA was signed on December 29, 2004. The mandate of DAP for this program is to provide a set of hardware and technical assistance support to 49 LGUs in Luzon. Of the 49 LGUs, 35 shall be provided with both hardware and technical support, while the other 14 shall be provided with technical assistance. As of November 30, 2006, DAP had already deployed equipment for 30 LGUs.

The engagement involves three major components: (1) Provision and setting up of IT Equipment to identified CeCs with Open Office installation; (2) Skills and technical training for CeC Managers on CeC operation and management and Open Source Technology; and (3) Community and Social preparation. DAP 's responsibility is not just providing the training for the CeCs but includes the procurement of the equipment to the deployment of the hardware. As the process of installation of the CeC is ongoing, community and social preparation will be done. Consultation meetings with target communities, the LGU and other stakeholders will be conducted. A Participatory Rapid Rural Appraisal will also be performed to assess if the community is already prepared to accept and avail of the CeC services and what can the CeC do to serve the community better. Data will be gathered through focused group discussions, key informant interviews, site inspection and research from the LGU's documents. The gathered data will be validated to formulate the sustainability plan of the CeCs based on the community's requirements and needs. A database will be set up and content will be developed based on the gathered data.

Strategic and Business Planning will also be conducted by DAP but will be sponsored by the LGU. Five components will be covered in 5 days and these are (1) CeC Orientation; (2) CeC Operation and Management; (3) Strategic Planning; (4) Finalization of CeC sustainability framework; and (5) Preparation of a CeC business plan. A two-day technical training will also be done to enhance the capacity of the designated CeC manager and alternate manager in the daily operations. The major component of the training is on the use and application of Open Source Technology and open office. The operating system that is applied is Linux Fedora 4. A 1 to 1 ratio of participants and computers will be ensured. Five runs of the technical training will be done with approximately 10 LGUs per run or a maximum of 20 participants each.

Evaluation and monitoring of the CeC is a phase, which involves maintenance check on and debugging of the system. However, the Academy is yet to develop a standardized mechanism to monitor the progress of the implementation of the CeC business plans. Documentation of the entire project shall also be done, as different CeCs will yield unique experiences and insights. This will be in the form of a case study per CeC.

The funding requirements to set up a CeC are: furniture and fixtures (P25, 000), equipment (4 units PCs, 1 4 in 1 printer, webcam, headsets, cabling connections, etc (P120, 000), aircon (P25,000), Internet installation/ subscription (P70, 000); Telephone installation (P10, 000), electricity (P1, 500), supplies (P5,000), space and space improvement (P200, 000),salaries of staff to do preparations (P10,000), and other expenses such as travel and transportation expense of staff for capability building.

The specific components of the CeC deployment of NCC and DAP are (1) procurement of equipment, (2) burn-in test, (3) installation of open source office (fedora 4), (4) deployment, and (5) test run.

The Academy conducts two-day Basic Hands-On Training on Fedora Core Linux Operating System for CeC Managers, alternates or IT staff per LGU. The Academy also conducts five-day CeC Strategic and Business Planning Workshop for managers, alternate managers and core group users, which was conducted on-site. Modules for monitoring and evaluation are also included in the workshop. The community was also involved in the establishment of their CeC through their sectoral representatives who attended the CeC Orientation and Participatory Rapid Field Appraisal (PRFA) and four-day Strategic and Business Planning Workshop.

DAP has encountered a lot of issues in the deployment, funding, and establishment of CeCs. Some of the deployment issues encountered by the Academy are as follows: (1) Slow processing of project requirements by the LGU. LGUs have to comply first with the three requirements (which are: MOA which will be signed by the LGU, space for the establishment of the CeC, and internet connection) before the deployment of the equipment. For the project to start and be established, the responsibility lies heavily upon the LGU. The LGU has to be active and efficient in running the CeC project. Another issue encountered by DAP is some of the locations are not actually ready for deployment (no power outlets, internet, computer table, temporary location) although they mentioned in official communications that they are ready and have prepared all requirements. Change in contract regarding the areas of deployment (from province to municipality) also causes problems as this would induce hassles for DAP and may impede the establishment of the CeC. With regards to the equipment, an issue encountered by DAP is the Asian Spirit policy for UPS. UPS battery must be disabled prior to cargo. So this affects the warranty seal of the equipment. The warranty time is being used up even if the equipment is still not utilized. Delay in the identification of CeC areas has also been encountered which has caused the moderate progress of the project.

Funding issues were also encountered before and after deployment. Failure on bidding was encountered two times resulting to some delay on the procurement of equipment. After deployment, DAP has no budget provision for defective items needed to be replaced. Although the equipment has warranty for 1 year, the LGU would have to bring the items back to DAP or to the supplier at their own expense.

Community issues/ problems were also encountered in the establishment of the CeCs and these are as follows: (1) Readiness of the community especially in far flung areas to embrace such technology. They have no or limited knowledge on computer operation and surfing. Some are also hesitant to try using the computers.
(2) Location of the CeC is also an issue. Some LGUs have no permanent CeC office. Some are temporarily located within the Mayor's office. If the office would be used for meetings, operations of the CeC would be stopped.
(3) Operating hours/days of the CeC are also limited. Most CeCs operate only during office hours and most of the prospective users are free during non-office hours and during Saturdays and Sundays.
(4) Number of computer units available is limited to fully cater to the needs of the community. (5) Frequent power interruption/ unstable power supply in the area. (6) Slow internet connection. (7) In the case of areas that are located near the sea, sea spray/ breeze may destroy the equipment. (8) Change of political leadership as the next administration might not be supportive to the CeC is also an issue.
(9) Another issue would be that there would be cases that the private sector might not be supportive to the establishment of the CeC. A business group of internet café owners in Infanta strongly opposed the CeC and distributed a statement against it. They regarded the CeC as a competitor of private internet shops.

(10) In the case of the LGU, some LGUs has no IT division or IT staff. In some instances, DAP experienced problems coordinating with them as there is no specific person designated for coordination regarding CeC activities. In the aspect of designating the position of CeC manager, the LGU designates the Municipal Development Planning Officer as the manager. There is a problem with that as the MPDC officer is a busy person. He/she has also a lot of functions and other responsibilities to attend to. For the CeC to be successful, it needs a full time manager who will ensure the quality delivery of CeC services to the community.

(10) There is also an issue with sustainability in terms of financial capacity to sustain CeC operation. A lot of the CeCs are still subsidized by the government.

Based in the experience of DAP, it seems majority of the citizens, constituents are not yet ready for e-governance. On infrastructure, there is limited ICT infrastructure and services, e.g absence or limited Internet service provider, absence or lack of bank for remittance of payment for online services. On the knowledge, skills and attitude (KSA) of some LGU (esp. old folks) and community, they have no or limited knowledge on the use of modern facilities and what benefits can be derived from the use of these facilities. These would be the major issues in reaching the communities through ICT.

Provided that the personnel who will manage the CeC have the skills, capabilities and commitment to deliver the services that CeC should provide, surely the CeC will make a big difference in improving good governance and bringing government services closer to the people.

Interview with Jose Tanseco
Project Development Supervisor
and Norberto Conti
Porject Manager for Planning and Monitoring
CICT-CeC PMO

December 15, 2006
Telecommunications Office

This CeC project has almost the same features with the CeC project of NCC and DAP. The only difference is that the team of Ric Diaz is the one who provides for 1 year Internet connection., which is in contrast to the project of NCC and DAP in which the LGU counterpart provides for the interconnection. Even if the area will require a higher cost due to the type of interconnection, they will still provide for it. They have conducted a study pertaining to that and they have prepared for it already. One CeC deployment costs about Php 477 thousand.

Their project is similar to the project of DAP and NCC in terms of other obligations of the LGU counterpart which are the provision of space for the CeC, staff and operation maintenance. Before the implementation of the project, they conducted a survey and visited 2 to 3 municipalities in an area that passed the criteria and is willing to accept the project. This was done to avoid duplication to the CeC projects of NCC and Tel Of. One area that has not been included in the study to assess the needs of each municipality since municipalities has different needs.

Telecenter Start up

Each CeC shall be equipped with four (4) interconnected computers, internet connection, office equipment such as photocopier, printer, scanner and digital camera and basic data processing software. The equipment has a 3-year warranty. The project intends to provide ICT trainings, advocacy works and development of the CeC Project Information System. They outsource all the components of the project. They chose ESI Advance Solution as their main contractor. They plan to establish 234 CeCs in the whole country.

The project was started last March 2006 and the target date of completion is on May 18 2007. Nonetheless, they plan to complete the project by the end of December 2006. However, the CeCs are still not operational. As of November 30, 2006, equipment is still in transit of the 97 sites. They are expected to be on site by the first week of December. There are only 15 sites that were deployed and installed with equipment. And these sites have yet to be connected with Internet. Therefore, there has yet no CeC that is fully operational.

Organizational Management and Structure

They had an agreement with the LGU and that is to include all barangay officials in the training of the CeC manager.And, whoever has been trained already will also train other people.

In that way, there is an assurance that at any time, someone can man the center. But usually, they train 2 persons in a site to manage the center. There are different capacities of each LGU. Sometimes, it is the son of the mayor who is being sent by the LGU or the MPDO officer.

The LGU are also required to set up a Local ICT Council to tap the willingness and the attention of the community. So far, 70-80% of the sites has Local councils already.

Training Component

Edu Corp does the training. Three training centers were established all over the country. In Luzon, the traning was held in Manila. In the Visayas region, in Cebu. And in Mindanao, in Cagayan de Oro. The training is composed of 10 days and all participants are stay-in and are provided with meals. The ratio of computers is 1:2. Simple illustrations are used to be able explain the benefits of IT in different sectors of the community. Web development is also included in the training.

Monitoring Component

After the deployment and the establishment of the CeC, the tel of's role will be to monitor the project. Each CeC is required to submit a performance report and people from tel of will also visit the CeCs from time to time. This is to checked whether the CeC is functioning and doing its service in the community.

CeC Project Information System

This system is composed of 2 packages: (1) Monitoring and deployment and (2) Monitoring of performance. The preparation of this sytem will lead to GIS. They have plans to incorporate their system to the GIS of tel of.

Telecenter Products and Services

The basic service that the CeC provides is Internet access. According to them, the installation of e government applications is to be provided by the NCC. After all, the NCC has the e gov fund.

The LGUs are allowed to charge the consumers of the services of the CeC. The CeC's server is Windows but they also use the Open Source applications. One problem of this is when the server is down, other equipment cannot also be used because they are connected to Windows.

Concerns

According to Conti, the emergence of Internet shops in the area of the site will be one measurement of the success of the project. This proves that Internet is needed in the community and setting up this kind of business is viable. Though, this may decrease the profits of the CeC, this will be offset by the taxes that these businesses will pay to the government. The CeC will then go back to its original purpose and that is advocacy. By the duration of 3 years (warranty of the equipment), the CeC should be able to provide government services (e.g. electronic barangay clearance, etc) to fully utilize the CeC.

Another concern is at what level should the CeC be deployed and established in a uniform manner? They studied different models and they have seen that some CeCs are offline and some only use cds.

Interview with Central Visayas CVISNET
CVISNET Office, Cebu City
April 1, 2006

Interview Highlights

Initially, its original objective was to interconnect the different line agencies of Central Visayas. It is an ISP that provides internet service of most of the government agencies in Cebu. There are around 80 regional line agencies, including NEDA, NCC, and LGUs.

Cvisnet can be considered as the nerve center of Central Visayas. All the servers of NCC-Visayas and Cebu's LGUs are co-located in the Cvisnet facility. Most of the LGUs have their own servers at Cvisnet. Due to the sensitivity and importance of the websites that it is serving, Cvisnet decided to use Linux for security concerns. So far, it has not experienced any major case of hacking.

Cvisnet is NCC's major partner in telecenter development. It started its partnership with the NCC on the CeC project in 2005 but it has been working with the NCC on other e-barangay project since 2002.

Cvisnet is in charge of procurement and deploying of equipment and social preparation training for the CeCs in the Visayas. Deployment of equipment is 100% complete in the Visayas region, proof that the partnership of NCC and Cvisnet is effective. The deployment task includes 15 project areas in the Visayas and 30 in Mindanao.

The project also involves social preparation seminars, which were conducted in 30 project sites in the Visayas and 34 in Mindanao. The Development Academy of the Philippines (DAP) handles the region of Luzon. Visayas is ahead in all aspects, especially in deployment.

Cvisnet uses so-called people's PCs from Intel, which is a private sector partner of the NCC. It provided an extra computer for each of the CeCs so the NCC can now provide five (5) PCs to telecenters under its project.

In summary, Cvisnet manages the following services for NCC's CeC Program:
- Deployment (4 PCs per center)
- Basic Training on Linux
- Social Preparation activities
    - Orientation for the community
    - Information needs survey
    - Strategic and business planning workshops

The social preparation activities are deemed the most important because Cvisnet wants the community to have a sense of ownership. It is useless if the government provides the PCs without appreciation for the technology.

The NCC in partnership with the Cvisnet initiated the e-barangay project back in 2002. Out of the eight pilot projects, only one (1) was successful (Basak-Pardo). The remaining seven were a failure. Cvisnet attributes this to the lack of social preparation and lack of commitment from the LGUs. They have learned their lessons well and are trying to adopt the right approach to the CeCs now.

Cvisnet houses the portal for www.barangay.net.ph. It was recently upgraded to CMS, which the Ayala Foundation, also an important private sector partner, is funding.

Cvisnet is not competing with commercial ISPs because it offers more than internet access. Among its services are website hosting are web development of government. More than internet connectivity, Cvisnet is trying to promote "info-sharing." In fact, it is also working on an integrated regional information system in partnership with NEDA funded by GTZ, which aims to harmonize all the data of 14 government agencies including 11 regional line agencies and three (3) local government, including Basak-Pardo. It is an important content management project that intends to pull together disaggregated data from the barangay level to be used for regional governance.

Cvisnet deploys broadband internet service (DSL) for NCC and the LGUs. But it also offers dial-up as a back-up service in case of downtime and when clients cannot pay their Internet connection on time.

Its website, www.cvis.net.ph, contains links to all the websites of its members. Initially, there was a plan to link the information of all members but it was aborted. However, Cvisnet still put in information such as an agency's profile and directory, an initiative of the Philippine Information Agency (PIA). With the IRIS project, Cvisnet hopes to acquire more substantial information to be placed on the website. The objective is to have harmonized data for regional planning.

To make the project more sustainable, Cvisnet is implementing a project with the CIDA (Canadian International Development Agency) Pearl 2 (Private Enterprise Accelerating Resource Linkages) that focuses on providing content for the telecenters and promoting local products.

Aside from government services, Cvisnet aims to use the Internet for the promotion of local products in support of SMEs in the different municipalities. Dubbed SME.Net, Cvisnet is implementing 19 pilot projects in Cebu that target the province's three priority sectors that are underserved. They include: (1) medium to high-end garment; (2) processed fruits (dried fruits); and tourism.

The SME.net website contains details of the products and a shopping cart. The project can already be considered for e-commerce but the problem is that transactions are still in the level of B2B, not retail. The companies are hesitant to put the price because they only sell in volume. This is an incubator project under phase 1. Phase 2, which will start in April, will include 50 more companies from provinces in the Central Visayas (Bohol, Negros, Siquijor). The project is fully subsidized by Pearl 2.

Cvisnet learned from phase 1 that it is not good to offer everything for free because it resulted in low commitment and appreciation from the stakeholders and beneficiaries. Thus, for phase 2, they decided not to give all the services for free. The beneficiary must have a counterpart investment. The companies will now be charged a minimal fee for the training.

For phase 2, there are still no plans for putting up a payment mechanism. Pearl 2 is not so particular about this scheme but rather on the promotion of local products. Their main objective is to create a marketing portal. Computer literacy and appreciation are still very low among local companies.

This project is seen as one of way of building local content for telecenters and helping the community develop their exposure not only within the country but also abroad. Lack of relevant information in telecenters is one of the major problems encountered by NCC and Cvisnet. This has resulted in poor demand and low level of patronage.

NCC wants to differentiate its CeCs from internet cafés. One way of doing this is by providing relevant content. CeCs provide social services and promote products and jobs.

Cvisnet provides service not only to government but also to SMEs. The goal is based on the broad rationale of IT 21, which is the provision of access to ICT to the community as a whole, including SMEs.

Interview with Abraham Licayan
Project Coordinator of CVISNET

January 17, 2007

CVISNET is a foundation and a non-profit organization which gets its funds from DOST. CVISNET started its partnership with NCC last 2005. NCC tapped CVISNET and DAP at the same time but the implementation of DAP was delayed. CVISNET started its pilot CeCs on 4th class municipalities. One of the first CeCs is the CeC in Tanauan, Leyte which is deployed last May 2005.

The team members involved in the CeC program are: (1) Project Director, (2) Project Coordinator, (3) 2 regular technical personnel which is responsible for deployment, (4) 2 personnel from the distributor, and (5) 4 groups for social preparation.

The mandate of CVISNET for this program is to provide a set of hardware, community development and technical assistance to 15 CeCs in Visayas and 30 CeCs in Mindanao.
CVISNET has 5 components for this program:
- Deployment of equipment- CVISNET provides 4 computer units, 1 webcam, 4-in-1 equipment (copier, scanner, facsimile, and printer) and open office installation.
- Conduct of Orientation
- Technical training- CVISNET provides the food, materials, training venue and the trainer. However, it is the LGU which will provide for the transportation and accommodation costs of the
- Social preparation- This includes the Strategic and Business Planning for the CeC to think of ways and strategies to sustain its operation.
- Content development- which includes the webpage development for the municipality.

Interview with Director Frederick Amores
National Computer Center
March 27, 2006
Café Breton, Podium

Interview Highlights

Sustainability of telecenters
- What do we mean by sustainability?
- NCC uses "stakeholder model" wherein many players are involved
- Based on experience, sometimes the telecenter is more feasible if it is led by the government
- If one looks at sustainability from a financial point of view, success will just be based on numbers
- Sustainability should also be based on the social benefits/value-added to the community. This is what's called "social sustainability."
- Put value into the service (e.g., How much is the information worth to a person?)
- Must balance financial sustainability and the social aspect of the service provided by the CeC
- Value-added must be computed as an output even if financial target is not met.
- Social services cannot be quantified.

How do you differentiate a community e-center from an Internet café?
- E-center should be a venue for delivering social services to community
- E-center should not only be a place for using the Internet but also a place where one can avail of ICT-enabled social services.

CeCs can do the following:
- Look into the livelihood of a community and provide services to help them improve their income
- Translate information to a community's local dialect
- Bring internet content to constituents
- Raise awareness on social services

CeCs in the Visayas
- All CeCs are in the rural area (around 30 as of March 2006)
- Visayas is almost done with deployment
- Electricity is a major problem because power only comes at a certain time.
- Argao municipality (Cebu)
- San Jose, Cebu
    o P5,000 satellite subscription paid by LGU
    o Charge users P20/hour for Internet access
    o Earns P3,000 to P4,000/month income
- Connectivity cost must be shared with municipality
- CeCs have a forum on YM and a Yahoo! Group

e-LGU Project
- NCC
    - Component of the e-LGU project
    - Provides equipment and training
    - NCC offers web-hosting services for 800 LGUs
    - NCC evaluates location and support of LGU
    - Only has 6 full-time staff. Productivity is a problem because of lack of staff so they compress all tasks in one visit.

- They have board members who come from different sectors
- NCC's role is oversight and coordination, monitoring of e-LGU, content for training
  - CVISNet – NCC's partner in bidding, deployment and set-up of equipment
  - Private sector is more competent in procurement
- NCC does not tell LGUs what to do since their needs vary and operation depends on how they will apply ICT. It may, for example, depend on the location of the CeC (i.e., market, school, etc.)
- Partners with different offices to conduct training
- Uses combination of MS and open source (e.g., CMS - open source and Mambo for website); they are technology-neutral
- NCC recognize the monetary constraints of the community so they provide alternatives/options
- NCC and Telof in Cebu are working as CICT
  - They conducted training on Linux
  - Share use of NCC laboratory
  - Partner in literacy program
  - Has a good working relationship
- NCC Visayas plans to plot CeCs on GIS map
- Rik Amores is also the head of the GIS project for e-LGU
- Financial sharing is no problem because agreement is based on a resolution with the LGUs
- CeC funding is from e-Gov Fund, which is part of the mandatory 2% savings of the national government agencies

- LGU
  - Those who want to participate must have a minimum of one computer, connectivity, and personnel.
  - Required to come up with a business model
  - Community integrates their website with the LGU

- Private sector participation
  - Microsoft, Intel support in Barugo, Leyte
  - US migrants contributed 10 computers for the CeC in San Remigio, Cebu

NCC will provide:
- 4 computers
- Printer
- Fax
- Scanner
- Web cam

LGU will provide:
- 1 computer
- Connectivity (DSL, dial-up, satellite, WeRoam)
- Space
- Personnel

Community e-Center Survey

I. CeC manager Profile

1. Respondent's name: [   ]   Age : [   ]   Gender: [   ]

2. Designation: [   ]   Civil Status: [   ]

3. Do you have other job/s aside from managing the center: [   ]

    If yes, please state your designation : [   ]

4. How long have you been managing the CeC? [   ]

II. CeC profile

1. Where is the CeC located: [   ]

2. What are the equipment in your CeC? (Please check all appropriate items)

- [ ] computers (how many) [   ]
- [ ] printer (how many) [   ]
- [ ] photocopier
- [ ] digital camera
- [ ] scanner
- [ ] webcam
- [ ] others: please specificy: [   ]

3. What software do you have? (Please check all appropriate items)

- [ ] Windows
- [ ] photo editing tools
- [ ] elearning tools
- [ ] Linux
- [ ] animation software
- [ ] internet tools (messengers, browsers, search, etc)
- [ ] MS Office
- [ ] accounting
- [ ] database
- [ ] Open Office
- [ ] anti virus
- [ ] others: please specificy: [   ]
- [ ] Development tools (Java, C++, etc)
- [ ] Specialized software (GIS, SPS, etc)

III. CeC Operations

1. How long has the center been operating? [   ]

2. What is your internet connection? [   ]

3. Are you currently collecting user fees to cover cost of operations? [   ]

4. Is the CeC already financially viable/sustainable and can operate without subsidies? [   ]

5. What are the services offered by the CeC? (Please check all appropriate items)

- [ ] phone call
- [ ] on-line job search
- [ ] bidding/procurement
- [ ] online complaint
- [ ] send fax
- [ ] voters' information
- [ ] biz permit licensing
- [ ] citizens' forums
- [ ] internet
- [ ] ICTskills training
- [ ] treasury oper.mgmt
- [ ] video showing
- [ ] printing
- [ ] e-agriculture
- [ ] real prop tax sys
- [ ] games/entertainment
- [ ] photocopying
- [ ] elearning
- [ ] digital brgy. clearance
- [ ] meeting facilities
- [ ] encoding/publications
- [ ] VoIP/webcam
- [ ] GIS
- [ ] others: Please specify
- [ ] scanning
- [ ] eservices (ehealth, ebusiness, e-agri, etc)
- [   ]

6. What is the most accessed service of the the CeC?

[   ]

7. What service brings the highest revenue for the CeC?

[   ]

8. What other services would you want your CeC to offer to your constituents?

[   ]

9. On the average (per week) how many use the CeC (excluding LGU employees)? [   ]

10. What issues have you encountered that threathen the sustainability of the CeC? (Please check all appropriate items)

- [ ] Lack of ICT skills to maintain equipment and services
- [ ] Users prefer to go to internet cafes
- [ ] Lack of funds to sustain operations
- [ ] Users don't find the service they are looking for
- [ ] High cost of equipment and connectivity
- [ ] Financial constraint of users
- [ ] Lack of awareness of community to use the CeC
- [ ] Others: Please specify: [   ]

Note: please save file as: your CeC name.xls (ex. San Pedro cec.xls) and email it to **egov.study@gmail.com**

MARAMING SALAMAT

ANNEX 3 – CeC Interview Highlights

Interview with Jimmy Calata
December 12, 2006
Bayombong, Nueva Vizcaya

Community eCenters at Nueva Vizcaya

CeC Start up

Currently, there are 5 CeCs that are operational in Nueva Vizcaya. Two additional CeCs will be operational by January next year.

The first CeC that was established in the province is the CeC of the municipality of Bayombong. It was the initiative of the Mayor and was not part of the project of NCC. It was established last January 2005.

The other 4 CeCs were established with the help of NCC and DAP. 3 Units of computers (1 server; 2 workstations), network equipment and cabling system, 4 in 1 equipment, training and technical assistance were given by the NCC. Additional training and technical assistance were also given by DAP.

For the sustainability of the operations, an Information Systems Planning was conducted in each of the 5 CeCs. This is different from the Strategic Business Planning conducted by DAP.

LGU and the Private Sector

The government of Nueva Vizcaya is determined in using Information and Communications Technology in the operational processes of the LGU. Through A.O. No. C-36, S. 2004, an ICT Executive Board was established. Its vision is to hasten the development of ICT in the province. Structures in the government were placed and an IT Division was formed and is now being headed by Engr. Jimmy Calata. The Sangguniang Panlalawigan has also its own ICT Committee for the enactment of ordinances and resolutions regarding ICT. For the CeC to start asking payments for its services, an ordinance should be first be passed and approved by the ICT Committee.

The private sector also plays a role in the ICT development of the province. The NV e-Society was established last December 05, 2006 at the Regional ICT Congress held at St. Mary's University. Its function is to help the government accelerate ICT Development through ICT literacy programs.

Provincial CeC

Provincial Government Information Infrastructure

The internet connection that they are using is Digitel's ADSL with 384 kbps downstream/128kbps downstream. The monthly bill is Php 1, 620 inclusive of E-vat. That is one of the reasons why the CeC does not ask for payment of its services. 61 computers are connected in one server. They say they have plans for increasing the bandwidth of the internet connection.

The services that are offered by the CeC are: telephone calls, faxing, photocopying, internet, printing, scanning, cd burning, tutorial/training, and hardware/ software installation, maintenance and troubleshooting.

The average number of clients of the CeC is 10 per day or 303.71 per month.

Special Projects

ICT Training
In their ICT Training, they offer a series of courses:

- ICT Orientation—This is a prerequisite to all training courses. An introduction to the world of ICT—terms, hardware, and software, etc.
- Wordprocessing using MS Word
- Powerpoint using MS Powerpoint
- Joomla—This is used for upgrading of websites. The website of the province has detailed barangay level information.
- SAD-RDBMS using MS Access – This is being availed by offices who are recipients of complex information systems. This course is not limited to users training but also includes organizational development, management of change, etc.
- GIS

Its pool of ICT Trainers comprises of efficient and knowledgeable professionals. ICT Training manuals are used for the standardization of the training. The CeC also plans of producing an ICT Newsletter for the whole province. This will be disseminated through paper-based dissemination and through the website.

Mobile Passporting

In partnership with DFA and LGU-PAIAD, 800 passports were issued and PRC Licensing was conducted through the Internet. (This was not further explained on how this works)

Information System Development and Maintenance
The CeC also develops information systems. These are some of its developed systems:
- Human Resource Information System
- Employees Leave Credit Monitoring System
- Payroll System
- Community e-Center Logging System

Job Assistance

The CeC assisted in the selection process and job placement of Medical Transcription Scholars. They coordinated with Medtranscribe, Phils in Metro Manila. (It was not mentioned that this was done through the VoIp.

International Linkaging

The CeC coordinated tie-ups between the province of Nueva Vizcaya and Spain. Academic Exchange Program with the University of Basque Country in Spain and NV Premier schools was established. A twinning agreement between Nueva Vizcaya Phils and Vizcaya Spain was made.

The CeC also coordinates with Australia PRESTON International for job placements.

Organization of the 1ˢᵗ Nueva Vizcaya Indigenous Peoples Cooperative

The CeC helps organize this livelihood project which is mushroom production. Livelihood training modules in multimedia will be used.

NV E-mail Directory and 24/7 Provincial e-forum

All municipalities will accomplish a directory that contains all the e-mail addresses of all government officials. This is to enable the people send their complaints and problems to the specific government official they would want to communicate with. A provincial e-forum will be used for the communication of all municipalities through the yahoo chatroom.

Open Office is not fully used by the CeC because of the capability of the users. Firefox2 is now being introduced to all offices in the provincial level.

Pornographic sites and computer games are not allowed in the CeC. Friendster is also blocked.

Interview with Antonio Mocling Jr.
Pinamalayan, Mindoro Oriental
December 19, 2006

CeC Start up

The CeC was established last May 5, 2005 but it started its operation formally in the month of June. The reason of the delay is that there was no allocated budget for the CeC. The CeC project was not included in the Annual Municipal Budget in its first year of operation so they have to make use of the Php 200,000 given by the Mayor for the CeC to function. Included also in the Php 200, 000 is the salary of the personnel and the sectoral representatives. There was not even enough funds for the CeC to have a decent signage. The CeC do not have even an airconditioner unit.

The community was involved in the CeC establishment. All eight sectors of the community were tapped through 1 sectoral coordinator from each sector (women, religious, fisherfolks, business, etc) Surveys on how the CeC can help them were conducted.

Community awareness program was also done by the CeC staff. School to school campaign and barangay level campaigns were also held. The leaders from every organization from different barangays were approached and oriented them on the services of the CeC. The MPDO conceptualized this kind of program.

Organizational Structure and Management

Three people are in charge of the daily operations of the CeC. One full time CeC manager, one part time assistant manager who is also assigned in the treasury office and one staff. The salary they received is still the same with what they received when they were working in the LGU. The CeC manager is the one who makes the policies. These policies were submitted to DAP to be approved.

The CeC is open from Monday to Friday 8am-6pm.

CeC Products and Services

Basic computer tutorial is offered one-on-one. They charged 30 pesos per hour on tutorials. A lecture type training was done before by the LGU to its employees. Part of the responsibility of the CeC is the maintenance of all the computers in the LGU.

The CeC will be assigned to managed the website of the town. In their website, forms from the Municipal Civil Registrar can be downloaded. Information on the requirements in the registration of a business can also be seen in the website. Currently, it is the MPDO and its staff who manages the website but because their mandate is not focused on the ICT services of the LGU, the website also suffered.There is a great importance on setting up an ICT structure in the LGU.

The CeC is still not developing e government applications for the community.

The CeC also networks with other CeCs within the country. They are part of the e group of all the CeCs in the country.

Cost of its Products and Services

An ordinance is still in the pipeline so for the meantime they are using the secretary's fee for them to have the capacity to charge the users of their services. In the printing and scanning services, they charge a specific amount. Whereas, in the web browsing and encoding which is not included in the secretary's fee, they asked for donations. But a problem occurred, there were instances wherein the users who avail of the web browsing service for 5 hours only give 5 pesos. Thus, the CeC modified its policy on this. When a user will print 9 pages and below,

the CeC will charge per hour of the web browsing that they did. They charge 10 pesos per hour. However, when a user will print 10 pages and above, a donation of using the web browsing service will be asked.

Some websites were not allowed to be open in the CeC. Before, email was not even allowed to use by the students. Pornographic sites and games are prohibited. The use of yahoo messenger was also discouraged as this would encourage the users to stay longer in the CeC. Diskettes are also not allowed. Cds and flash drives are the only way that he user can save his/her work.

The CeC cannot sustain its operation on its own. They earn Php3,500 to 4,000 every month. Its earnings can only pay for bond papers, cartridges. Their target revenue is Php 10, 000 per month.

Beneficiaries and/or Clientele

The academe sector commonly uses the center. Mostly students avail of its services for research, schoolwork, and encoding of feasibility studies. Students from remote barangays also uses the center. The teachers uses the center if they have exams and if they want to compute the grades of the students using the excel. The CeC also assists the casual employees of the LGU for online job searching. The LGU uses the center for updates on their GSIS and SSS accounts.

The CeC do not have a client satisfaction form for its clients.

Calamba, Laguna

The City Planning Development Office of the City of Calamba plans to put up three satellite CeC in their 3 barangays. They chose Pansol, Real and Parian to be recipients of the project. The city currently has one CeC that was set up by the NCC. The establishment of the CeC changed the perception of the people with regards to ICT. The people are now starting to use and appreciate the benefits of ICT in their everyday lives.
The advantage of Calamba is they have the equipment and they know how to use it for the benefit of its constituents.

Interview with Norman Talatala
CeC Manager of Calamba CeC
January 31, 2007

CeC start-up

The CeC was established last April 2005 although the units were already deployed March of that same year. A resolution was enacted last October 2005 for the establishment of CeC.

The initial equipment purchased for the start-up are 3 computer units, 4-in-1 printer, 1 webcam from the NCC and 1 computer from the LGU.

Technical training was given by DAP to the CeC personnel. Religious organizations from the municipality were also tapped for community preparation and promotion of the CeC.

The CeC is under the CPDO,thus, it gets its funds from the budget of CPDO.

The community was involved in the CeC establishment. The people from the barangay, DILG and other sectors were informed of the project through flyers, radio, etc.

Organizational Structure and Management

Four personnel were in charge of the operation of the CeC. Part also of their responsibilities is the maintenance of all the computer units of the LGU.

Two are casual employees and two are regular employees. The City government pays for their salary.On purchases, product enhancements and policy changes, it is the CeC Manager who suggests to the CPDO officer. The CPDO coordinator then approves of the suggestions brought by the CeC Manager. The CeC have specific policies on hiring qualifications of the staff for the CeC. They have to pass certain exams and interviews for them to work in the CeC. On product costing and purchases, they follow the policies in the resolution set by the SB for the CeC. Food and drinks are not allowed inside the center. Games and pornographic materials are also prohibited.

CeC Products and Services

The center offers one-on-one tutorial of ms office and internet to its constituents. This is being done by schedule since only 1 staff is tasked to do that.

The CeC personnel develop the CeC products, services and content. Video transfer and video editing are some of their added services.

The website of the LGU was also being done by the CeC personnel but it is not part of the tasks of the CeC. They were also able to develop softwares for the management of the CeC such as timers, security(internet cafe software), and screenshots.

Updates on SSS and GSIS are only the government services that the constituents avail when using the center.

The center was used by Informatics- a school on ICT to give certifications for barangay treasurers since they still do not have computers.

The CeC does not network with other CeCs in the country.

Cost of Products and Services

They conducted a survey on the price of products and services on internet cafes in the vicinity. They wanted to set a 50 percent lesser fee than what is in the market.

The CeC makes about Php 2500 per day. According to the Manager, the CeC is not making money based on its services. The income of the CeC goes directly to the treasury. They go to the CPDO if they need money for repairs and maintenance costs.

Beneficiaries and/or Clientele

Students, jobseekers and LGU officials use the CeC. The CeC is open Monday to Friday, 8am to 5pm.Their clients utilize encoding service, internet access, and yahoo messenger for communication and research purposes. The center does not have a client satisfaction form for soliciting suggestions from the users.

Interview with Engr. Polcomar Canonce
CeC Manager of Barugo, Leyte
January 15, 2007

CeC Start-up

The center was established last February 17, 2006. Along with the initial equipment provided by the NCC (3 computers and 1 4 in 1 printer), the LGU (1 computer) and the donation of the Circulo Baruguenos , the CeC now boasts of 25 computers in its keeping. Circulo Baruguenos is an organization composed of Baruguenos based abroad committed in computer literacy of their fellow Baruguenos. 21 Computers, 1 printer and local area networking accessories were donated by the organization.

Multi-sectoral bodies were also present in establishing the center. However, the women sector was not included in the representation. Department of Education, the business sector, young professionals, students were the sectors represented. The NCC and the LGU were also involved. The whole community was involved in the establishment of the center.

The sources of funds that were tapped were from the local budget of the LGU, the donations of Circulo Baruguenos and the provision of hardware by the NCC.

Organizational Structure and Management

The LGU has a ICT department connected with the MPDO. However, it is the Planning Officer who also manages the center. The Manager cannot man the center daily so the LGU hired an ICT personnel to be in charge of the operations of the CeC. The LGU provides a compensation for the hired personnel.

The Core Group is the one who decides on purchases, product enhancements and policy changes in the CeC.

The CeC have specific policies like: (1) Pornography is prohibited. (2) Eating, drinking and smoking are not allowed inside the CeC. (3) CeC is not solely for business but more on ICT services to all sectors of municipality. (4) No vendors and bystanders allowed inside.

CeC Products and Services

The center offer training courses and computer tutorials for private high school students, teachers and government officials. The CeC charges Php 50.00 for 15 days/ 4 hours a day for students. The training is free of charge for teachers and government officials. The CeC Core Group develops the products and services. The modules for training were based on books given by Circulo Baruguenos.

The CeC still has not yet developed a local content specifically for the center. They were just able to develop blog content about the CeC and the municipal website. One of the tasks of the CeC personnel is also updating the municipal website.

Cost of Products and Services

The Core Group based the price of its products and services on other internet cafes in the municipality. Their price is cheaper than what the other internet shops are offering. The income of the CeC goes to the treasury department of the LGU. Their incomes were then used for supplies and other expenses of the CeC. The CeC made Php 20, 912.50 for the past month.

Beneficiaries and/or Clientele

The CeC's primary aim is to make all the constituents of Barugo computer literate. Their first target beneficiaries are the students and the teachers. They are also targeting extending their training to other sectors of the community such as Barugo Native Chicken Raisers which is an organization composed of housewives who have never touched a computer before. These women will be trained with the basic computer training (Microsoft Excel and Word and the use of the internet) for their administration activities.

Interview with Eugene Ramos
CeC Manager of Tanauan, Leyte
January 16, 2007

This CeC model is the first computer center house in the same location with the local library. It gives the students the option to research from the books or through the internet. This set-up was commended by the NCC Field Operation Director, Miss Tess Camba.

The LGU was also recognized as the Most Business Friendly Municipality in the Visayas 2006 awarded bythe Philippine Chamber of Commerce and Industry. It also won the Best LGU in Region III in 2005 given by the same award-giving body.

The LGU also received a Special Citation in recognition of its efforts in adopting and instituting innovative and best practices in good governance, particularly the establishment of an e-community and implementation of the peace and order program to attract the investors.

These awards can also be attributed to the establishment of the CeC in their municipality.

CeC Start-up

The CeC was established last May 2005. It was one of the chosen pilot e-LGU projects of the NCC. The initial equipment (3 computers and one 4 in 1 printer) were provided by the NCC. The LGU provided 1 computer and 4 printers, one photocopier and 5 webcams. Three computers that are meant to be used for eRPTS were also utilized by the CeC.

The CeC also received 5 computers from donations of OFWs of their municipality. These computers were then forwarded to the public schools of Tanauan. The giving of the computers were documented by the CeC and the pictures were posted in the website to encourage other OFWs to do the same.

CVISNET provided the training of the CeC Personnel. A big lump of cash (Php 500,000.00) was provided by the LGU in setting up the CeC. This fund was supposed to be for the eRPTS but the NCC is having problems in the deployment which made the LGU decide to put the money on the CeC project.

The community was involved in the establishment of the CeC. All the sectors of the community including the women sector are all represented and part of the core group. But an issue emerged in the constructed business plan of the core group as they wanted the CeC run by an NGO after its 1st year of operations. The Mayor did not approve the idea as he wanted the CeC to be a service to the community, not as an enterprise. According to Mr. Ramos, a CeC managed by the LGU is better than to place it in the hands of an NGO. In that way, the CeC will not just be another internet shop but an avenue for people in the community to learn and be literate in computers and in using the internet.

Organizational Structure and Management

Mr. Eugene Ramos is in charge on the daily operations of the CeC. His designation is the Municipal Information Officer and he is full time in managing the center. The LGU also hired 4 personnel (contractual) and one librarian. The CeC is under the IT unit of the LGU and directly reports to the Mayor. According to Mr. Ramos, based on the experience of other CeCs, if the Mayor does not supports fully the project, the CeC will not be doing well. And they are fortunate enough that their current Mayor has seen the vision and the is fully supporting the project.

The management team of the CeC formulates all the necessary policies and the fees. The fees were later approved by an ordinance of the Sangguniang Bayan. The Mayor approves of all the purchases, products enhancements and policy changes in the operations of the CeC.

They have a policy on hiring people for the CeC. He/she should have an IT background or education for him/her to work in the CeC. In the usage of CeC and its products, policies are created such as: (1) Games and pornographic sites are not allowed in the CeC, and (2) Food and drinks are not allowed inside the CeC.

Diskettes are prohibited for virus protection. Only flash disks are allowed.

CeC Products and Services

The CeC offers training courses with 4 modules. A trainee pays Php 500.00 for the 4 modules. The training consists of lectures and hands-on activities. If a user wants to learn how to use the Internet, the CeC also offers free tutorials in which the user only pays for the usage of the computer. At present, the CeC has 72 graduates in its training course which is composed of 4 proncipals 24 high school and elementary teachers, barangay officials, young professionals and out of school youth.

The CeC develops and updates the website of the municipality. They are currently developing a database-driven website for them to additional services. Government forms can be downloaded in its website. Its website has also links to other government agencies. Complaints can also be posted online through the guestbook in the website. These complaints are then printed and submitted directly to the Mayor. The complainant will later see his/her complaint acted upon by the Mayor.

Cost of Products and Services

The service rates of the CeC follow the rates of the market so as to encourage fair competition. For the students, 25 percent discount on all services are offered by the CeC. With this set-up, the CeC is making money based on its products and services.

Beneficiaries/or Clientele

Teachers and students commonly uses the center for encoding and printing. Business persons also uses the CeC for faxing and some contractors use the CeC for online bidding.

The CeC is planning to include how to apply online in their training modules.

Interview with Ariel Balili
CeC Technical Head of San Remigio CeC
With information from Engr.Romie Cabellon, CeC Manager
January 18, 2007

CeC Start-up

The CeC was established last October 7, 2005. The initial equipment purchased from the start up are 3 computer units, 4-in-1 printer, network system and cabling system from NCC. A modem, airconditioning unit, wireless/wifi router were also purchased by the LGU. One computer unit was donated by GLOBE.

The MPDO Office, Mayor's Office, Treasurer, Legislative department, Budget Office and the Academe of the community were involved in establishing the center.

For the funds in setting up the CeC, 20 percent came from the Municipal Development Fund, NCC for the equipment, CVISNET for the technical training, Globe Telecom and Intel Phils for additional computers.

Only the representative from the academe sector of the community was involved in the establishment of the CeC.

Organizational Structure and Management

The CeC's operations is being managed by a group of people:
- MPDC-Core Group Head
- Ariel Balili-CeC Technical Head
- Giegie Lastimoso- CeC Operator

They are casual employees utilized to do the CeC operations.

On decisions on purchases, product enhancements, and policy change:
- The CeC Technical Head decides for minor procurement.
- The CeC Core Group/Head decides for major procurement.
- The Core Group decides for policy changes.

The CeC is under MPDO. There is no permanent IT department.

Policies

Usage of CeC and its Products
- No food and drinks are allowed inside the CeC.
- Pornoraphy is also prohibited.
- Students will not be allowed to use the CeC facilities during school hours unless they are duly authorized by their teachers to do research.
- Each child will only be allowed to play games for a maximum of 2 hours.
- Violent games and lawlessness and disorder will be prohibited in the center.
- Personal disks should be subjected to virus scan before usage.
- CeC users are strictly prohibited to install any software or file to the computer.
- Downloading is allowed but with prior approval from the CeC operator.
- People under the influence of alcohol/drugs will not be allowed to use the CeC facilities.
- Smoking inside the center is strictly prohibited.

They also have policies on hiring CeC personnel.

CeC Products and Services

The CeC offers computer training focusing on windows, ms office and web design to its constituents. The CeC also offers maambo training for neighboring towns with no websites.

The MPDC group develops the CeC products and services. The CeC personnel developed the local website of the town. In the website, people can access other national government agencies such as GSIS, PRC, etc. They can also download government forms such as building permit, business permit and sanitary permit in the website. Te website is also used for tourism promotion. Resorts and their contact information can be accessed through their website. The CeC also accepts inquiries from other countries through the activex- e 800 which is unlimited and free. This is an inclusion of the VoIP service in the CeC. People can call directly to the CeC for tourism information.

The CeC lacks funds for developing e-government applications. They also do not have a permanent ICT personnel to develop this kind of applications. The CeC does not network with other CeCs within the country. They only get information through the NCC website.

Cost of Products and Services

The CeC priced its products and services by looking into the market price or the price set by the internet cafes. The CeC is financially sustainable with its current prices of services.

Beneficiaries and/or Clientele

The CeC has 15-20 users per day. They are composed of students, out of school youth, government officials, and tourists. Out of school youth use the CeC for job hunting, games and chatting. The students also use the CeC for research purposes. The CeC also solicits suggestions from the users through the online forum in their website. The users can also post their complaints with the government. The CeC personnel then prints it out and forwards it to the government officials. At present, not all complaints are attended by them.

Thirty percent of the constituents do not know the website of the municipality. They advertise it through banners and streamers, multimedia services on fiestas, and broadcasts on their local radio station.

Interview with Rodilon Ponlaroche
February 6, 2007
Maramag, Bukidnon

CeC Establishment

The center was established last May 16, 2006. The initial equipment of the CeC were the 3 computers, and 4-in-1 printer given by the CeC. Cabinets, fax phone, photo copier, computer cubicles and office supplies were also purchased by the LGU.

Business, religious, education and farmers cooperatives sectors were involved in the establishment. The core group is composed of an Sangguniang Bayan Kagawad, an accountant, DTI, CMU, LGU, and DANCOR.

The funds that were used in the establishment of the CeC were from Local Government Funds. The CeC conducted community orientation to different sectors when the CeC was formally launched.

Organizational Structure and Management

The CeC Manager is in charge in managing the operations of the CeC. On the other hand, the clerk is the one responsible on taking care of the needs of the clients. The compensation is funded by the Local Government. The CeC Manager decides on the purchases, product enhancements and policy changes.

Policies

The CeC has no specific policies. It is in their strategic plan.

CeC Products and Services

The CeC offers training on Basic MS Office and Internet Browsing. The CeC staff develops the CeC products, services, and content and then submitted to the Core Group for approval. The CeC is still in the process of gathering contents for CeC contents like ebooks, online directory for different agencies, etc. The CeC is also the one responsible for updating the LGU's website. E government applications are still not deployed for constituents use. The CeC only networks with the Manager's friends from other CeCs.

Cost of Products and Services

The price is based on SB resolution but created before the CeC set-up so the price of the services is quite expensive compared to other internet cafes. An issue arose from this because clients expect free services from the CeC or lesser price from private businesses. The SB enacted those prices based on market prices.

The CeC is making money through its services but it is still subsidized by the government.

Beneficiaries and/or Clientele

The target clients/beneficiaries are students, farmers, and out of school youth. Since the CeC is located inside the Municipal Hall, government employees are the usual users of the center. Internet access for chatting and surfing for education and leisure, photo copying, phone for long distances are the services that they utilize. The center have no client satisfaction form for soliciting suggestions from the users.

Plans in the Future

Reduced prices to reach out to farmers and students. The CeC plans to transfer to the terminal for the community to have better access to the CeC. Reduced fees for VoIP calls in the Middle East. The CeC will offer NSO service. One CeC employee will be assigned to the NSO office in Cagayan de Oro. Data of the citizens who need NSO forms will be encoded in the CeC will be sent through email to the NSO office in Cagayan de Oro. The CeC employee there will be the one who will handle the money and bring the forms to Maramag.

Interview with Mr. Lyndon Dinsay
February 7, 2007
Balingasag, Misamis Oriental

CeC Establishment

The CeC was established last February 26, 2006. Two computers were purchased by the LGU for the initial equipment of the CeC. Four computers and 4-in-1 printer were given by the NCC. Other gadgets and additional computers were provided by the Canadian Group of Sponsors.

The CeC Community Core Group, LGU-Balingasag including the SB and the Mayor were involved in establishing the center.

Funds were sourced from the LGU from its Development fund and from the Canadian Group of Sponsors.

The community was involved in the CeC establishment. The women sector was tapped to be a part of the core group but they did not send any representative. Nevertheless, the whole community was active in its involvement in the establishment of the center.

Organizational Structure and Management

The CeC Manager is the one in charge of the daily operations of the CeC. The CeC has also a group of volunteers for the establishment's cleanliness and orderliness, customer assistance, for safe-keeping of the center's valuables and for monitoring of income.

The employed staff receives compensation from the LGU. The volunteers do not receive any due to lack of funds. The CeC Manager and the Core Group are responsible on decisions of purchases, product enhancements and policy changes.

Policies

- Downloading is prohibited.
- Usage of diskettes should be limited/regulated;only to the server.
- CD burning is limited within the boundaries of the law.
- No smoking, eating, and drinking inside the center.
- Pornography and games are also prohibited.

CeC Products and Services

The center offers Basic ICT Training for the community. The CeC is currently developing two websites. One is for the "VIKINGS", the website of local bikers and the LGU website of Balingasag which is not finished yet. The constituents rarely use the e-gov applications. A lot of people are still uninformed of such. Quite a number of constituents do not have an idea how those are being done. Most of them are focused more on internet recreation rather than e-gov applications.

Cost of Products and Services

The center offers lower price of its services compared to other internet shops in the municipality. The prices that were set were based on market. The CeC is making money based on its products and services but it still cannot sustain its own operations. The CeC still needs the subsidy from the government.

Beneficiaries and/or Clientele

The target beneficiaries are students, information-seekers, LGU, NGOs, community associations, and people's organizations and cooperatives. Students, people who are online chatters and local people who need to communicate to other people overseas commonly uses the center. Basic computer and internet services are the products that they utilize. Printing, scanning and photocopying services.

The center do not have a client satisfaction form for soliciting suggestions from the users bt verbal requests were often received concerning the addition of more computers for greater customer satisfaction.

Interview with Barangay Captain Roberto Cabarrubias
Barangay Hall, Basak-Pardo
Cebu, Philippines
April 1, 2006

SUMMARY

Introduction

An interview was conducted with Mr. Roberto Cabarrubias, barangay captain of Basak-Pardo in Cebu, at the internet-enabled Basak-Pardo barangay hall, which serves as the community's telecenter. Mr. Cabarrubias is one of the pioneers of using ICT applications in local governance. Together with eight (8) other barangays, he initiated the e-barangay project, which received assistance from the national government and international funding agencies.

Capt. Bob, as he is fondly called by his constituents and colleagues, plays a very important role in the telecenter's management and operation. He is the instigator of using ICT in running the barangay hall and in providing basic social services to the citizens of Basak-Pardo. Being an engineer, Capt. Bob understands very well how technology can have an impact on the way people live. The great challenge was to make his colleagues and constituents appreciate the use of technology for governance and for their daily activities.

Interview Highlights

Community Profile

Basak-Pardo is a barangay located in the south of Cebu City. It has a total land area of 52 hectares and a population of 17,677, the latest data based on projections made in 2005.

It covers 14 sitios. Some of its goods for exports include corn products and mushroom.

Telecenter History

Eight (8) barangays served as pilot project sites for e-barangay and received computers from Globe. Basak-Pardo is the most successful project mainly because of Capt. Bob's efforts. Together with Cvisnet president Frank Villesa, Capt. Bob conceptualized barangay.net. The objective was to create connectivity between the constituents and the barangay officials.

Community → Barangay Telecenter → E-mail → Telco → City Hall

Capt. Bob institutionalized the use of the Internet starting with the barangay staff and officials. Basak-Pardo issues memorandums and official letters via email. All barangay staff have their respective email addresses. They are "forced" to use their emails because they are required to send their accomplishment reports to Capt. Bob through email. Even the barangay courier sends email.

Funding Source and Partners

Funding is mainly sourced from the 10% Internal Revenue Allotment (IRA) and the 3% share from the total collection of the real property tax. The Youth Council also shares their 10% IRA to provide internet connection for the barangay telecenter.

Barangay.Net Project members and partners
- Ayala Foundation – provides computers, fax machine, etc.
- Cvisnet
- DOST
- DTI-Cebu
- DILG
- Cebu City government
- Philippine Information Agency Region 7
- TESDA
- UP (academe)
- Globe Telecom

Products and Services

An e-barangay center is an information kiosk that offers the following services:

- Tax inquiry and payment – their computer is connected to the remote access server of the city hall. To access this, the city government's IT personnel gives the barangay captain a password with the permission of the mayor. Capt. Bob is happy that the current official, Mayor Osmena, is supportive of his ideas.

- Business permit application – before the city government approves a business permit, the application has to go through the barangay, which inspects the location and nature of the business. The barangay captain will be held responsible for illegal business operations. This step is also helpful since the barangay gets to know the people and businesses in its jurisdiction.

- Online barangay clearance

- E-consultation – in the pipeline

- E-learning – research for free (Encarta 2005 CD)

- Voice over Internet Protocol (VoIP) – barangay avails the services of intouch.com (a VoIP service provider in partnership with PLDT) that sells pre-paid cards for US$ 1.50 (40 minutes) or P2.3/minute. With a

US$10-card, the barangay was able to provide free 5 minute-IDD voice calls for Basak-Pardo constituents who have loved ones abroad.

- PA (Public Address) System – announcement of information for households that do not have computers and access to the Internet.

Capt. Bob candidly admitted that the ICT-enabled services they provide help in election campaign since constituents remember tangible and relevant outputs of government officials. But what is more important is that the services actually benefit the people.

The city hall serves as the central data service portal. Capt. Bob plans to conduct videoconferencing with the other local government officials. However, this would need fast and reliable Internet connection. So far, Basak-Pardo is the only barangay in Cebu City that has DSL connection. Funding is sourced from the mandatory 10% of the IRA (internal revenue allotment) allocated to the Sangguniang Kabataan (Barangay Youth Council). Before, these funds are used to purchase uniforms for the barangay's basketball league. Capt. Bob thought that the fund should be used for more productive activities that will leave a lasting impact on their constituents, so he convinced the SK chairman to appropriate the funds for the barangay hall's DSL connection.

The barangay also provides conducts basic computer training. One of the barangay councilors teaches basic computer programs such as MS Word and PowerPoint. The barangay hall is considered a "walk-in" kiosk because people can just walk in to conduct their research and make an inquiry using the Internet or the e-library.

With the infrastructure, technology and personnel in place, the barangay can offer:
- E-government
- E-health
- E-business and info center
- E-learning
- E-commerce
- E-consultation
- E-mail or voicemail

What is an e-barangay?
- Platform for internetworking
- Marketing services for enabling e-governance, education and health services
- Runs state-of-the-art software, which facilitates communication and information interchange within localized internet between barangays
  - Capt. Bob plans to connect all barangays in Cebu City through Wide Area Network (WAN). So far, only 8 are connected.
  - In Escalante, Negros Occidental, the mayor is supportive of IT and budgeted about PhP3 million (US$59,000) for the computerization of all of his barangays.
  - Cebu has 80 barangays; only 9 are connected to the internet.
- This communication backbone shall be supported by e-services:
- Applications
  - Land records
  - Emailing
  - Virtual bidding - they are mandated by law to follow the Government Electronic Procurement System (GEPS). In the past, the barangay put up announcements of the bidding in the barangay hall or in the market, but some suppliers who did not want competition tore them off. Seeing this, Capt. Bob published the bidding online instead.
  - Online grievance – in the website, there is a forum link that enable the people to interact with the barangay captain, especially if they have any concerns in their respective sitios. The barangay captain responds to them in that forum.
  - Market Information System

o   Voter's Information System – the Commission on Electrion (Comelec) provides barangay offices a hard copy of all registered voters in the barangay. But throughout the years, Capt. Bob noticed that many voters lose their names on the list. In response to this, Basak-Pardo made an electronic list of the voters and vital information about them, such as residence, precinct number, etc.

General Objectives:
- Promote Connectivity
- Information and communication technology (ICT) access
- Capacity-building
- Website content

Community e-Center Center Client Exit Survey

I. Client Profile

1. Respondents name: _____   Gender: ☐ Male ☐ Female ☐

2. Age: _____   C. Stat. ☐ Single ☐ Married ☐ Widowed ☐

3. Employment status:

☐ student   ☐ government/NGO employee   ☐ private company employee   ☐ Farmer

☐ seeking employment   ☐ self employed/entrepreneur   ☐ others: _____   ☐ Fisherman

4. What is your estimated monthly income?

☐ Less than Php, 5000   ☐ Php 10,001-15000   ☐ Php 20,001-25,000

☐ Php 5,000- 10,000   ☐ Php15,001- 20,000   ☐ More than 25,000

5. Do you own a computer?   ☐ Yes   ☐ No

6. Do you own a telephone line?   ☐ Yes   ☐ No

II. Telecenter needs

1. How long have you been using the Community e-Center?

☐ less than 1 mo.   ☐ 1 month   ☐ 2 months   ☐ more than 2 months

2. How often do you go to the Community e-Center?

☐ daily   ☐ 2x a week   ☐ 2x a month   ☐ monthly

3. What are theCeC services that you use? (check all appropriate boxes)

☐ phone call   ☐ encoding/publications   ☐ photocopying   ☐ ICT training

☐ send fax   ☐ printing   ☐ scanning   ☐ others: _____

☐ email/chat   ☐ internet   ☐ government service

4. How did the center help you with your needs with the government? (check all appropriate boxes)

☐ I was able to apply for a job online   ☐ I was able to complete my school requirements

☐ I was able to download government forms   ☐ I was able to communicate with my friends and relatives

☐ business forms   ☐ I get to read news on the web

☐ birth/death/marriage certificate/SSS/GSIS   ☐ I was able to renew my passsport

☐ materials on education, agriculture, health   ☐ I was able to process my business permits/application

☐ driver's license   ☐ I was able to apply for online barangay clearance

☐ I was able to pay government fees online   ☐ I was able to view information on overseas employment

☐ I was able to apply for a TIN   ☐ I was able to bid in gov't projects online

☐ I was able to view or pay my real property tax   ☐ I was able to buy and sell agricultureal products

☐ I was able to fill-up government application forms online   ☐ I was able to view my eCard GSIS/SSS account

☐ I was able to lodge complaints to the government   ☐ Others:

5. What other government services would you want to be available online and offered by the CeC?

6. If you were part of management, what other services do you think should the Internet Center offer to help the community?

III. Telecenter marketing and development

1. How did you first learn about the Internet Center

☐ friends   ☐ flyers/banners   ☐ local government   ☐ schoolmate

☐ on-air advertisement   ☐ neighbors   ☐ family   ☐ others: _____

2. DO you tell others about the services?

☐ yes   ☐ no

** END OF SURVEY. MARAMING SALAMAT***

Annex 5 - CeC Client Survey Results

business forms
130

download forms	birth/ death/ marriage certificate/ GSIS	view info on overseas employment	Materials on education, agriculture, health	fill-up govt application forms online	PAG IBIG inquiry	lodge complaints to the govt	pay govt fees online	bid in govt projects online	process my business permits	apply for a TIN	view or pay my real property tax	renew my passport	driver's license	buy and sell agricultural products	LGPMS	Post projects for bidding thru GEPS
38	35	32	28	8	7	5	4	3	2	1	1	1	1	1	1	1

Government Online services

Service	Value
Post projects for bidding thru GEPS	1
LGPMS	1
buy and sell agricultural products	1
driver's license	1
renew my passport	1
view or pay my real property tax	1
apply for a TIN	1
process my business permits	2
bid in govt projects online	3
pay govt fees online	4
lodge complaints to the govt	5
PAG IBIG inquiry	7
fill-up govt application forms online	8
Materials on education, agriculture, health	28
view info on overseas employment	32
birth/ death/ marriage certificate/ GSIS	35
download forms	38

	USER PROFILE							
Location	Age	Gender	Civil Status	Employment	monthly income			
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	na	f	20	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	Php 10,001-15,000	m	22	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	na	s	42	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	na	m	0	
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student	na	w	0	
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student	na			
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student	na	s	38	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	na	priv	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student	na	seeking	2	
Calamba, Laguna	20 yrs old below	Female	Single	private company employee	Php 20,001-25,000	OSY	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Calamba, Laguna	20 yrs old below	Male	Single	Student	na			
Calamba, Laguna	20 yrs old below	Male	Single	Student	na			
Calamba, Laguna	20 yrs old below	Male	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	seeking employment	na			
Calamba, Laguna	20 yrs old below	Male	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Calamba, Laguna	20 yrs old below	Female	Single	Student	na			
Tanauan, Leyte	20 yrs old below	Male	Single	Student	Php 5,000 and below			
Tanauan, Leyte	20 yrs old below	Male	Single	Student	Php 5,000 and below			
Tanauan, Leyte	20 yrs old below	Male	Single	Student	na			
Tanauan, Leyte	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Male	Single	OSY	na			
San Remigio, Cebu	20 yrs old below	Male	Single	seeking employment	na			
San Remigio, Cebu	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Male	Single	Student	na			
San Remigio, Cebu	20 yrs old below	Female	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student	Php 5,000 and below			
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student	na			
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student	na			
Nueva Vizcaya	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000-10,000	f	33	86.60606
Nueva Vizcaya	21-30 yrs old	Male	Single	Govt/NGO employee	Php 15,001- 20,000	m	13	13.39394
Nueva Vizcaya	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000-10,000			
Nueva Vizcaya	21-30 yrs old	Male	Married	Govt/NGO employee	na	s	25	
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000 and below	m	20	
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Single	Govt/NGO employee	Php 5,000-10,000	w	1	
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	private company employee	na			
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Single	Student	Php 5,000 and below	s	8	
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000 and below	priv	4	
Calamba, Laguna	21-30 yrs old	Male	Single	Student	na	seeking	10	
Calamba, Laguna	21-30 yrs old	Female	Married	private company employee	Php 15,001- 20,000	vol	1	
Calamba, Laguna	21-30 yrs old	Male	Single	private company employee	na	Govt	22	
Calamba, Laguna	21-30 yrs old	Female	Single	Student	na			
Calamba, Laguna	21-30 yrs old	Female	Single	Student	na			
Calamba, Laguna	21-30 yrs old	Female	Married	seeking employment	na	5k below	13	
Calamba, Laguna	21-30 yrs old	Female	Single	seeking employment	na	5 to 10	4	
Calamba, Laguna	21-30 yrs old	Female	Single	Student	na	10 to 15	4	
Calamba, Laguna	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000 and below	15 to 20	3	
Calamba, Laguna	21-30 yrs old	Female	Married	seeking employment	na	20 up		
Calamba, Laguna	21-30 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below			
Calamba, Laguna	21-30 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below			
Barugo, Leyte	21-30 yrs old	Female	Single	Govt/NGO employee	Php 5,000-10,000			
Tanauan, Leyte	21-30 yrs old	Male	Single	Govt/NGO employee	Php 5,000 and below			
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment	Php 5,000 and below			
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment	na			
Tanauan, Leyte	21-30 yrs old	Female	Single	seeking employment	na			
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment	Php 5,000 and below			
Tanauan, Leyte	21-30 yrs old	Female	Single	Govt/NGO employee	Php 10,001-15,000			
Tanauan, Leyte	21-30 yrs old	Female	Single	seeking employment	na			
San Remigio, Cebu	21-30 yrs old	Male	Married	Govt/NGO employee	Php 5,000 and below			
San Remigio, Cebu	21-30 yrs old	Female	Married	seeking employment	na			
San Remigio, Cebu	21-30 yrs old	Female	Married	Govt/NGO employee	Php 10,001-15,000			
San Remigio, Cebu	21-30 yrs old	Male	Married	private company employee	Php 10,001-15,000			
San Remigio, Cebu	21-30 yrs old	Female	Widowed	na	Php 5,000 and below			
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee	Php 15,001- 20,000			

Location	Age	Sex	Civil Status	Occupation	Income
Maramag, Bukidnon	21-30 yrs old	Male	Single	Govt/NGO employee	Php 5,000 and below
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee	na
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee	na
Maramag, Bukidnon	21-30 yrs old	Male	Married	Govt/NGO employee	Php 10,001-15,000
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Student	na
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Volunteer work	na
Balingasag, Misamis Oriental	21-30 yrs old	Male	Single	seeking employment	na
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Student	na
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below
Balingasag, Misamis Oriental	21-30 yrs old	Female	Married	Student	na
Balingasag, Misamis Oriental	21-30 yrs old	Female	Married	Govt/NGO employee	Php 5,000-10,000
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee	Php 15,001- 20,000
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee	Php 5,000-10,000
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee	Php 5,000-10,000
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee	na
Nueva Vizcaya	31-40 yrs old	Female	Single	Govt/NGO employee	Php 5,000-10,000
Pinamalayan, Mindoro Oriental	31-40 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below
Pinamalayan, Mindoro Oriental	31-40 yrs old	Female	Married	Govt/NGO employee	Php 5,000 and below
Pinamalayan, Mindoro Oriental	31-40 yrs old	Male	Single	private company employee	Php 5,000-10,000
Pinamalayan, Mindoro Oriental	31-40 yrs old	Male	Married	Govt/NGO employee	Php 5,000-10,000
Calamba, Laguna	31-40 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below
Calamba, Laguna	31-40 yrs old	Male	Married	Govt/NGO employee	Php 5,000 and below
Calamba, Laguna	31-40 yrs old	Male	Single	seeking employment	na
Calamba, Laguna	31-40 yrs old	Male	Married	private company employee	Php 25,000 and above
Calamba, Laguna	31-40 yrs old	Female	Single	Student	Php 5,000 and below
Calamba, Laguna	31-40 yrs old	Female	Married	self-employed/entrepreneur	na
Calamba, Laguna	31-40 yrs old	Male	Married	private company employee	na
Barugo, Leyte	31-40 yrs old	Female	Single	Govt/NGO employee	Php 10,001-15,000
Barugo, Leyte	31-40 yrs old	Female	Single	Govt/NGO employee	Php 10,001-15,000
Barugo, Leyte	31-40 yrs old	Male	Married	seeking employment	Php 5,000-10,000
Barugo, Leyte	31-40 yrs old	Male	Married	self-employed/entrepreneur	Php 5,000 and below
Barugo, Leyte	31-40 yrs old	Male	Married	Student	Php 10,001-15,000
Tanauan, Leyte	31-40 yrs old	Female	Married	Govt/NGO employee	Php 15,001- 20,000
Tanauan, Leyte	31-40 yrs old	Male	Married	self-employed/entrepreneur	Php 20,001-25,000
Tanauan, Leyte	31-40 yrs old	Female	Widowed	Govt/NGO employee	Php 5,000-10,000
Tanauan, Leyte	31-40 yrs old	Female	Married	Govt/NGO employee	Php 15,001- 20,000
Tanauan, Leyte	31-40 yrs old	Male	Single	seeking employment	na
Tanauan, Leyte	31-40 yrs old	Female	Single	seeking employment	na
San Remigio, Cebu	31-40 yrs old	Female	Widowed	Govt/NGO employee	Php 5,000 and below
San Remigio, Cebu	31-40 yrs old	Female	Single	others	Php 5,000 and below
Maramag, Bukidnon	31-40 yrs old	Female	Married	Govt/NGO employee	Php 10,001-15,000
Balingasag, Misamis Oriental	31-40 yrs old	Male	Married	Govt/NGO employee	Php 5,000 and below
Balingasag, Misamis Oriental	31-40 yrs old	Female	Single	Govt/NGO employee	Php 5,000 and below
Calamba, Laguna	41-50 yrs old	Female	Widowed	Govt/NGO employee	Php 5,000 and below
Tanauan, Leyte	41-50 yrs old	Female	Married	Govt/NGO employee	Php 10,001-15,000
Tanauan, Leyte	41-50 yrs old	Male	Single	Govt/NGO employee	Php 15,001- 20,000
San Remigio, Cebu	41-50 yrs old	Female	Married	Govt/NGO employee	Php 10,001-15,000
San Remigio, Cebu	41-50 yrs old	Female	Widowed	Govt/NGO employee	Php 5,000 and below
San Remigio, Cebu	41-50 yrs old	Male	Single	Student	na
San Remigio, Cebu	41-50 yrs old	Female	Married	Govt/NGO employee	Php 10,001-15,000
Maramag, Bukidnon	41-50 yrs old	Female	Single	Govt/NGO employee	na
Pinamalayan, Mindoro Oriental	51 yrs old and above	Male	Widowed	na	na
Barugo, Leyte	51 yrs old and above	Female	Married	Student	Php 15,001- 20,000
Tanauan, Leyte	51 yrs old and above	Female	Widowed	others	Php 15,001- 20,000
Tanauan, Leyte	51 yrs old and above	Female	Married	Govt/NGO employee	Php 15,001- 20,000
San Remigio, Cebu	51 yrs old and above	Male	Single	Student	na
Maramag, Bukidnon	51 yrs old and above	Female	Widowed	Govt/NGO employee	Php 10,001-15,000
Maramag, Bukidnon	51 yrs old and above	Male	Married	farmer	na

summary

Nueva Viscaya	20
Mindoro	20
Laguna	20
Leyte	54
Cebu	33
Bukidnon	16
Misamis Oriental	16
Total	179

USER PROFILE							
Location	Age	Gender	Civil Status	Employment	Others	monthly income	
Maramag, Bukidnon	51 yrs old and above	Male	Married	farmer		na	1
Nueva Vizcaya	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000-10,000	1
Nueva Vizcaya	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000-10,000	1
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000 and below	1
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Single	Govt/NGO employee		Php 5,000-10,000	1
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000 and below	1
Calamba, Laguna	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000 and below	1
Calamba, Laguna	21-30 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Calamba, Laguna	21-30 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Barugo, Leyte	21-30 yrs old	Female	Single	Govt/NGO employee		Php 5,000-10,000	1
Tanauan, Leyte	21-30 yrs old	Female	Single	Govt/NGO employee	teacher	Php 10,001-15,000	1
San Remigio, Cebu	21-30 yrs old	Female	Married	Govt/NGO employee		Php 10,001-15,000	1
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee		Php 15,001- 20,000	1
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee		na	1
Maramag, Bukidnon	21-30 yrs old	Female	Married	Govt/NGO employee		na	1
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Balingasag, Misamis Oriental	21-30 yrs old	Female	Married	Govt/NGO employee		Php 5,000-10,000	1
Nueva Vizcaya	31-40 yrs old	Female	Single	Govt/NGO employee		Php 5,000-10,000	1
Pinamalayan, Mindoro Oriental	31-40 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Pinamalayan, Mindoro Oriental	31-40 yrs old	Female	Married	Govt/NGO employee		Php 5,000 and below	1
Calamba, Laguna	31-40 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Barugo, Leyte	31-40 yrs old	Female	Single	Govt/NGO employee		Php 10,001-15,000	1
Barugo, Leyte	31-40 yrs old	Female	Single	Govt/NGO employee		Php 10,001-15,000	1
Tanauan, Leyte	31-40 yrs old	Female	Married	Govt/NGO employee		Php 15,001- 20,000	1
Tanauan, Leyte	31-40 yrs old	Female	Widowed	Govt/NGO employee		Php 5,000-10,000	1
Tanauan, Leyte	31-40 yrs old	Female	Married	Govt/NGO employee		Php 15,001- 20,000	1
San Remigio, Cebu	31-40 yrs old	Female	Widowed	Govt/NGO employee		Php 5,000 and below	1
Maramag, Bukidnon	31-40 yrs old	Female	Married	Govt/NGO employee		Php 10,001-15,000	1
Balingasag, Misamis Oriental	31-40 yrs old	Female	Single	Govt/NGO employee		Php 5,000 and below	1
Calamba, Laguna	41-50 yrs old	Female	Widowed	Govt/NGO employee		Php 5,000 and below	1
Tanauan, Leyte	41-50 yrs old	Female	Married	Govt/NGO employee		Php 10,001-15,000	1
San Remigio, Cebu	41-50 yrs old	Female	Married	Govt/NGO employee		Php 10,001-15,000	1
San Remigio, Cebu	41-50 yrs old	Female	Widowed	Govt/NGO employee		Php 5,000 and below	1
San Remigio, Cebu	41-50 yrs old	Female	Married	Govt/NGO employee		Php 10,001-15,000	1
Maramag, Bukidnon	41-50 yrs old	Female	Single	Govt/NGO employee		na	1
Tanauan, Leyte	51 yrs old and above	Female	Married	Govt/NGO employee		Php 15,001- 20,000	1
Maramag, Bukidnon	51 yrs old and above	Female	Widowed	Govt/NGO employee		Php 10,001-15,000	1
Nueva Vizcaya	21-30 yrs old	Male	Single	Govt/NGO employee		Php 15,001- 20,000	1
Nueva Vizcaya	21-30 yrs old	Male	Married	Govt/NGO employee		na	1
Tanauan, Leyte	21-30 yrs old	Male	Single	Govt/NGO employee		Php 5,000 and below	1
San Remigio, Cebu	21-30 yrs old	Male	Single	Govt/NGO employee		Php 5,000 and below	1
Maramag, Bukidnon	21-30 yrs old	Male	Single	Govt/NGO employee		Php 5,000 and below	1
Maramag, Bukidnon	21-30 yrs old	Male	Married	Govt/NGO employee		Php 10,001-15,000	1
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee		Php 15,001- 20,000	1
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee		Php 5,000-10,000	1
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee		Php 5,000-10,000	1
Nueva Vizcaya	31-40 yrs old	Male	Married	Govt/NGO employee		na	1
Pinamalayan, Mindoro Oriental	31-40 yrs old	Male	Married	Govt/NGO employee		Php 5,000-10,000	1
Calamba, Laguna	31-40 yrs old	Male	Married	Govt/NGO employee		Php 5,000 and below	1
Balingasag, Misamis Oriental	31-40 yrs old	Male	Married	Govt/NGO employee		Php 5,000 and below	1
Tanauan, Leyte	41-50 yrs old	Male	Single	Govt/NGO employee		Php 15,001- 20,000	1
San Remigio, Cebu	21-30 yrs old	Female	Widowed	na		Php 5,000 and below	1
Pinamalayan, Mindoro Oriental	51 yrs old and above	Male	Widowed	na		na	1
San Remigio, Cebu	20 yrs old below	Male	Single	OSY	out of scho	na	1
San Remigio, Cebu	31-40 yrs old	Female	Single	others		Php 5,000 and below	1
Tanauan, Leyte	51 yrs old and above	Female	Widowed	others		Php 15,001- 20,000	1
Calamba, Laguna	20 yrs old below	Female	Single	private company employee	Ministry co	Php 20,001-25,000	1
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Married	private company employee			1
Calamba, Laguna	21-30 yrs old	Female	Married	private company employee		Php 15,001- 20,000	1
Calamba, Laguna	21-30 yrs old	Male	Single	private company employee	civil engine	na	1
San Remigio, Cebu	21-30 yrs old	Male	Married	private company employee	architect	Php 10,001-15,000	1
Pinamalayan, Mindoro Oriental	31-40 yrs old	Male	Single	private company employee		Php 5,000-10,000	1
Calamba, Laguna	31-40 yrs old	Male	Married	private company employee		Php 25,000 and above	1
Calamba, Laguna	31-40 yrs old	Male	Married	private company employee		na	1
Calamba, Laguna	20 yrs old below	Female	Single	seeking employment		na	1
Calamba, Laguna	21-30 yrs old	Female	Married	seeking employment		na	1

male 56
female 79

	male	20
1	female	33
1	20 below	16
1	21 to 30	10
1	31 to 40	
1	41 up	
1	male	
1	20 below	22
1	21 to 30	13
1	31 to 40	16
1	41 up	5

42	31%
46	34%
32	24%
15	11%

50 0.37037

8

Gender Distribution

Female 79
Male 56

- below 20 yrs old -20
- S21 to 30 yrs old - 33
- 31 to 40 yrs old- 16
- 41 yrs old - up - 10

Location	Age	Sex	Civil Status	Activity	Education	Income	Count	
Calamba, Laguna	21-30 yrs old	Female	Single	seeking employment		na	1	
Calamba, Laguna	21-30 yrs old	Female	Married	seeking employment		na	1	
Tanauan, Leyte	21-30 yrs old	Female	Single	seeking employment		na	1	
Tanauan, Leyte	21-30 yrs old	Female	Single	seeking employment		na	1	
San Remigio, Cebu	21-30 yrs old	Female	Married	seeking employment		na	1	
Tanauan, Leyte	31-40 yrs old	Female	Single	seeking employment		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	seeking employment		na	1	
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment		Php 5,000 and below	1	
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment		na	1	
Tanauan, Leyte	21-30 yrs old	Male	Single	seeking employment		Php 5,000 and below	1	
Balingasag, Misamis Oriental	21-30 yrs old	Male	Single	seeking employment		na	1	
Calamba, Laguna	31-40 yrs old	Male	Single	seeking employment		na	1	
Barugo, Leyte	31-40 yrs old	Male	Married	seeking employment		Php 5,000-10,000	1	
Tanauan, Leyte	31-40 yrs old	Male	Single	seeking employment		na	1	
Calamba, Laguna	31-40 yrs old	Female	Married	self-employed/entrepreneur		na	1	
Barugo, Leyte	31-40 yrs old	Male	Married	self-employed/entrepreneur		Php 5,000 and below	1	
Tanauan, Leyte	31-40 yrs old	Male	Married	self-employed/entrepreneur		Php 20,001-25,000	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		Php 10,001-15,000	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Female	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Female	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Female	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Female	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Female	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Female	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Female	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	21-30 yrs old	Female	Single	Student		Php 5,000 and below	1	
Calamba, Laguna	21-30 yrs old	Female	Single	Student		na	1	
Calamba, Laguna	21-30 yrs old	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Student		na	1	
Balingasag, Misamis Oriental	21-30 yrs old	Female	Married	Student		na	1	
Calamba, Laguna	31-40 yrs old	Female	Single	Student		Php 5,000 and below	1	
Barugo, Leyte	51 yrs old and above	Female	Married	Student	elementary	Php 15,001- 20,000	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student		na	1	
Pinamalayan, Mindoro Oriental	20 yrs old below	Male	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student		na	1	
Calamba, Laguna	20 yrs old below	Male	Single	Student		Php 5,000 and below	1	
Tanauan, Leyte	20 yrs old below	Male	Single	Student		Php 5,000 and below	1	
Tanauan, Leyte	20 yrs old below	Male	Single	Student		Php 5,000 and below	1	
Tanauan, Leyte	20 yrs old below	Male	Single	Student		na	1	
Tanauan, Leyte	20 yrs old below	Male	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	Student		na	1	
San Remigio, Cebu	20 yrs old below	Male	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student		na	1	
Balingasag, Misamis Oriental	20 yrs old below	Male	Single	Student		Php 5,000 and below	1	
Calamba, Laguna	21-30 yrs old	Male	Single	Student		na	1	
Barugo, Leyte	31-40 yrs old	Male	Married	Student	high schoo	Php 10,001-15,000	1	
San Remigio, Cebu	41-50 yrs old	Male	Single	Student		na	1	
San Remigio, Cebu	51 yrs old and above	Male	Single	Student		na	1	51
Balingasag, Misamis Oriental	21-30 yrs old	Female	Single	Volunteer work	volunteer w	na	1	

ANNEX 6 – FGD Questionnaire

First Session: Information gathering from respondents

1.   Getting to know game

2.   Short explanation on the objectives of the FGD
   - Raise awareness on the benefits of e-governance through CeCs.
   - Determine the different perceptions and ideas of people on the use of new technologies particularly computer and internet technologies
   - Determine the needs of the community in relation to government services
   - Determine which e-government services are currently being accessed by the community

3.   Respondent profiling
   a.   Obtain basic information such as name, age, civil status, address, employment type
   b.   Obtain information pertaining to their immediate families, their address, age and sources of income
   c.   Determine detailed employment status and daily economic activities
   d.   Ask to fill out attendance sheet

4.   Socio-economic profiling:
   a.   Main sources of livelihood
   b.   Number of family members working overseas?
   c.   Presence of schools that offer computer courses to high school and college graduates
   d.   Presence of groups such as Internet cafes or institutes that offer basic computer courses

5.   ICT Profiling (Identify the state of IT resources, infrastructure, players and IT usage in the area)

   a.   Do you personally have a landline telephone service? How much is your average telephone expenditures per month? Who are the usual users in the household?
   b.   Please indicate whether your household makes more personal or business calls.
   c.   Do you have a personal computer at home? What are its most common use and who are the heavy users?

Second Session: Basic CeC concepts and services

1.   Explanation of CeC concept
   a.   Definition
   b.   Physical structures
   c.   How it operates

2.   Explanation of the basic CeC features and services
   a.   Basic CeC ICT technology
   b.   Use of equipment other than the telephone. They may include: computer, Internet, fax, photocopier, scanner, and others.
   c.   Basic CeC services:
      - Phone calls

- Fax
- Internet access
- Emailing
- Online commercial and government transactions
- Educational services such as computer training and distance education
- Community websites
- Imaging
- Desktop publishing
- Business development
- Others

3. Explanation of e-governance solutions and applications

a. What is e-governance and how does it help the citizens
- Access to information on various government services
- Access to various government documents such as memorandum, orders, laws, regulations, policies, guidelines
- Faster government service
- Cheaper way of transacting with the government
- More transparent and efficient way of delivering services

b. Some e-government services - The life cycle approach
- Birth – birth certificate, e-health
- Student – e-learning, materials
- Work/Business – NBI clearance, SSS/GSIS, TIN, business permits, business registration, barangay clearance, mayor's permit, information on agriculture (pricing), fishery, health, etc.
- Participation – online forums, online complaints
- Travel – passport, clearances for OFWs
- Retirement – medicare, SSS/GSIS, pag-ibig
- Death – death certificate

Third Session: Data gathering on ICT needs

1. Identify the needs of the respondents pertaining to the following:
   a   information access
   b   education
   c   online transactions
   d   computer applications
   e   government services
   f   employment needs
   g   business development needs

Mga tanong: (FGD)

    a. Marunong ka ba gumamit ng computer at internet?
- Kung oo, saan mo natutunan ang paggamit ng computer at internet?
- Kung hindi, gusto mo bang matuto kung ang CeC ay magbibigay ng computer training? Ok lang ba sa iyo na magbayad para sa training?

    b. Ano ang ginagamit mo sa pakikipag-usap sa iyong kamag-anak o kaibigan na nasa abroad? Tawag sa telepono o email?

    c. Ginagamit mo ba ang iyong landline na telepono o cellular phone sa pagtawag sa abroad?

    d. Kapag gusto mong magpadala ng sulat sa abroad, pinapadala mo ba siya sa pamamagitan ng post office o gumagamit ka ng email?

    e. Sa tingin mo, mae-engganyo ka ba na makipag-usap sa iyong kamag anak o kaibigan na nasa abroad sa pamamagitan ng computer? At makikita mo din siya sa screen?

    f. Gumagamit ka ba ng internet sa paghahanap ng impormasyon na kailangan para sa "research o assignment" sa paaralan?

        Sa mga hindi na nag-aaral, gumagamit ba kayo ng internet para magahanap ng iba't-ibang impormasyon tulad ng news, travel information, job openings, etc?

- Kung oo, gaano mo ito kadalas gamitin?
- Kung hindi, bakit?

    g. Nangailangan ka naba ng impormasyon o dokumento sa iba-ibang ahensya ng gobyerno tulad ng SSS, GSIS, BIR, Pag-ibig, Philhealth?

    h. Paano ka nakukuha ng mga kailangan mong impormasyon o dokumento? Gaano katagal bago mo nakuha ang impormasyon o dokumentong iyong kailangan? Magkano ang iyong nagastos?

    i. May mga naging problema ka ba sa pagkuha mo ng mga impormasyon na ito o dokumento? Ano-ano ang mga ito?

    j. Nagamit mo na ba ang internet sa paghahanap ng trabaho? Nasubukan mo na bang mag-apply ng trabaho sa pamamagitan ng internet o email? May natanggap bas a trabaho dahil sa pag-apply 'online'?

    k. Kung may pagkakataon kayo na gamitin ang internet para ipahatid ang inyong mga reklamo sa gobyerno, gagamitin nyo ba ito?

    l. Ano-anong klaseng mga reklamo ang inyong ipapahatid sa gobyerno? (peace and order, corruption, etc.)

    m. Kung ang impormasyon na ito masisiguradong confidential at secure, mae-engganyo ka ba na gamitin ang internet para magamit ang serbisyong ito?

n. Sa mga nabanggit na serbisyo ng CeCs, ano sa tingin ninyo ang pinaka-madalas nyong dahilan upang magpunta at gumamit ng iba't-ibang serbisyo ng CeC?

o. Ano-ano naman ang mga posibleng dahilan para hindi kayo gumamit ng CeCs?

End session by thanking the participants and inform them that this will be strictly confidential and their answers will not be used anywhere to compromise their status

Give out tokens.

ANNEX 7 – FGD Documentation

Focused Group Discussion Documentation
Nueva Viscaya

The study utilized a Focused Group Discussion (FGD) in order to develop a needs based telecenter model. The FGD was conducted, together with a survey on telecenter activities, to find out what the information needs of the community are and to brief the community on the features of a typical telecenter.

The first session involved introduction of what the FGD sought to accomplish and gathering of information from the respondents. The FGD conducted on December 12, 2006 in Bayombong Nueva Vizcaya, involved ten (10) respondents from government and non-government sector of the community. (see Respondent Profile).

Of the ten respondents, three were women and seven were men. Nine of them were working for the government, and one is working for an NGO. One of the ten respondents is single while the rest of them were already married. Further, three of the respondents are aged 30 years and below while the rest of the respondents are aged 31 and above. All of the FGD respondents have immediate family members working abroad as Overseas Filipino Workers (OFWs). One has even 10 relatives working abroad.

The second session of the FGD focused on a brief explanation of the CeC concept, technology and services with a particular focus on e-government applications. This session was important in giving the respondents an overview of how a CeC looks like and what are the various services it can offer. This session also provided an anchor point on the next sessions of the FGD and made the respondents more comfortable in answering questions since they were now ware of what the FGD is all about. The over view of CeC concepts and services include:

- explanation of the objectives of the FGD
- explanation of CeC concepts, definition and structure
- CeC product and service offering
- technologies behind CeC
- benefits of using CeC services
- E-government applications as part of CeC services

The third session was allotted in determining the socio-economic profile of the province. Nueva Vizcaya is located in the heart of Northern Luzon, about 268 kilometers north of Manila and 118 kilometers south of Tuguegarao City. It is geographically located at the southernmost part of Region II and is often referred to as the gateway to vast Cagayan Valley Region and the famous Banaue Rice Terraces.

Table 1 summarizes the sources of income and livelihood of the municipality with agriculture and small businesses composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government.

Table 1: Economic Activities/Sources of Income in Nueva Vizcaya

- Farming, fruit and vegetable products, livestock raising
- Coconut industry production
- Salaried workers from government
- Retail selling
- Small and medium enterprises engaged in manufacturing and retail
- OFWs – domestic helper and sea farers

The community also actively participates in community development and livelihood improvement. There are a number of people's organizations and civic groups in Nueva Vizcaya such as the Nueva Vizcaya Indigenous People's Cooperative, NV e-Society and other church based NGOs.

Being the gateway to other provinces in the North, the infrastructure is relatively well developed. Major road networks are paved and well maintained, public markets are accessible via numerous forms of transportation, and all barangays are energized and have piped water supply. Educational institutions such as public and private elementary and secondary schools as well as universities are present in the area. They have three premier university schools: Saint Mary's University, Nueva Vizcaya State University and Aldersgate College.

The next session focused on attaining data on ICT and telecommunications activities in the municipality. ICT infrastructure in Nueva Vizcaya is continuously being developed by the private sector. Postal and courier services have flourished given the strong influx of domestic and international remittances. The province is being serviced by wireline telephony offer by Digitel. However, the roll out is being hampered because of the proliferation of cellphones which most of the residents prefer because its mobile, more convenient and more affordable. Uses of land line phones are mainly for chatting with friends, loved ones abroad and for business. Only two of the respondents have land line phones. Those respondents who have land line phones are on a prepaid plan or pay per use basis as opposed to the regular flat monthly subscription plan. This is a major reason why they prefer using SMS services of cellphones which is cheaper than a voice call from the landline phone.

Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology while landline telephony and broadband internet access are available via Digitel. However, not all barangays have been reached by

wireline telephony and broadband access. Areas without broadband capabilities can dial up to a number of ISPs present in the town such as Mozcom and Bonanza.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

All of the respondents know what a computer looks like and the basic uses of the computer such as word processing, spreadsheet, games, multimedia, among others. Of the ten respondents, five have personal computers at home and four of the ten respondents have access to computers either through an internet café, work, and a relative who owns a computer. Of the five respondents who have computers at home, only one respondent have an internet access. Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2: Uses of a computer

- School work and research
- Word processing
- Built in games

The respondents are also familiar with internet technology. All of them have basic knowledge on using the internet such as accessing and using emails, using chat programs, browsing online communities such as friendster, and surfing through search engine. However, the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. They do not know the government online services offered by www.gov.ph, the government portal. Table 3 summarizes the top responses on internet uses:

Table 3: Uses of the internet

- Chatting with webcam
- Communication through emails
- Surfing
- Work purposes (uploading, correspondence with collegues, etc.)
- Online job search
- Access of their GSIS and SSS accounts
- Downloading of applications and programs
- Gaming

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs.

The FGD revealed that the respondents were interested to learn more on using the internet. If the CeC will introduce a free ICT literacy training and additional courses, they would be more than willing to avail of that. If it has a fee, then it would depend on the affordability of the training. Table 4 summarizes the ICT needs of the respondents.

Table 4: ICT needs of the FGD respondents

Information/personal needs

- Use of email for business and personal use
- Use of computer to talk to loved ones abroad through chat or VoIP
- Use of internet to find people and friends
- Use of computer for research, word processing, encoding
- Information on news, entertainment

Governance
- Online GSIS and SSS checking of remittances
- Online tax application
- Birth certificate processing and application
- Online Passport Renewal

The respondents also pointed out that some online services of the government such as online checking of GSIS and SSS remittances should be regularly updated.

On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service. The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 5: Kinds of Complaints

- Red tape
- Graft and corruption
- Abuse of power by government officials
- Illegal activities like jueteng, drugs, libel, forgery etc.
- Unexpedite processing of driver's licenses, PRC Licenses, etc
- Low compensation of government employees

The respondents also emphasized the need for feedback after they lodged their complaints.

The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and their reasons on not going to the CeC. The table below summarizes the services that they utilize from the CeC.

Table 6: Services of the CeC

- Internet access
- Faxing
- Government Online Services
- Learning services
- Online job search
- Social and Economic services (E-commerce)

The table below summarizes the reasons of the respondents why they will not use the CeC.

Table 7: Reasons for Not Utilizing the CeC

- Time constraints
- All computers are occupied
- Server is down (One respondent commented that the Internet provider Digitel is always down)

Focused Group Discussion Documentation
Mindoro

The FGD conducted on December 20, 2006 in Pinamalayan, Oriental Mindoro, involved ten (10) respondents from various sectors of the community. In order to collect data from all potential users of the CeC, the FGD respondents were chosen from the local government, youth and women sector, business and livelihood, and civic groups.

Of the ten respondents, six were women and four were men. Four of them were were working for the government, five are students and one is a nun. Six of the ten respondents were single while the rest of them were already married. Further, seven of the respondents are aged 30 years and below while three respondents are aged 31 and above. From the FGD respondents, eight have loved ones working abroad as Overseas Filipino Workers (OFWs).

Pinamalayan is one of the region's flourishing municipalities. Colleges, business centers, ricemills and a lively market in the center of the municipality selling sundry goods – from farm-fresh fruits and cheap seafood, to the official delicacy – banana chips will be found in this town. Lodging options can be found at the town proper and there are white beaches in Banilad and Bongol.

Table 1 summarizes the sources of income and livelihood of the municipality with agriculture and small businesses composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government and the agro-industrial workers.

Table 1: Economic Activities/Sources of Income in Pinamalayan

- Farming, fruit and vegetable products, livestock raising
- Coconut industry production
- Salaried workers from government
- Retail selling
- Small and medium enterprises engaged in manufacturing and retail
- Fishing
- OFWs – domestic helper and sea farers

Pinamalayan lies in the mideast, an hour-and-a-half trip away from Calapan- the capital city of Oriental Mindoro. Major and road networks are well-maintained but there are still rough roads going into the town proper.

The next session focused on attaining data on ICT and telecommunications activities in the municipality. ICT infrastructure in Pinamalayan is continuously being developed by the private sector.

Nine of the ten respondents have cellphones. None of the respondents have land line phones. Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology while landline telephony and broadband internet access are available via Smartbro. However, not all barangays have been reached by wireline telephony and broadband access. Areas without broadband capabilities can dial up to a number of ISPs present in the town such as Mozcom and Bonanza.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

All of the respondents know what a computer looks like and the basic uses of the computer such as word processing, games, multimedia, among others. The respondents who are students learned using the computer at their respective schools. However, one respondent revealed that he learned more about the computer at the Community E-center. The advantage of the CeC over the course offered in their school is the unlimited time for the students to explore and learn about the computer. The time they spent on learning about the computer is only one hour whereas the respondent can go to the CeC anytime he wants.

All of the respondents do not have a computer at home. They have access to computers either through an internet café, at the office or at the school. Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2: Uses of a computer

• School work • Word processing

Nine out of the ten respondents are familiar with internet technology. They have basic knowledge on using the internet such as accessing and using emails, using chat programs, browsing online communities such as friendster, and surfing through search engines. However, the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. Table 3 summarizes the top responses on internet uses:

Table 3: Uses of the internet

- Chatting with webcam
- Communication through emails
- Surfing
- Work purposes (correspondence with colleagues, etc.)
- Online job search

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs.

The FGD revealed that the respondents were interested to learn more on using the internet. If the CeC will introduce a free ICT literacy training and additional courses, they would be more than willing to avail of that including the respondent who does not know how to use the internet. If it has a fee, then it would depend on the affordability of the training. Table 4 summarizes the ICT needs of the respondents.

Table 4: ICT needs of the FGD respondents

Information/personal needs

- Use of email for business and personal use
- Use of computer to talk to loved ones abroad through chat or VoIP
- Use of internet to find job
- Use of computer for research, word processing, encoding

Governance

- Birth certificate processing and application

On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service. The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 5: Kinds of Complaints

- Graft and corruption
- State of government services (e.g., insufficient supply of medicine in the health center, accuracy of data of loans of GSIS, incomplete file of records, etc.)

The respondents also emphasized the need for feedback after they lodged their complaints. The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and the additional services that they would want the CeC to offer to its users. The table below summarizes the services that they utilize from the CeC.

Table 6: Services of the CeC

- Internet access for research
- ICT Training
- e-Learning services
- Online job search
- Social and Economic services (E-commerce)

The table below summarizes the additional services that the respondents want the CeC to have.

Table 7: Additional Services of the CeC

- Additional units of computer
- Connection of telephone line in the CeC
- Additional equipment (telefax)
- Airconditioned center

Focused Group Discussion Documentation
Leyte

The FGD conducted on January 16, 2007 in Tanauan, Leyte, involved twelve (12) respondents from government and non-government sector of the community. Of the twelve respondents, seven were women and five were men. Six of them were working for the government, two are retirees, two are students, one is a principal of a school, and one is working for an NGO. Seven of the twelve respondents are married while the rest of them are still single. Further, four of the respondents are aged 30 years and below while the rest of the respondents are aged 31 and above. Four of the FGD respondents have immediate family members working abroad as Overseas Filipino Workers (OFWs). One has seven relatives working abroad.

Tanauan is a second class municipality with a population of 48, 000 located along the eastern coast of the island of Leyte. Table 1 summarizes the sources of income and livelihood of the municipality with agriculture and small businesses composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government.

Table 1. Economic Activities/Sources of Income in Tanauan

- Agriculture, Livestock
- Forestry and Mining
- Fishing
- Trade and Industry
- Tourism

The town is predominantly an agricultural community, it is also an open location for heavy industries. It has ready access to industrial requirements. It affords sufficient water supply, power and sea, at neighboring Tacloban City. Some industrial firms are already in place in Tanauan: the New Leyte Edible Oil factory, with Japanese investors for both domestic and overseas markets, the Pepsi Cola Plant that serves the entire Eastern Visayas, and Metallica Furniture's.   The town is also popular with the sport skim boarding. National competitions are held every year in Tanauan with skim boarders coming from different parts of the world.

Tanauan has also bagged numerous awards from different government agencies. It won as the 2006 Most Business Friendly in the Visayas and in the Philippines, which is also can be attributed to the existence of the Community-e Center. Special Citation was given to the municipality last 2005 for its efforts in instituting good governance, particularly the establishment of an e-community and implementation of peace and order program to attract investors in the area.

ICT infrastructure in Tanauan is continuously being developed by the private sector. Postal and courier services have flourished given the strong influx of domestic and international remittances. The province is being serviced by wireline telephony offer by Bayantel. However, the roll out is being hampered because of the proliferation of cellphones which most of the residents prefer because its mobile, more convenient and more affordable. Uses of land line phones are mainly for chatting with friends, loved ones abroad and for business. Seven of the respondents have land line phones. Those respondents who have land line phones are on a prepaid plan or pay per use basis as opposed to the regular flat monthly subscription plan. This is a major reason why they prefer using SMS services of cellphones which is cheaper than a voice call from the landline phone.

Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology while landline telephony and broadband internet access are available via Bayantel. However, not all barangays have been reached by wireline telephony and broadband access.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

Ten out of the twelve respondents know what a computer looks like and the basic uses of the computer such as word processing, spreadsheet, games, multimedia, among others. One respondent revealed that she is not adept on using the internet. Of the twelve respondents, five have personal computers at home. They have access to computers either through an internet café, work, and a relative who owns a computer.

One respondent learned on using the computer through the Basic Computer Programming Course in Tacloban. Three respondents learned it through the ICT Training offered by the Community e-Center. The other respondents learned it through their own initiative as they explore the computer on their own.

Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2. Uses of a computer

- School work and research
- Word processing
- Built in games
- Internet Access
- Entertainment
- Copying of cds
- Storage of data

The respondents are also familiar with internet technology. Ten of them have basic knowledge on using the internet such as accessing and using emails, using chat programs, browsing online communities such as friendster, and surfing through search engine.

The ICT Training offered by the Community e-Center to the community consists of four modules and would last for 16 hours. It has a Php500.00 fee. The respondents disclosed that the price of the training is just fair. One respondent pointed out that it is too low compared to other ICT trainings or seminars.

However, the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. Table 3 summarizes the top responses on internet uses:

Table 3. Uses of the internet

- Chatting with webcam
- Communication through emails
- Surfing
- Research for schoolwork
- Work purposes
- Access of their GSIS and SSS accounts
- Downloading of applications and programs
- Gaming

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs. Table 4 summarizes the ICT needs of the respondents.

Table 4. ICT needs of the FGD respondents

Information/personal needs

- Use of email for business and personal use
- Use of computer to talk to loved ones abroad through chat or VoIP
- Use of internet to find people and friends
- Use of computer for research, word processing, encoding
- Information on news, entertainment

Governance
- Online GSIS and SSS checking of remittances
- Birth certificate processing and application
- Online Procurement

However, the respondents pointed out that some online services of the government such as online checking of GSIS and SSS remittances should be regularly updated. Sometimes they encounter problems on using those kind of services as the server or the database is down or the information is outdated. Problems also arise when they forget their password.

On the other hand, the respondents revealed that they prefer the online service compared with the traditional way of doing it. The service is faster and more efficient and transparent to all citizens.

On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service. The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 5. Kinds of Complaints

- Infrastructure problems
- Graft and corruption
- Peace and order, safety concerns
- Illegal activities like illegal fishing, drugs,
- Child abuse, gender issues
- Abuse of power and position of government officials
- Electioneering

The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and their reasons on not going to the CeC. The table below summarizes the services that they utilize from the CeC.

Table 6. Services of the CeC

- Internet access
- Word Application and Excel
- Government Online Services
- ICT Training
- Online job search

The table below summarizes the reasons of the respondents why they will not use the CeC.

Table 7. Reasons for Not Utilizing the CeC

- Lack of computers
- ICT Training is ongoing in the CeC
- Slow internet speed

Focused Group Discussion Documentation
Cebu

The FGD conducted on January 18, 2007 in San Remigio, Cebu, involved nine (10) respondents from government and non-government sector of the community. Of the ten respondents, six were women and four were men. Nine of them were working for the government, and one is currently unemployed. Three of the ten respondents are still single while the rest are already married. Further, two of the respondents are aged 30 years and below while the rest of the respondents are aged 31 and above. Two of the FGD respondents have immediate family members working abroad as Overseas Filipino Workers (OFWs). All of them have friends working abroad.

San Remigio is a 3rd class municipality located 109 kilometers away from Cebu City. The municipality is also one of the tourist destinations in Cebu. The town boasts of the pristine white beaches and clear waters and has a number of resorts including the famous Casa del Mar Beach Resort.

Table 1 summarizes the sources of income and livelihood of the municipality with tourism and industrial plants composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government.

Table 1 : Economic Activities/Sources of Income in San Remigio

- Farming
- Salaried workers from government
- Retail selling
- Fishing
- Tourism
- Industrial Plants

The community also actively participates in community development and livelihood improvement of municipality. There are a number of people's organizations who are active in managing marine protected areas and other community based resource management projects of the town.

Being a jump-off point to other islands in the North, the infrastructure is relatively well developed. Major road networks are paved and well maintained. Of the 78.16 kilometers linking the different parts of the municipality, 28.69 km was classified as concrete, the rest were classified as pave asphalt, gravel roads and dirt roads. The town also has two port facilities serving the Sta. Fe route and the fishing industry of the town. All barangays are energized and 70 percent of the barangays have piped water supply. Educational institutions such as public and private elementary and secondary schools are

present in the area. Two non-formal education including a TESDA training center can also be found in the municipality.

The next session focused on attaining data on ICT and telecommunications activities in the municipality. ICT infrastructure San Remigio is continuously being developed by the private sector. Postal and courier services have flourished given the strong influx of domestic and international remittances. The province is being serviced by wireline telephony offer by Digitel.

However, the roll out is being hampered because of the proliferation of cellphones which most of the residents prefer because its mobile, more convenient and more affordable. Uses of land line phones are mainly for chatting with friends, loved ones abroad and for business. Four of the respondents have land line phones. Those respondents who have land line phones are on a prepaid plan or pay per use basis as opposed to the regular flat monthly subscription plan. This is a major reason why they prefer using SMS services of cellphones which is cheaper than a voice call from the landline phone. One respondent revealed that if she wants to talk to her friend abroad, she will missed call the number of her friend and her friend will be the one who will call her.

Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology while landline telephony and broadband internet access are available via Digitel. However, not all barangays have been reached by wireline telephony and broadband access. Areas without broadband capabilities can dial up to a number of ISPs present in the town such as Mozcom and Bonanza.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

All of the respondents know what a computer looks like and the basic uses of the computer such as word processing, spreadsheet, games, multimedia, among others. Of the ten respondents, four have personal computers at home and the rest have access to computers either through an internet café or in the office. Those respondents who have computers at home do not have internet access at their respective homes. The respondents learned how to use the computer through tutorials and ICT training offered by the CeC and self-learning. On the price of the ICT Training currently offered by the CeC, the respondents revealed that it is fair.

Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2. Uses of a computer

- Desktop publishing
- Word processing
- Built in games
- Internet Access

The respondents are also familiar with internet technology. Eight of them have basic knowledge on using the internet such as accessing and using emails, using chat programs, browsing online communities such as friendster, and surfing through search engine. Two respondents revealed that they do not have enough knowledge on using the internet. All the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. Table 3 summarizes the top responses on internet uses:

Table 3. Uses of the internet

- Chatting with webcam
- Communication through emails
- Work purposes (uploading, correspondence with colleagues, etc.)
- Online job search
- Access of their GSIS and SSS accounts
- Get government information
- Gaming

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs. Table 4 summarizes the ICT needs of the respondents.

Table 5: ICT needs of the FGD respondents

Information/personal needs

• Use of email for business and personal use
    • Use of computer to talk to loved ones abroad through chat or VoIP
    • Use of internet to find people and friends
    • Use of computer for research, word processing, encoding
    • Information on news, entertainment

Governance

• Online GSIS and SSS Loan Inquiry
    • BIR information
    • Online job search
    • Application form for migration/overseas work
    • Download Civil Service Forms

The respondents pointed out that some online services of the government such as online GSIS and SSS loan inquiries are sometimes down.

On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service. The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 6: Kinds of Complaints

• Graft and corruption • Lack of public facilities like school, etc. • Companies with no BIR permit and receipt • Labor issues • Inefficient frontline services of the government • Low compensation of government employees

The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and their reasons on not going to the CeC. The table below summarizes the services that they utilize from the CeC.

Table 7: Services of the CeC

- Internet access
- Games
- Government Online Services
- Online job search

The table below summarizes the reasons of the respondents why they will not use the CeC.

Table 8: Reasons for Not Utilizing the CeC

- Financial constraints
- Lack of time

Three respondents revealed that lack of money is one factor why they cannot avail of the services being offered by the CeC. However, one respondent pointed out that the services of the CeC particularly the internet provides faster and easier communication which can compensate the price of using the service.

Focused Group Discussion Documentation
Bukidnon

The FGD conducted on February 6, 2007 in Maramag, Bukidnon, involved eight (8) respondents from government and non-government sector of the community. Of the eight respondents, three were women and five were men. One is a supervisor of a school and the rest were working for the government. One respondent is single while the rest are already married. Further, seven of the respondents are aged 31 and above while one respondent is aged 30 and below. Three of the FGD respondents have immediate family members working abroad as Overseas Filipino Workers (OFWs). All of the respondents have friends working abroad.

Maramag is a 1st class municipality in the southern part of Bukidnon. Table 1 summarizes the sources of income and livelihood of the municipality with agriculture and small businesses composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government.

Table 1 : Economic Activities/Sources of Income in Maramag

- Agriculture (Sugarcane and Pineapple Plantation)
- Trade and Industry
- Tourism

The town is predominantly an agricultural community, with sugarcane and pineapple as their main produce. The next session focused on attaining data on ICT and telecommunications activities in the municipality. ICT infrastructure in Maramag is continuously being developed.

Main provider of telephony in Maramag is Bayantel. Uses of land line phones are mainly for chatting with friends, loved ones abroad and for business. However, all of the respondents do not have land line phones. One respondent revealed that she decided to cut off her telephone line because its no longer of use to her. She will get a telephone line again if she will have internet access at home. All of the respondents own a mobile phone. It can be surmised that the respondents prefer mobile phone because its cheaper and more convenient to use nowadays.

The respondents also communicate to their relatives and friends abroad through mobile phones and through the Internet. They only use the landline to call old relatives since they are not accustomed on using the computer for chatting or sending emails.

Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology called the Smart Bro.However, not all barangays have been reached by wireline telephony and broadband access.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

All the respondents know what a computer looks like and the basic uses of the computer such as word processing, spreadsheet, games, multimedia, among others. Of the seven respondents, four have personal computers at home. They have access to computers either through an internet café, work, or through the Community e-Center.

Of the eight respondents, two respondents learned on using the computer in the Community e-Center while the rest learned it in their own offices.

Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2. Uses of a computer

- School work and research
- Word processing
- Internet Access
- Design
- Database or storage of data

The respondents are also familiar with internet technology. All of them have basic knowledge on using the internet such as accessing and using emails, using chat programs, and looking for jobs in the internet. The respondents also use the Internet to communicate to their relatives and friends abroad. They now only use the snail mail if they want to send packages abroad.

However, the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. Table3 summarizes the top responses on internet uses:

Table 3. Uses of the internet

- Chatting with webcam
- Communication through emails
- Surfing for information (news)
- Research
- Work purposes
- Access of their GSIS and SSS accounts

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs. Table 4 summarizes the ICT needs of the respondents.

Table 4: ICT needs of the FGD respondents

Information/personal needs

- Use of email for business and personal use
- Use of computer to talk to loved ones abroad through chat or VoIP
- Use of internet to find people and friends, and look for jobs overseas
- Use of computer for research, word processing, encoding
- Information on news

Governance

- Online GSIS and SSS checking of loans and remittances
- Online Application for Security Papers
- Online Application for Passport
- Online application for Business Permits and Real Property Tax

However, the respondents pointed out that some online services of the government such as online checking of GSIS and SSS remittances should be regularly updated. Sometimes they encounter problems on using those kind of services as the server or the database is down or the information is outdated. Problems also arise when they forget their password.

On the other hand, the respondents revealed that they prefer the online service compared with the traditional way of doing it. The service is faster and more efficient and transparent to all citizens.

On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service. However, one respondent emphasized that the complainants should have evidences pertaining to their complaints for validation purposes. One respondent also pointed out that best practices of government officials or agencies should also be commended through an online service.

One respondent revealed that in their own agency in the division level, they are now using an SMS service wherein you can just text for complaints or comments, request of travel orders, and any assistance that you need. This service was effective in promoting better communication and faster service between offices in the division level.

The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 5: Kinds of Complaints

- Abuse of power and authority of government officials
- Graft and corruption
- Peace and order
- Illegal activities like illegal fishing, drugs,
- Women and children's welfare

The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and their reasons on not going to the CeC. The table below summarizes the services that they utilize from the CeC.

Table 6: Services of the CeC

- Internet access for communication and research purposes
- Word Application and Excel
- Government Online Services
- Online job search
- Digital Printing
- Scanner

The table below summarizes the reasons of the respondents that will hinder them on using the CeC.

Table 7: Reasons for Not Utilizing the CeC

- Financial constraints
- Server is down
- "nahihiya"
- Time constraints
- They have internet in their own offices
- Location of the CeC –far from their homes or offices
- The CeC operates during working hours only
- Lack of computers
- Problems in the equipment

Focused Group Discussion Documentation

Misamis Oriental

The FGD conducted on February 7, 2007 in Balingasag, Misamis Oriental which involved ten (10) respondents from government and non-government sector of the community. Of the ten respondents, three were women and seven were men. Six of the ten respondents are working for the government, one is a volunteer for the government, two are teachers, and one is self-employed. Four respondents are single while the rest are already married. Further, six of the respondents are aged 31 and above while one respondent is aged 30 and below. One of the FGD respondents have immediate family members working abroad as Overseas Filipino Workers (OFWs). All of the respondents have friends working abroad.

Balingasag is a 2nd class municipality in Misamis Oriental. Table 1 summarizes the sources of income and livelihood of the municipality with agriculture and small businesses composing a huge portion of the economic activities of the town. Salaried employees were mostly from the local government.

Table 1 : Economic Activities/Sources of Income in Balingasag

- Agriculture
- Trade and Industry
- Tourism

The next session focused on attaining data on ICT and telecommunications activities in the municipality. ICT infrastructure in Balingasag is continuously being developed by the private sector. Uses of land line phones are mainly for chatting with friends, loved ones abroad and for business. However, eight of the respondents do not have land line phones. All of the respondents own a mobile phone. It can be surmised that the respondents prefer mobile phone because its cheaper and more convenient to use nowadays.

The respondents also communicate to their relatives and friends abroad through mobile phones and through the Internet. A few of the respondents uses snail mail to send birthday cards and small packages. Often times than not, their relatives abroad are the ones who call them. They only call if there is an emergency.

Major mobile phone carriers have strong presence with GPRS and EDGE technologies. A mobile phone carrier is now offering fixed wireless broadband service via wireless local loop technology called the Smart Bro.

The FGD also included a session on degree of knowledge of the respondents on computers and the various uses of computers including internet use. This session is important in assessing the diffusion of technology and how the respondents have assimilated the benefits of computers in their daily lives.

All the respondents know what a computer looks like and the basic uses of the computer such as word processing, spreadsheet, games, multimedia, among others. Of the ten respondents, only two have personal computer at home. The respondents have access to computers either through an internet café, work, or through the Community e-Center.

Of the ten respondents, one respondent is learning on using the computer in the Community e-Center while the rest learned it in their own offices or school.

Table 2 summarizes the responses on the uses of a computer. Responses of the respondents reveal that they have knowledge on what the computer is capable of doing and has an appreciation of the importance of computers in school work, business and personal use.

Table 2. Uses of a computer

- School work and research
- Word processing
- Internet Access
- Database or storage of data

The respondents are also familiar with internet technology. All of them have basic knowledge on using the internet such as accessing and using emails, using chat programs, and looking for jobs in the internet.

However, the respondents have little knowledge on the other uses of the internet such as the existence of portals in terms of e-government, elearning, ecommerce, online banking, among others. Table 3 summarizes the top responses on internet uses:

Table 3. Uses of the internet

- Communication through emails
- Surfing for information (news)
- Research
- Work purposes (Online job search)
- Access of their GSIS and SSS accounts

The fourth session of the FGD focused on attaining data on the ICT needs of the community focusing on government services. The session sought to identify the needs of the respondents pertaining to information access, education, online transactions, computer applications, government services, employment needs and business development needs. Table 4 summarizes the ICT needs of the respondents.

Table 4: ICT needs of the FGD respondents

Information/personal needs

- Use of email for business and personal use
- Use of computer to talk to loved ones abroad through chat or VoIP
- Use of internet to find people and friends, and look for jobs overseas
- Use of computer for research, word processing, encoding
- Information on news

Governance
- Online GSIS and SSS checking of loans and remittances
- Downloading of memos and applications
- DILG memorandum

However, the respondents pointed out that some online services of the government such as online checking of GSIS and SSS remittances should be regularly updated. Sometimes they encounter problems on using those kind of services as the server or the database is down or the information is outdated.

On the other hand, the respondents revealed that they prefer the online service compared with the traditional way of doing it. The service is faster and more efficient, cost effective and transparent to all citizens. On the online complaints service of the government, all the respondents are willing to use it given the confidentiality and security of the service.

The table below summarizes the kinds of complaints that the respondents wanted the government to hear and be addressed.

Table 5: Kinds of Complaints

- Abuse of power and authority of government officials
- Graft and corruption
- Peace and order
- Abusive employees ("ghost employees")

The CeC is an avenue for the community to avail of the online government services. This session sought to identify the services that the respondents avail from the CeC and their reasons on not going to the CeC. The table below summarizes the services that they utilize from the CeC.

Table 6 Services of the CeC

- Internet access for communication and research purposes
- Printing
- Internet for PRC and Board Exams Results and memorandums of DepEd
- Government Online Services

The table below summarizes the reasons of the respondents that will hinder them on using the CeC.

Table 7: Reasons for Not Utilizing the CeC

- They have internet in their own offices or homes
- Location of the CeC –far from their homes or offices
- Lack of computers

ANNEX 8 - Profile of Municipalities

1. **Nueva Vizcaya**

   Nueva Vizcaya is located in the heart of Northern Luzon, and is often referred to as the gateway to vast Cagayan Valley Region and the famous Banaue Rice Terraces. Agriculture and small businesses composed a huge portion of the economic activities of the town.

   The community also actively participates in community development and livelihood improvement. There are a number of people's organizations and civic groups in Nueva Vizcaya such as the Nueva Vizcaya Indigenous People's Cooperative, NV e-Society and other church based NGOs.

   Being the gateway to other provinces in the North, the infrastructure is relatively well developed. Major road networks are paved and well maintained, public markets are accessible via numerous forms of transportation, and all barangays are energized and have piped water supply. Educational institutions such as public and private elementary and secondary schools as well as universities are present in the area. They have three premier university schools: Saint Mary's University, Nueva Vizcaya State University and Aldersgate College. Major mobile carriers have strong presence in the area. Landline phones and broadband access are being provided by Digitel.

2. **Pinamalayan, Oriental Mindoro**

   Oriental Mindoro is being groomed as the gateway to the south through the nautical highway using the roll-on and roll-off service. Pinamalayan is a 2nd class municipality in the province of Oriental Mindoro.

   Pinamalayan is one of the region's flourishing municipalities. Colleges, business centers, ricemills and a lively market in the center of the municipality selling sundry goods – from farm-fresh fruits and cheap seafood, to the official delicacy – banana chips will be found in this town. Lodging options can be found at the town proper and there are white beaches in Banilad and Bongol.

   Pinamalayan lies in the mideast, an hour-and-a-half trip away from Calapan- the capital city of Oriental Mindoro. Major and road networks are well-maintained but there are still rough roads going into the town proper.

3. **Calamba, Laguna**

   Calamba is a 1st class municipality in Laguna and is known as the birthplace of the Philippine's national hero, Dr. Jose Rizal. It is also a popular tourist destination with more than 100 hot spring resorts in Brgy. Pansol. It is also a booming industrial center with industrial parks and business estates. The town is well-

developed with paved national and local roads. Infrastructure is continuousl being developed by the private sector.

4. Tanauan, Leyte

Tanauan is a second class municipality with a population of 48, 000 located along the eastern coast of the island of Leyte. The town is predominantly an agricultural community, but it is also an open location for heavy industries. Some industrial firms are already in place in Tanauan: the New Leyte Edible Oil factory, with Japanese investors for both domestic and overseas markets, the Pepsi Cola Plant that serves the entire Eastern Visayas, and Metallica Furniture's. It has ready access to industrial requirements. It affords sufficient water supply, power and sea, at neighboring Tacloban City.

The town is also known for sport skim boarding. National competitions are held every year in Tanauan with skim boarders coming from different parts of the world.

Tanauan has also bagged numerous awards from different government agencies. It won as the 2006 Most Business Friendly in the Visayas and in the Philippines, which is also can be attributed to the existence of the Community-e Center. Special Citation was given to the municipality last 2005 for its efforts in instituting good governance, particularly the establishment of an e-community and implementation of peace and order program to attract investors in the area.

ICT infrastructure in Tanauan is continuously being developed by the private sector. Postal and courier services have flourished given the strong influx of domestic and international remittances. The province is being serviced by wireline telephony offer by Bayantel.

5. Barugo, Leyte

Barugo is a 4th class municipality located in the northern part of Leyte. Eighty nine percent of the area of the town is being used for agriculture. Rice, coconut, cacao and fruit trees are some of its produce. A large portion is also used as a pasture area for grazing ground for livestock. The town also produces its own tuba wine and native delicacies like roscas. Roads going to the town are well-maintained, but there are still parts that are rough. Major mobile carriers are also present in the area.

6. San Remigio, Cebu

San Remigio is a 3rd class municipality located 109 kilometers away from Cebu City. The municipality is also one of the tourist destinations in Cebu. The town boasts of the pristine white beaches and clear waters and has a number of resorts including the famous Casa del Mar Beach Resort.

The community also actively participates in community development and livelihood improvement of munipality. There are a number of people's organizations who are active in managing marine protected areas and other community based resource management projects of the town.

Being a jump-off point to other islands in the North, the infrastructure is relatively well developed. Major road networks are paved and well maintained. Of the 78.16 kilometers linking the different parts of the municipality, 28.69 km was classified as concrete, the rest were classified as pave asphalt, gravel roads and dirt roads. The town also has two port facilities serving the Sta. Fe route and the fishing industry of the town. All barangays are energized and 70 percent of the barangays have piped water supply. Educational institutions such as public and private elementary and secondary schools are present in the area. Two non-formal education including a TESDA training center can also be found in the municipality.

7. Basak Pardo, Cebu

Basak-Pardo is a barangay located in the south of Cebu City. It has a total land area of 52 hectares and a population of 17,677, the latest data based on projections made in 2005.

It covers 14 sitios, which include:

List of Sitios (Basak-Pardo)

1. Kiosko	8. Pondoc
2. Bamboo Village	9. Xzoville
3. Villa San Pedro I	10. Baskio
4. Katangkungan I	11. Kalikasa
5. Kauswagan	12. Bayanihan
6. Kabulakan	13. Villa Zocate
7. Villa San Pedro II	14. Ulap

Some of its goods for exports include corn products and mushroom.

8. **Manolo Fortich, Bukidnon**

   The municipality of Manolo Fortich is the gateway to the province of Bukidnon. Manolo Fortich is predominantly an agricultural town producing a variety of agricultural products ranging from rice, corn, strawberries to pineapple produce from the vast plantation of Del Monte. Infrastructure has been continuously developing in the past years. Road networks are well-paved, trading centers and the marketplace are strategically located, electricity is stable and communities have access to safe and potable water. Information and communications infrastructure is also well developed. Major wireless mobile carriers have strong presence in the area including access for GPRS and EDGE networks. Landline phones and broadband access through fiber optic cables are being provided by the Southern Telecommunications Company (Sotelco).

9. **Maramag, Bukidnon**

   Maramag is a first class municipality in the southern part of Bukidnon. It is an agricultural town and hosts the premier agricultural school in Mindanao which is the Central Mindanao University (CMU).Sugarcane, corn and rice are the major produce of the municipality. It also produces mulberry which contributes to the country's silk fiber supply for exportation. Roads are paved as it served as the nodal point of the major national roads of the province to the different places in Mindanao. The municipality also has a number of mountain resorts with hot springs which contributes to the tourism earnings of Bukidnon.

10. **Balingasag, Misamis Oriental**

   Balingasag is a 2nd class municipality in Misamis Oriental. It is predominantly an agricultural town. Educational institutions can also be found in the town, three colleges, three high schools and one elementary school. It is also a jumping off point going to the island of Camiguin, which is a popular tourist destination. Nevertheless, Balingasag also has a number of beaches. Roads going to the town are well-developed. The marketplace and other business centers are strategically located within the center of the town. Major wireless carriers are also present in the area.

ANNEX 9 – CeC Services

Location of the CeC	ICT Structure	Core Group Component	Basic CeC Services	E-governance Applications		Website Management
				Basic Services	Website Content	
Nueva Vizcaya	Mandated ICT division (Provincial level)	Non Multi-sectoral (CeC staff, Media, IT Head)	1. ICT Training 2. Telephone Calls 3. Sending Fax 4.Printing 5. Scanning 6. CD Burning 7. Hardware/software installation 8. Maintenance and trouble shooting 9. Internet Access 10. Meeting facilities	1. RPTS 2. Treasury oper. Mgmt 3. biz permit licensing	1. has detailed barangay level information 2. provincial profile\ 3. directory of officials 4. Downloadable forms	ICT division manages the website
Pinamalayan, Oriental Mindoro		Multi-sectoral (women sector was also tapped)	1. Basic computer tutorial 2. maintenance of computers 3.Printing 4. Scanning 5. Internet Access 6. VoIP (yahoo messenger) 7.Computer repair	1. Bidding/ procurement	(based on old website, cannot view the new one) 1.Information on the requirements in the registration of the business 2. municipal profile 3. has downloadable forms	MPDO is in charge of website updating
Calamba, Laguna	ICT department	Multi-sectoral	1. Basic one-on-one tutorial 2. Video transfer 3. Video Editing 4. Encoding 5. Internet Access 6. Telephone calls 7. Send fax 8. Scanning 9. Encoding 10. Online job search 11. Printing 12. Photocopying	1. Bidding/ procurement	Can't open the website. I'll ask pa Mr. Norman	Website was done by the CeC staff but was not part of the tasks of the CeC personnel

Location of the CeC	ICT Structure	Core Group Component	Basic CeC Services	E-governance Applications		Website Management
				Basic Services	Website Content	
Barugo, Leyte	ICT department-connected with MPDO	Multi-sectoral (the women sector was the only one not represented)	1. ICT Training 2. Computer tutorial 3. Printing 4. Photocopying 5. Encoding 6. Internet Access 7. Scanning 8. Online Job Search 9.VoIP/webcam 10. Meeting facilities 11. ID w/ scanned picture		1.blog content of the municipality 2. you need to login first to download government forms	1.CeC staff is the one tasked to in updating the LGU website 2. website is still linked with ncc
Tanauan, Leyte	IT unit	Multi-sectoral (all sectors including the women are part of the core group)	1. ICT Training 2. Encoding 3. Printing 4. Sending fax 5. Online Job Search 6. Internet Access 7. Photocopying 8. Scanning 9.VoIP/webcam 10.Telephone Calls 11. Meeting facilities	1. eservices ??? 2. bidding/ procurement 3. RPTS 4. VoIP	1. Information on requirements for application of birth certificate, marriage and death certificate can be seen in the website 2. Has links to other govt agencies 3. Complaints can be posted online through the guestbook 4. currently developing a database-driven website 5. tourism information 6. municipal news	CeC develops and updates the website
San Remigio, Cebu	No ICT department	Not multi-sectoral (LGU and academe-part of the core group)	1. ICT Training 2. Games 3. Telephone Calls 4. VoIP 5. Sending fax 6. Internet Access 7. Printing 8. Encoding 9. Scanning 10. Online job search 12. video showing 13. souvenirs/ programs/ invitations 14. cd burning	1. bidding/ procurement 2. VoIP 3. Online job search	1.Tourism information 2.free VoIP call in the website 3.has links to other govt agencies 4. downloadable govt forms 5.online forum (constituents can post their complaints)	CeC staff updates the website used

Location of the CeC	ICT Structure	Core Group Component	Basic CeC Services	E-governance Applications		Website Management
				Basic Services	Website Content	
			15. card printing			
Maramag, Bukidnon	No ICT department	Composition of core group (DTI, DANCOR, CMU-academe, SB, accountant)	1. ICT Training 2. Telephone calls 3. Sending fax 4. VoIP 5. Internet 6. Photocopying 7. Encoding 8. Scanning 9. Online job search		1. Tourism information 2. Municipal profile 3. Directory of municipal officials and offices 4. Municipal news 5. information regarding requirements for bidders	1.CeC staff updates the LGU website 2. uses mambo in website development
Balingasag, Misamis Oriental	No ICT department	Multi-sectoral (no representative from the women sector)	1. ICT Training 2. Printing 3. Scanning 4. Internet Access 5. Photocopying 6. Telephone calls 7. Sending fax 8. Encoding 9. Online job search 10. video showing 11. games 12. meeting facilities	1. RPTS 2. Treasury oper. Mgmt 3. biz permit licensing	1. blog content of the website 2. municipal profile 3. pictures of historical sites	1. ncc website 2. uses mambo in website development 3. next month- launching of their new website