

Bridging the Information Divide

A Philippine
Guidebook
on ICTs for
Development



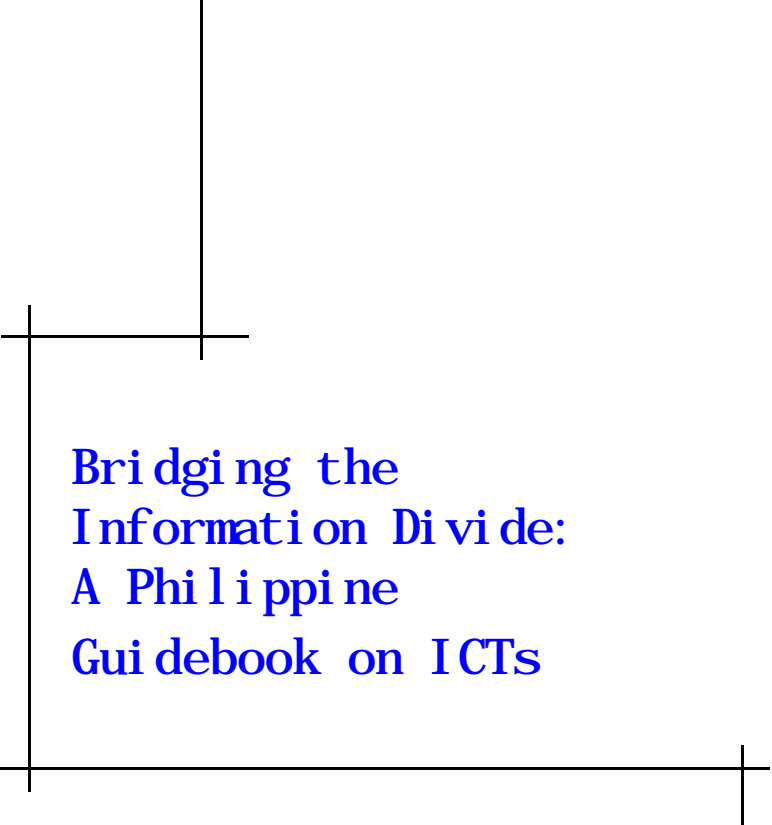
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A Philippine
Guidebook on ICTs**

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Introduction

The passage of the E-commerce Act in 2000 has put pressure on organizations, especially government units, to computerize their systems and provide more electronic services to their clients and constituents. Furthermore, with globalization, economies are becoming more knowledge-based and information-driven. To survive and be competitive, access to information and communication technologies (ICTs), whether basic or advanced, is crucial.

This guidebook was developed to raise awareness and appreciation among development practitioners, community organizations, local government units (LGUs) and ordinary people on the role of information and knowledge in society. It also puts into perspective the role of ICTs as enablers and places information at the center of its discussion. However, when discussing ICTs in this guidebook, a broader and more inclusive definition will be used. ICTs could refer to radio, television, telephone, mobile phone,

computer and the Internet, among others. The guidebook reminds people that ICTs are only tools, and do not guarantee the success of organizations and communities.

This guidebook is also intended to help local leaders in planning strategies for tapping different ICTs to bring information to people who are most deprived of access to it. Increased access to vital information will hopefully open new opportunities, and transform the lives of more people.

Last, this guidebook also provides some narrative descriptions of stories, cases and local initiatives in tapping ICTs for local development. These anecdotes and learning experiences are intended to capture some of the local knowledge that has been generated in our brief experience in documenting uses of ICTs for development. Hopefully, they could encourage and inspire other people to develop better strategies for bringing information and knowledge to the average Filipino.

The Role of ICTs in Development

There are various views about the impact of information and communications technologies (ICT) on society and development. On one side are the optimists who anticipate that ICTs will bring opportunities and development. They argue that to keep pace with development a country must adapt to the rapidly developing information economy. On the other side are skeptics who caution about the widening gap between the rich and the poor because of the differences in their capabilities to access information through ICTs.

It is feared that these differences leaves out the majority from the electronic flow of information.¹ There are also those who say that access to ICTs may be irrelevant to the poor and could impact negatively on the culture and lives of people. The more pragmatic view, however, sees the future as being somewhere in the middle, with varied effects in different groups and regions across the world.²

Are ICTs Necessary?

But, are ICTs necessary in the first place? Is the so-called information society what people want? Could it hasten globalization and bring the end of other cultures and languages, as some people fear?

To understand the necessity for ICTs, one must first answer whether the provision of this service is basic to the survival of the community. Basic services are “those activities that lead to the satisfaction of ‘basic needs.’” Basic needs range

from the “minimum physiological needs” to a set or package that cover (a) needs which pertain to the basic necessities of life, such as food, water, clothing, fuel; (b) needs which enhance the general welfare of the people; (c) needs which improve access to the means of production and economic opportunities, such as natural resources, capital (including technology), employment opportunities and income; and (d) needs which give a sense of security and freedom for decision making, such as human rights, political participation, social security, social defense and rule of law.³ Based on this characterization of basic needs, ICTs can be viewed as instruments that help enable people to satisfy their basic needs.

Still, to the majority who have long been marginalized, the issue of access to information and ICTs may not strike a feeling of urgency. For one, ICTs are luxuries compared to other needs like food, water, electricity, healthcare and education. Would resources be better spent on these critical needs? Why would someone place a call when they could just as easily write? Why is there a need for computer when a typewriter could manage just as well?

The idea that societies have survived over time even without ICTs and thus need not change does not take into consideration the fact that societies, like all organizations, exist in an environment that is constantly changing. While ICTs may not be in the category of basic needs, the

value society places on these commodities has changed over time because of their growing scarcity and utility to people.

Information as Asset

It is in the context of environmental change that information has become critical to today's world. With a lot of resources that are becoming scarce, information on how to access and use them more efficiently has become important. The same argument holds for the limited opportunities that people, organizations and countries compete for. More reliable and accurate information and knowledge allows people and organizations to be more productive, effective and efficient. Information and knowledge expand the choices on which decisions are made and assist in poverty alleviation.⁴ They have become useful assets for development.

Because of this, access to ICTs is vital in the development of many countries. Emerging policy environments and the spread of new but cheaper methods of ICTs have made access to information more diffused. Its pervasive effects are seen to have implications for the labor market, education, healthcare, cultural and political awareness, governance and social cohesion.⁵

ICTs Expand Opportunities

Access to ICTs can expand opportunities.⁶ This idea is based on the fact that people and organizations deal with information in many of their daily activities. All organizations handle, deliver and process information in making decisions, developing plans, giving orders, and informing other people. Oral and written communication flows between and

among people and organizations. It could be transmitted through the phone, fax machine, computers, or through the "grapevine". There will be greater efficiency, better decisions, and more effective use of resources if more accurate and reliable information can be sent more rapidly to the people who need them. This is what ICTs offer. Access to ICTs is about expanding people's choices and not about making choices for them.

As such, ICTs could be a conduit for delivering basic services like healthcare and education. It could help maintain and build social capital by keeping people in contact and create networks of individuals with the same interests. It serves as a means for transferring different resources, both financial and knowledge-based. It is also dramatically less expensive, less time consuming and less dangerous than the physical transportation of people and information.⁷

Groups who anticipate these benefits want countries to adopt appropriate policies to take advantage of these opportunities. They envision that rapid advances in ICTs could be the answer to bridging the gap between the rich and poor. Advocates highlight the fact that newer ICTs, such as the Internet and mobile telephony have expanded and have been accessed at a faster rate than previous technologies like the television and telephone. Thus, they foresee less developed countries as "leapfrogging" into the information age.⁸

The Promise of Electronic Governance

Electronic governance, or e-governance, refers to the use of information technology in reinventing and transform-

ing the way public services are conducted. It is consistent with and a logical extension of the concept of reengineering, which relies heavily on information technologies to dramatically change and improve existing processes.⁹ E-governance can therefore play a significant part in the reinvention of government in order to meet customer needs and develop more anticipatory and decentralized governments.¹⁰

ICTs will impact on the way services are delivered, information is retrieved, plans are made, and local governments are run. ICTs already allow people in some countries to file their tax returns online and obtain documents like birth, marriage and death certificates, without having to physically travel to the government agency assigned. In the Philippines, computers are also used to facilitate civil service examinations and process drivers' licenses, while passports and birth and marriage certificates can already be processed via the Internet (See Box 1: E-Services@gov.ph).

Moreover, ICTs are useful for obtaining needed data from the public. In Africa, bushmen have been taught to use a cyber tracker by clicking on icons which are linked to a Geographic Information System (GIS) that helps the state monitor its animal population.¹¹ School children in Idaho, use a similar technology is used in to map noxious weeds in their community.¹² In local governments, where 70 to 80 percent of the work involves land or geographically related issues, investment in good ICTs is needed to support land-related decisions and help manage government services.¹³ Grounded information like these are helpful in propagating policies and justifying programs.

It also illustrates ICTs' universal application, be it in developing or in developed countries, and by young and old alike.

At present, e-governance initiatives are looked upon as providing options for performing processes more efficiently. This is similar to how people can do bank transactions via automated teller machines (ATM) while also having the alternative to deal with the teller over the bank counter.

The foregoing clearly imply that providing universal access would be crucial to the success of development initiatives that use information technology to deliver public services.

Several countries already recognize this, as reflected in their policies on providing universal service or universal access to ICTs. These programs are shaped by government policies and by the strategies and capacity of the private providers.

However, the question still remains whether everyone is provided with the same access to ICTs or have the capability to use them. Any inequality that favors those who are already advantaged may just lead to the expansion of existing social differences.

Bridging the Divide

The pragmatic view of ICTs and development focuses on the "digital divide" between those who have access to ICTs and those who don't. This can be seen as a divide within a country, between the rich and poor, male and females, urban and rural, educated and less educated, etc. It can also be a divide between countries, and generally refers to the digital divide between industrialized and developing countries.¹⁴ This divide is seen

Box 1: E-Services@Gov.ph

The following are some local e-services already provided by the Philippine Government in the Internet. The actual links could be accessed at www.gov.ph/eservices/default.asp.

Bureau/Department	E-service
Advanced Science & Technology Institute	Agency registration for the .GOV.PH domain
Bureau of Customs	Online cargo booking, customs clearance, payment of taxes, duties and other fees
Bureau of Internal Revenue	Filing and paying taxes online Applying for a Tax Identification Number online
Commission on Audit	Online facility to report fraud, waste, abuse and mismanagement of government funds Online queries related to government financial transactions, accounting and auditing
Department of Budget & Management	Provides access to the government's electronic procurement system
Department of Energy	Online Contractor's Permit Application
Department of Foreign Affairs (DFA)	Passport renewal application and application verification
Department of Trade and Industry	Applying for a business name online and other services Registering as an exporter or buyer Filing consumer complaints
GSIS	Online access to membership information and claims
National Bureau of Investigation	NBI services and online complaints
National Statistics Office	Online application for civil registry documents (Birth, marriage and death)
PAG-IBIG Fund	Housing loans for Overseas Filipino Workers
Philippine National Police	Submitting intelligence reports, requests for assistance and filing complaints
Securities and Exchange Commission	Online queries regarding SEC registration
Social Security System	Online access to membership contributions and loan eligibility

to increase unless pro-poor ICT strategies are developed. This broader perspective sees access to ICT as a more complex system that affects social, political and cultural issues aside from the economic.

Money, human capital and the proper economic environment are prerequisites for communities to benefit from the opportunities that ICTs offer. The lack thereof slows the adoption of newer information technologies in most developing countries.¹⁵ The slow adoption of new technologies in some communities widens the division between the elites and the poor and the differences between urban and rural areas.¹⁶ This could lead to more inequality and increased economic and social polarization.¹⁷

The limited evidence that exists supports these fears. Links between ICTs and progress have not been proven. Initial studies even show that information technologies can cause substantial increases in inequality as a result of greater demand for more educated and skilled labor and less for unskilled labor, as well as the new technologies substituting for people.¹⁸ For instance, the introduction of computer aided design (CAD) and manufacturing has caused unemployment in traditional mass production processes.¹⁹ Numerous studies have failed to find a positive relationship between information technology and productivity, and have even found that technology only substitutes for other capital goods to produce roughly the same amount of goods and services.²⁰ As such, developing countries may actually be at a great disadvantage, since their most abundant and salient resource is labor, which for the most part exhibit low levels

of literacy and health.²¹

Investing in ICTs

While some hypothesize that the positive benefits of these technologies take time to form and be felt,²² the rapid obsolescence and turnover of these technologies could prevent people from actualizing an increase in productivity. This is because technological change usually occurs much faster than the pace of social and cultural change.²³ This slows the ability of society to exploit them.²⁴ As a result, many nations have had difficulties integrating new technologies into existing institutional structures. Development practitioners need to balance the need to keep up with the technologies with the costs, and ensure that social and cultural patterns are not drastically affected and resistance to change is manageable.

With the rapid development of ICTs the last two decades, many are led to believe that society and organizations should be able to keep up. “Leapfrogging” falls under this overall belief. This may not be practical nor sustainable, however. People easily fall into the problem of having “tunnel vision” and fail to see the social implications of the changes that ICTs bring.²⁵ In most cases, the ramifications of a new technology are overlooked since the primary focus is on technological innovation, not commercial applications or long-term economic development. These issues directly impact the selection of new technology. Selection criteria for new technology must include the technology’s application, projected life cycle, its costs and payback in terms of useful life, and its social, political and economic impact.²⁶

Crucial to any policy on the adoption

of ICTs, therefore, is the ability to striking the right balance between investing in new technologies and overcoming their inevitable obsolescence. The rapid rate of change does not have to be an obstacle to developing countries nor something to be dreaded. Technological obsolescence should not be equated with operational obsolescence. In fact, “obsolete technologies” can be acquired and utilized by developing countries as a springboard to newer—though not necessarily state-of-the-art—technology. Some even suggest delaying ICT investments as a way of cutting costs while reducing the chance of being saddled with inferior technologies that quickly become obsolete.²⁷ While this idea goes counter to the idea of “leapfrogging” technologies, it still recognizes the importance of good information systems. This is a practical view to have, considering the limited resources at the disposal of developing nations who could ill-afford to regularly upgrade its information systems given other development priorities.

The Human Factor

Moreover, information systems and the technology that comes with it do not exist in a vacuum. They are not limited to the software and hardware, but includes the people who use them and the information they need. It is integrated with other systems, more importantly social and cultural systems that must embrace it to make it work.²⁸ Therefore the question of providing access goes beyond the question of affordability and geographical accessibility. Access to ICTs should not begin and end with the

physical provision of facilities, but rather, should include the value people place on these instruments and their capabilities to use them.

Policies on universal access to ICTs should logically begin with the information requirements of its users. Designing information systems should be done in close coordination with the users and environment in which it is applied.²⁹ It involves understanding the nature of information, the current information systems and the information needs of the organization or community being studied.³⁰

Summary

In sum, both the optimistic and the less optimistic views support the proposition that access to ICTs is crucial to development. Information technologies have become so diffused in many social and economic activities that it cannot be ignored. The provision of ICTs is important because it expands people’s opportunities. Giving access and helping people learn to use them is crucial to prevent the expansion of the gaps between the rich and the poor.

The move towards e-governance is a reflection of the increasing role that information plays in the world today and in the future. It highlights the need for development practitioners and governments to understand the role that ICTs have in delivering basic services. The challenge for universal access policies on ICTs would be to make sure that it does not benefit a selected few, but that it provides equal opportunity for everyone.

The Current State of Access to ICTs in the Philippines

“Information and Communication Technology (ICT) will play a key role in the country’s development thrust. ICT has wrought swift and sweeping changes in the global socio-economic order. As we look towards the information age, we must understand the implications of these changes on our society so that together we can map out a sound strategy not only for survival, but one for success in this century. I.C.T. and more specifically Internet technologies, are changing the way people around the world communicate, live, learn, play and work.”³¹

-President Gloria Macapagal-Arroyo

President Gloria Macapagal-Arroyo’s statement on the role of information and communications technology (ICTs) is illustrative of how ICTs have entered the language of development in the Philippines.

In the 1987 constitution it was stated that “the State recognize the vital role of communications and information in nation building” (Art. II, Section 24). This role can be contextualized in view of the country’s geographic location and socio-economic situation. The Philippines is composed of over 7,000

islands, and ICTs play a crucial role in linking people across the archipelago. Also, with over 4.83 million Overseas Filipino Workers (OFWs), there is the need to keep migrant Filipinos in touch with their families in the country. This is aside from the need for Filipinos to interact with other cultures, societies and nations, especially since the country is not geographically connected to the rest of Asia.

Thus, in 1990, the Philippines prepared a twenty year National Telecommunications Development Plan (1991-2010). It listed some of the potential benefits that telecommunications services provide, namely:

- a. Reduced transport cost and energy consumption
- b. Reduced isolation of remote areas
- c. Improved response to national and personal emergencies;
- d. Improved resource usage;
- e. Improved efficiency of freight transport;
- f. More efficient ordering, collection, and distribution of agricultural and fishing

- products, particularly perishable products;
- g. Better financial control;
- h. Improved feasibility of organizational decentralization;
- i. Additional foreign exchange earning from export business aided or made possible by improved telecommunications;
- j. Reduction in the need for personal travel;
- k. Maintenance of family ties;
- l. Provision of health and education services to outlying areas;
- m.Reduction of migration from rural to urban areas.

As such, the diffusion of knowledge and information has been an acknowledged strategy in nation building and for better governance. This is why the policy framework used by the government is geared towards “dispersing ICT capabilities across a broad range of economic activities and income groups ... And as a parallel social goal, ICT shall be harnessed to bridge the digital divide among different regions and communities in the country.”³²

The government believes that the country possesses significant comparative advantages in ICTs because (i) the Filipino workforce is English-speaking, highly educated, easily trainable, and skilled with a growing track record of successful ICTwork; (ii) the country has a basic policy environment that is right for business; (iii) the government is committed at the highest levels, with strong private sector support in the pursuit of a common ICT agenda; and (iv) Filipinos

have entrepreneurial abilities suitable for the globalizing economy.³³ As such, the Medium Term Philippine Development Plan (MTPDP) 2001-2004 says that “technology is the foundation of the Philippine’s future economic development and the Philippines shall use ICTs to leapfrog into the new economy.”³⁴

How well the country’s comparative advantage translates to actual development is another issue altogether. The uneven level of development in the basic infrastructure of telecommunications in the country might contribute to an information divide between urban and rural areas in the country. This inadequacy in the country’s telecommunications infrastructure is often cited as one of the main deterrents to (i) increased foreign investment, and (ii) investments in less developed areas in the country (DOTC, 1990). In 1989, of the approximately 1600 municipalities in the country, only 35 percent were considered served, and 65 percent were considered unserved.³⁵ By 2003, only 58 percent of the municipalities were considered fully served, with the rest (42 percent) still underserved or unserved.³⁶

Despite this, a number of factors could be cited which has led to an increase in the access to basic communication systems, namely: (i) establishment of public calling stations; (ii) liberalization of the market and increased competition; and (iii) advancements in the development of ICTs.

First, access has increased as a result of state provision of ICT services in areas that had no basic telecommunications facilities whatsoever. Republic Act 6849 (RA 6849), or the Municipal

Telephone Act of 1989, called for the installation, operation and maintenance of public calling offices (PCOs) in each and every municipality of the country with no telephone service by 1992. Under this law, the Municipal Telephone Projects Office (MTPO) was created to administer and facilitate the establishment of these PCOs. Five hundred fifty eight (558) municipalities and 37 provinces were assigned to the private sector and the rest were to be serviced by the MTPO. Areas which the private sector either leave unattended or abandon, also became areas under the MTPO. Funding for government projects under the MTPO were obtained from bilateral foreign sources.³⁷

Second, the opening of the sector to competition through more liberalized policies to increase private sector participation has also helped in speeding up the diffusion of ICTs. This was spelled out in the National Telecommunications Development Plan (NTDP) for 1991-2021 and the subsequent policies that followed. On February 24, 1993, President Ramos signed Executive Order No. 59, acknowledging that “there (was) a need to enhance effective competition in the telecommunications industry in order to promote the State policy of providing the environment for the emergence of communications structures suitable

to the balanced flow of information, into, out of and across the country.” This was complemented by Republic Act 7925 (RA 7925), known as the Public Telecommunication Act of the Philippines, which was enacted in 1995.

It lifted legal and procedural impediments for investment in the sector. Also, to speed up the installation of more lines, a service area scheme (SAS) was built into the government’s basic telephone program (BTP) which required that cellular mobile telephone service operators to install 400,000 landlines in five years upon implementation of the law. It also required international gateway facility operators (IGF) to put up 300,000 landlines in three years. This was done to fill-up the underserved demand for basic telephone service in the country.³⁸ Because of these policies, however, some analysts see the local telecommunications industry as only being “semi-open” market with “limited competition” because these requirements on dedicated geographic areas restrict national competition and enable PLDT to exert its market power via its

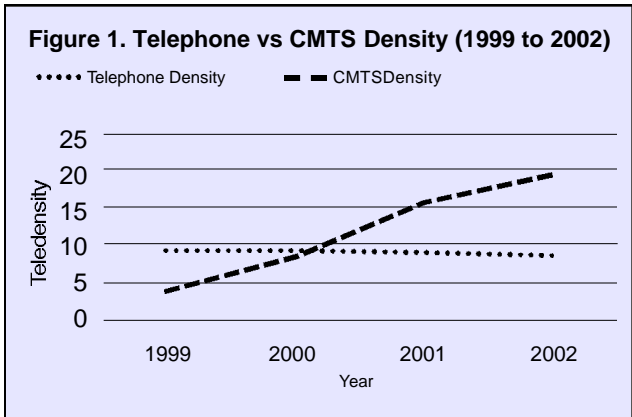


Table 1. Cellular Phone Growth from 1992 to 2001

Year	Telephone lines	Telephone subscribers	Cellular subscribers
1992	740,033	—	56,044
1993	—	—	102,400
1994	—	—	171,903
1995	1,409,639	—	493,862
1996	3,352,842	—	959,024
1997	5,775,556	—	1,343,620
1998	6,641,780	2,512,113	1,733,652
1999	6,811,616	2,892,333	2,849,880
2000	6,905,692	3,061,387	6,454,359
2001	6,938,762	3,315,096	12,159,163
2002	6,914,235	3,310,933	15,383,001

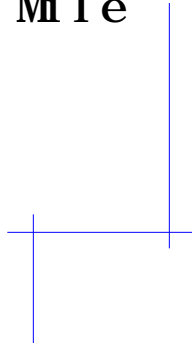
Source: National Telecommunications Commission (NTC) (other portions no data), although cellular subscribers may be overstated since one person may own one or more SIM.

nationwide franchise.³⁹

Third, advances in ICTs have effectively reduced the cost of providing communications access to distant locations through satellite, microwave and other mobile communications systems. It has altered the telecommunications landscape in the country and made the telephone industry, long seen as a natural monopoly, adhere more competitive

tenets. For instance, the number of cellular phone users in the country today has risen so fast that it has already exceeded the number of landline subscribers (refer to Table 1 and Figure 1). According to the NTC, while subscription to wirelines was only 4.26 by the end of 2001, subscription to cellular mobile telephone services (CMTS) had already reached 15.61.

Local Strategies for Bridging Information to the Last Mile



From a technical viewpoint, people in government and in the private sector may claim that there is universal access to ICTs in the Philippines. For instance, with satellite technology, every nook and cranny of the country should be able to access the Internet and other voice communications. Likewise, with respect to a national information infrastructure, the Department of Science and Technology (DOST) would assert that the backbone is already in place, and the remaining challenge is to link the “last mile” to this backbone.⁴⁰ While there is no need to “reinvent the wheel,” people must first be made aware that the wheel already exists, for them to realize what is possible. The kind of information infrastructure to set-up in a community should consider the terrain, the population density, costs, and technologies available. It is also advisable to consider combining existing wireless, satellite

and landline-based options.⁴¹

Some agencies subscribe to the view that universal access to ICTs should pertain to universal access to the Internet. The Philippines’ highest information technology policy making body, the Information Technology and E-Commerce Council (ITECC), for instance, has a vision to have “an e-enabled society where empowered citizens have access to technologies that will provide quality education, efficient government service, greater source of livelihood, and a better way of life.” A critical component of this vision is the provision of affordable Internet access to all segments of the population. To do this, the government plans to establish over 40,000 community e-centers in the country, or roughly one in each barangay.

But what is technically possible is far from the real state of access. Given the

resource limitations in developing countries, universal access of the real kind may not be realistic in the near future. Also, access in terms of the infrastructure does not necessarily guarantee access to the information and its corollary services. A more pragmatic approach may be to have intermediaries between those who have access to information and those who do not.

Mediating Information for Development

One view is that it is the “information” that is crucial, and not the ICT *per se*,⁴² and the challenge is to bring the information across to those who need it, despite the limitations to access to ICTs. For instance, while initially it was believed that more modern ICTs like the Internet will bring disintermediation between the client and the source of information, the opposite is actually occurring. The primary reason for this is the fact that there simply is too much information. Hence, social and technological intermediaries have a crucial role to play in bringing needed information to the “informationally-challenged”.

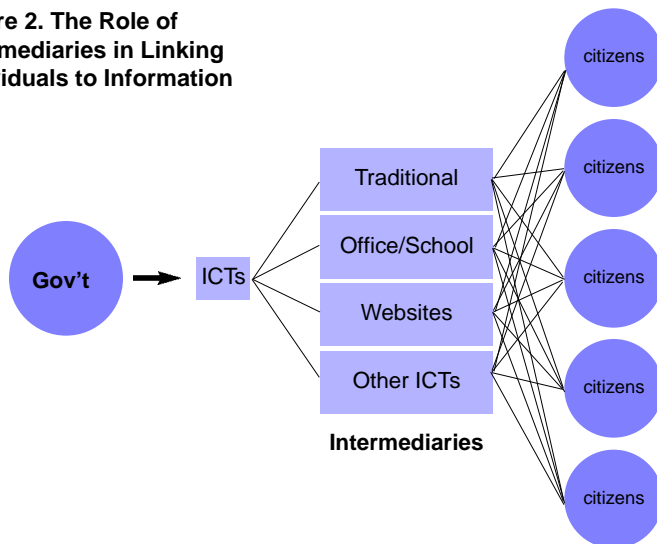
Intermediaries, are “go-betweens” that will help bridge the so-called information divide (see Figure 2). They may be real, and they may also be virtual. Their task will be to push and retrieve information originating from government and citizens and vice-versa. They may be located in traditional areas for social convergence like the church, school or office. They may also be in more modern places like gaming stations and Internet cafes. Intermediaries may also be the traditional avenues for which

consultations are made, such as non-governmental organizations (NGOs), community groups and religious societies. It may also be websites that people with access frequent, for these are potential links to information which government may want to push. Last, intermediaries may also use other ICTs that are more accessible, such as radio, TV, telephone and cellular phones, to deliver the needed information. Some local applications of this include agricultural extension work, voter registration, inquiry and payment of public services and disaster and emergency response. As such, the practical if not pragmatic view is to recognize that there are ‘indirect’ ways for accessing information.

In rural areas, for instance, the radio is most accessible and ubiquitous form of ICT. The Bureau of Agricultural Statistics (BAS) uses local radio to announce prices of basic commodities everyday. Likewise, the Land Bank has a marketing assistance program called “Palengke sa Ere” that airs from 5 to 6 a.m. and 6 to 8 p.m.⁴³ As for the use of more “modern” ICTs such as the computer, PH Domain provides a Q&A service, “Tanong Mo, Sagot Nila” with the help of experts in agriculture, medicine, law, banking, computers, women’s issues, etc.⁴⁴

Another way to address the access problem is through the use of social networks. Social networks help address the access problem on two fronts: (i) cost and (ii) capabilities. An example of how social networks help—overcome the barriers of cost is through cost-sharing. In areas where schools could not afford broad band access, for instance, privately

Figure 2. The Role of Intermediaries in Linking Individuals to Information



broad band access, for instance, privately owned internet cafés provide the service, as in the case of Pal-Isla Campus Café in the province of Palawan. To make access more affordable, some customers go in groups of three or four, rent one PC and share the cost. Similar cost-sharing occurs with cellular phone usage: those who do not own mobile phones keep multiple numbers (or access numbers) because they regularly use the cell phones of a network of friends to send text or short messaging systems (SMS).⁴⁵ Others share one cell phone, but own individual SIM-cards. Similar sharing of e-mail addresses occur.

Lack of capabilities to use certain ICTs, like e-mail and the cell phone, also prevent people from getting to vital information. Social intermediaries help to bridge this by accessing the information and transforming the information into a medium that the disadvantaged is capable of understanding. This may take the form

of simply printing out e-mail messages, or reading the information, or broadcasting the message over the radio.

In sum, access is not only about cost and physical access, it also involves the issue of demographic disparities and divides. Sadly, access to ICTs often reflect existing social disparities with respect to income, education, gender and age. While the ideal situation is for each individual to possess the capability and knowledge to use ICTs, this may not be a realistic goal. For one, individuals assign different values to the importance of ICTs and have varying capabilities to use them. Intermediaries are useful for bridging these social disparities.

Secondly, ICTs are not only about the Internet. Other media, such as the telephone, radio, and television, may be utilized as technological intermediaries for information from the Internet and other, more sophisticated ICTs, to reach more individuals. Local AM radio, for instance,

has been used by farmers in Quezon for distance education. Television, on the other hand, was the chosen medium for Kapwa Ko, Mahal Ko for educating people on health, as well as linking the poor to people who were willing to help in their health finances. The two-way radio is still a viable option during election campaigns and for mobilizing people in disasters and emergencies.

The Internet and mobile phones, on the other hand, are newer forms of ICTs, and people are just beginning to realize their potential for delivering development services. For instance, SMS has been used by some universities for information services like suspension of classes during inclement weather. In fact, according to people in the industry, SMS programs do not cost much, and would be self sustaining for the organization since users pay for their queries (see Annex A for some examples of government SMS-based services).

The Telecenter Concept

There are generally three means for getting access to the Internet, namely: (1) organizational, in which members are provided with connection through a local area network; (2) individual access, through a connection to ISPs; and (3) community access through connection in public institutions such as libraries, libraries, city halls, museums, and Internet cafes. The latter would include e-centers which, in theory, would approximate universal access.⁴⁶ The establishment of e-centers across the country is one strategy for bridging the so-called “last mile” of connectivity to information in the Internet.

Thus, one strategy to increase access to telecommunications services in rural areas is to establish a multipurpose telecenter. This approach has been successful in many parts of Europe in the 1980s and has mushroomed in various regions worldwide. The wide acceptance of the telecenter concept, however, has not been totally successful in all cases. A telecenter is designed to address specific community information needs and hence, no single telecenter model would be suitable for all.

A telecenter is a community-based facility that caters to the information and communication needs of the people. It provides information services using different intermediaries, tools to assist learning, and access to new forms of communication. Its primary objective is for local people in a remote area to have access to basic and affordable communication services that are appropriate to their capabilities and needs. The telecenter can be composed of a single computer, a public calling office (PCO), a huge workstation, or even a single mobile phone. In essence, the technology in a “telecenter” may translate to greater access to other services such as e-governance, information needs and research, communication with other people, and business-to-business transactions, among others.

The Information Technology and E-commerce Council (ITECC) proposes to brand all such initiatives simply as Community E-centers or CECs. They envision that these CECs will serve as alternative channels for delivering government services at a lower cost. It is also intended to augment existing government efforts with private sector and local community participation to improve band-

width affordability in remote areas through several deployment models.

What follows are some examples of local telecenter initiatives:

Philippine Council for Health Research and Development (PCHRD) Multi-purpose Community Telecenter (MCT) project⁴⁷

The PCHRD's telecenter project is among the pioneer projects in the Philippines that utilizes ICTs as a tool for rural development. Telecenters were initially established in four barangays in Mindanao.

Their MCTs render integrated services such as public calling offices, an Internet café, a computer processing center, library, and training resources center.

The MCTs, though, have encountered problems, including issues concerning sustainability. However, these have not made the government doubt the advantages of this approach. One option the government has considered has been to lease out its existing network of 672 PCOs to existing carriers and transform them into multipurpose telecenters with Internet facilities. In fact, the four pilot MCTs established by the PCHRD made use of TELOF's PCOs in Mindanao. This strategy is consistent with the idea of providing more local access points in public places. Examples of these access points include libraries, schools and other meeting places that are crucial for people who do not have access at home.

The e-Barangay Project.

Inspired by the Indian model, the e-Barangay Project seeks to provide access

to ICTs among unconnected and under-served communities, establish a one-stop information resource center using tested, state-of-the art methods of organizing, sharing and communicating information, and develop programs and applications relevant and useful to community needs. Such applications may encompass long-distance education, telemedicine, electronic commerce, assistance to small businesses and microcredit enterprises, trade, tourism and crafts, environmental management, new mechanisms for popular participation, and women and youth empowerment.

Also known as Barangay.Net, the project was undertaken by the Central Visayas Information Sharing Network (CVISNet), a Cebu-based private foundation, for local communities to make use of information resources through the Internet. The project involves government, private sector, and non-governmental organizations. It aims to develop and implement a flexible, local approach to community development using ICTs.

e-Barangay in Cebu

In pursuit of the e-governance thrust of government, a consortium of the leading lights of the ICT industry in Cebu, from government, private sector and civil society put together a project that was envisioned to bring ICT and related services to the level of the masses and place viable and cost-effective ICT facilities at the barangays.

It was piloted in eight barangays in Cebu City, namely: Basak-Pardo, Lahug, Apas, Hippodromo, Carreta, Luz, Kamputhaw and Mabolo. The project was built on the existing infrastructure,

initiatives and programs of government, civil society, and private sector organizations involved in the ICT sector in Cebu. Among them were the Central Visayas Information Sharing Network Foundation, Inc., the Ayala Foundation, Inc., the Department of Science and Technology, the Department of Trade and Industry, the Technical Education and Skills Development Authority, the Center for Industrial Technology Enterprise, the Philippine Information Agency, the Cebu City Government, the World Corps, Global Mind, Globe Isla Communications, Cebu Business Park and Neighboring Barangay Altruistic Alliance, Inc. and the RITECC.

The e-barangay's services range from that of a calling office, an Internet café, a computer processing center, a reading and training resource center and a place for people to interact. The e-barangay is a venue for creating barangay information, as well as subject-specific Philippine information, in particular those on health, education, agriculture and rural enterprise development.

e-Barangay In Escalante City.

The City Government of Escalante, Negros Occidental, on February 28, 2003, became the first Philippine city to have all its barangays virtually connected. Barangay telecenters facilitate inter-barangay coordination and allows residents to access the Internet and communicate instantly with friends and relatives all over the world at minimal cost.

This was made possible by the allocation of over P2 million for the computerization of all the barangays, telephone line subscription with Internet access, devel-

opment of city website with e-barangay portal, and online barangay applications.⁴⁸

Call Centers: Connecting with the Migrant Worker

Another important use of ICTs has been to connect people, especially family members. This has been especially significant in the Philippines, where millions of OFWs are sent to the Middle East and other parts of the world. Such migration has affected many families, where either the mother or father, or both, are absent from the home. Letters, e-mail, texting, and computer video, help in keeping the family together despite the distance. Some local NGOs like Atikha and Balikbayani, provide families of OFWs with access to videophones.⁴⁹

Similar to this, an example of government-private sector partnership with respect to tapping ICTs took effect during the U.S. led war against Iraq in 2003. The Philippine National Bank partnered with the country's telecommunications providers and the Overseas Workers Welfare Administration (OWWA) to establish "Tele-Ugnayan Centers." Call centers were set up in OWWA offices across the country and in affected areas in the Middle East. Over 3,500 families were connected using a combination of traditional landline telephones, state of the art video-conferencing facilities, and mobile telephones.

E-governance via Cellular Phones

The provision of cellular phones to remote barangays has also helped bring greater access to information in the country. The barangay captain of Igcabugao in Igaras, Iloilo for instance, no longer has

to trek to the municipal hall to talk with the mayor. Needs could be addressed through SMS (short messaging system) or actual calls. This, despite the absence of electricity in the barangay. To overcome the limitation, the batteries are charged in an adjoining barangay four kilometers away, or whenever village officials go to the town.⁵⁰

The cost of connecting Igaras' barangays was borne by the taxpayers. The phone has helped deter cattle rustlers and petty criminals because of easier coordination and monitoring of the local situation. The town's health center and ambulance could also be called upon more easily in case of emergencies. It also serves as the local barangay's pseudo calling station for a minimal fee and OFWs now have a more direct way of reaching their families.

Similar cases have been reported with respect to use of cellular phones for Bantay Dagat programs in Concepcion, Iloilo, that help in the safeguard of coastal resources, especially against illegal fishing methods.⁵¹

Cellular phone connections with the rural areas are also becoming more necessary given the shelving of the government's plan to put up landline telephone exchanges in every barangay.

I-Governance

Notably, the City of Naga has had a presence in the Internet as early as March 1996 (www.naga.gov.ph).⁵² Naga City is also home to the first local government-owned library in the country to provide Internet access to its clients, which is an example of a local public access place.⁵³ Even more encouraging is the LGU's proj-

ect of bringing governance closer to the people by making information about local governance more accessible to the citizens. Naga's "I-Governance" project makes use of technology through the city-website, Naga.gov.ph, which updates and informs the citizens on city services, financial and bidding reports, city legislation, investments data, statistics and the procedures in the local bureaucracy, among others.

The second component of the project involves residents who have no access to computers and other ICTs. For them, the city provides each household a guidebook, the "Naga City Citizen Charter" which contains step-by-step instructions on how to avail of key city services, and other information that may also be found in the city's website.⁵⁴ This, in essence, captures the previously-discussed idea that the information that needs to be brought to the citizen matters more than the technology. While a divide may still exist with respect to access to ICTs, at the very least, the gap with respect to information is not as wide.

Satellite and Wireless Connection

Batanes Connect

Batanes Province is composed of a group of islands in the northernmost part of the Philippines. It has relatively small population, and is often hit by typhoons. It is "underserved" in terms of telecommunication services. Since telecommunication companies were reluctant to invest in the area, a non-governmental organization (NGO) decided to help address the problem, the Ivatan Foundation for Development Communications, Inc. (IFDCI). The IFDCI was formed in 1997 to oversee and regulate the operations of

existing public calling stations in Batanes operated by PiTel. Its mission was expanded in 1998 to include other projects that would bring in new information and communication technologies, particularly e-mail and the Internet, into the Islands. This was the start of the conceptualization of BatanesConnect.

To make this project possible, the IFDCI negotiated with PH Domain Foundation, the social outreach arm of the local PH Domain Registry, for free e-mail connectivity and e-mail service. Realizing that the existing phone lines then were not capable of the data transmission required for Internet connection, a satellite link-up was considered a viable option. Telesat, a Manila-based satellite service provider, was tapped to help IFDCI develop a feasible model for Internet connectivity for Batanes. Similarly, a system of wires and cables to connect offices in Basco was not feasible because of typhoons; thus, the solution was a wireless system instead. Internet Connectivity was formally inaugurated on February 9, 2002.

The Batanes Internet Connectivity set-up utilizes a combination of satellite-based and wireless technology. In the absence of fiber optic backbones and telecommunication infrastructure, IFDCI uses a combination of satellite and omnidirectional antennas in setting up facilities for Internet access. A satellite dish in the Manila server is linked to another satellite dish in Basco via Mabuhay Satellite. The station in Basco then connects other centers and offices using a wireless system through omni directional antennas. It includes an intranet or wide area network with at least 16 private and government offices that has been set-up in Basco.

This kind of set up is ideal to islands and islets that are prone to annual typhoons like Batanes. Since fiber optics require huge amount of investments, this connection performs equally well at a lesser cost.

Wireless Local Loop Technology.

Wireless loop technology is used around the world to provide communications to far-flung communities where the cost of regular copper wire communications is prohibitive. Under this system, radio signals are used to transmit messages between phones and networks. In principle, it works like a cellular phone system, but at a lower cost and with fewer functions. One drawback, however, is that the technology also requires that the phones be plugged into electrical sockets, which may make it infeasible in many remote areas in the country. This kind of system has actually allowed the telephone to finally reach Sulat, Eastern Samar in October 2002.⁵⁵

SMS to Television in Classrooms.

The United Nations Development Program (UNDP), The International Youth Federation, the content provider Pearson, and mobile phone manufacturer Nokia, together have piloted a program that was launched on June 2003 that allows 40 elementary public schools in poorer areas in the Philippines to use SMS technology to order science videos in electronic libraries.

The videos can be downloaded to a digital satellite telephone receiver, recorded, and connected to a television in the classroom. The videos, however, are only meant to supplement and not supplant the traditional modes of learning, such as the textbook and other classroom activities.⁵⁶

Table 2: Options for gaining access to the Internet

Type	Distribution Method	Speed vs 56K modem	Drawback
Dial-up	Internet service providers (ISPs) use household telephone lines to transmit data from the Internet. A modem converts the data and the PC displays the information		Limited speed. Old phone cables tend to be less reliable
Digital subscriber line (DSL)	Turns digital signals of computers into sound waves and zaps them through the phone network	10x faster	Residents farther than 4.25 kms. from a central phone office probably can't get service
Integrated Services Digital Network (ISDN)	Phone line has multiple channels. It can accommodate a combination of 3 to 31 voice calls and/or Internet connections depending on the configuration	2x to 20x faster	Line vulnerable in power interruptions. It has two bills—one for phone and one for the Internet. ISDN modem is expensive.
Cable Modems	Data from the Net flows over the coaxial cable that carries TV signals. A modem splits the Internet data from TV data and directs the data to the PC and the PC correspondingly.	10x to 20x faster	Expert needed to set-up system. Bandwidth split among simultaneous Internet users.
Satellite	Satellites that beam TV signals can also transmit Internet data. The signals are collected on dishes, split off from TV signals, and routed to the PC.	4x to 8x faster	Most satellite services only one way. Complex set-up to send data back to the Net over regular line. Two-way services slower.
Fixed Wireless	Same airwaves used to beam wireless phone calls used to send Internet data. The signals are delivered from wireless towers, collected on dishes attached to the home, and routed to the PC	2x to 10x faster	Requires a clear and direct line of sight between the tower and a customer's location.

Adapted from: "A Broadband primer," BusinessWeek online (October 8, 2001); available from http://www.businessweek.com/content/01_41?b3752049.htm; accessed 8 August 2003.

All in all, the examples and cases presented above illustrate various technologies that can be tapped to communicate and gain access to information.

What follows is a short summary of the possible options local communities and LGUs can consider for gaining access to the Internet (refer to Table 2).

If one wants to be connected to the Internet, six of the 11 telecommunication operators in the country provide international Internet bandwidth. These are BayanTel, Digitel, Globe, Eastern, Philcomsat, and PLDT.) Furthermore, Internet Service Providers can also connect to three exchanges for supplying their national Internet traffic: Philippine Internet Exchange or PHIX (www.phix.net.ph), Common Routing Exchange (www.ph.net/core.html), or Manila Internet Exchange (www.etpi.com/manilaix.htm).⁵⁷

But is Access Sufficient for Tapping ICTs for Development?

The foregoing are promising social and technological models for achieving greater access to information and ICTs in the Philippines. However, for true development to be achieved, development workers should think beyond access, and consider how ICTs could be effectively leveraged to further develop communities (Refer to Box 1 for some proposal on using ICTs for Human Development).

It is important to start with the

people in the communities and ask: What information do they require? How can ICTs be incorporated with the way they communicate, live, learn, play and work? How will the opportunities opened by ICTs be made manifest to everyone in the country?

Box 1. Seven Proposals for Human Development Using New ICTs

1. Offer concrete solutions
Connectivity is not an ends in itself but a tool that can help find concrete solutions
What is important is the way it is used
Strengthen people's abilities to use the technologies to the full
2. Move forward at the pace of the community
Development takes time and works better when done with the timing and pace of the communities involved
3. Learn from mistakes
Learn from what we are doing right and wrong to improve
4. Localize globalized communication
Build on what already exists instead of starting from scratch
But it must be firmly rooted in the people's realities
5. Work with a gender perspective
Take account of the differences that exist within societies
6. Let people speak with their own voice
What is often missing is the information about the communities
The problem with language (content is often only in written form and in English).
7. Generate new knowledge
Accumulating information is not the same as generating new knowledge
Education provides the greatest opportunities

Adapted from Gomez and Casadiego (2002), 'Letter to Aunt Ofelia'



Financing Access to Information

A lot can go wrong in the implementation of an information systems project. A large part of this is attributable to gaps between the reality and the design of the program. The project's success is often dependent on reducing the gap between the reality and its design. The previous sections were presented in order to reduce this gap and increase the chances that the project will succeed and be sustained.

Often, however, after knowing the opportunities, benefits and options available, the next question that local leaders ask is "How much will it cost and where do I get that kind of money?" These questions pertain to the problem of financing.

If a project is to be financially sustainable the lifetime costs of the information system must be less than or equal to the financial resources available. Should the resources be less than the projected cost, the community has two options to address the gap⁵⁸:

1. Change the financial realities

Changing financial realities could involve a number of options:

a. Consider selling public informa-

tion.⁵⁹ For instance, the City Government of Puerto Princesa charges researchers a minimal fee for copying sections of their development plans. Also, a popular service application has been to use short messaging systems for information that is routinely asked. This has been done by the social security system for updates and inquiries about contributions and loan, and a number of schools provide the service for parents and students who would like to know whether classes have been suspended due to inclement weather. Callers or "texters" are normally charged P2.50 per inquiry and 30 percent of this normally goes to the organization providing the information.

b. Consider how revenues will be maximized through increased efficiency. The City of Caloocan views their investment in GIS, as a cost-benefit issue. Mayor Malonzo also decided that his foremost priority was to improve the city's revenue generating capabilities. This was partly to justify the project's "investment" nature – that it yield financial and non-financial benefits that were greater than its

costs. Since real property taxes were the largest source of locally generated revenues, this was the area that he prioritized in the computerization program. As he explained, “ we did not see the resources we have put into our IT program as costs, but rather as investments... financial and non-financial benefits (must be) far greater than the initial project costs. This was the same consideration we made when we decided to invest in GIS (Geographic Information Systems). We made sure that the benefits to be gained outweighed the required investments.” Within the first year of the implementation of the computerization program, its real property tax collections increased by 56 percent, from P171 million in 1995 to P256 million in 1996. Its automated revenue system also helped the City double its annual real property tax collections in only four years, or an average annual increase of 22.5 percent from 1995 to 1999. This increase was also due largely to ability of the new system to accurately identify delinquent accounts which came to P600 million in 1996 and 1997 alone.

c. Consider getting external financing from government, private sector or from international donors. The communities or LGU may allot funds for the information systems project and provide subsidies to it. But this is only one way to finance the projects. Other ways are described below:

d. Consider charging clients and users. Some of the telecenter pilot projects of the DOST charge its clients a minimal fee for using the computers

and also for accessing the Internet. They are also charged for printing costs and for outgoing calls.

2. Change the financial design

Changing financial design means reducing the costs of the new information system until they meet available resources. It generally involves scaling down the functions or objectives of the new system.

Again there are a number of options that can be considered:

a. Use of government bargaining power. Government’s bargaining power and economies of scale can be used to drive down costs by purchasing for groups of public sector organizations. For instance, the fact that government intends to set-up 40,000 telecenters can be used as a leverage for to lower the cost of setting them up, especially if it will involve purchase of similar basic equipment.

b. Inter-agency collaboration. Collaboration between organizations can take many forms.

For instance, they could have one-for-all contracts, where a contract negotiated by one public agency can be used by other public sector organizations, rather than starting from scratch with a vendor. They can also work together and share the infrastructure.

The PREGINET project for instance is a national backbone of the government that government units can tap for interconnection and is currently being used by many universities around the Philippines as their primary network.

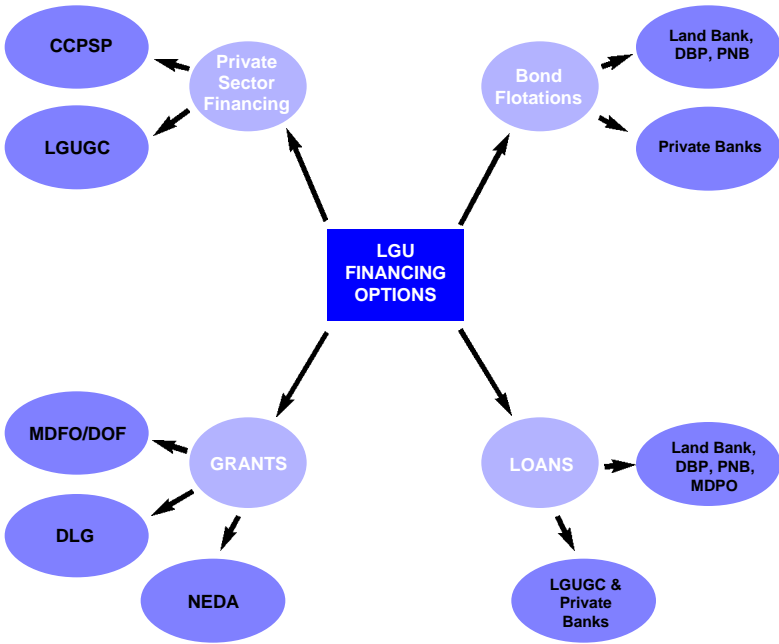


Chart 2. Financing Your Project

c. Public-Private partnership. With the increased interest in “pre-paid” telephone services, TELOF, for instance, is considering leasing many of their unused line capacity to the private sector. TELOF does not have the resources (or rather the needed government authorization) to buy the needed hardware to make their system offer such services. However, such funds can easily be leveraged from the private sector. A new revenue stream could easily be gained through this service and maximize idle line capacity.

d. Donations. There are various foundations and groups who are now into IT-related projects. In fact, the

telecenters projects in Cebu and Escalante City were partly funded this way.

e. Proper project management. Doing a careful study of your options is one way for avoiding project overruns, and wasteful use of resources. This could be done by following basic technical, economic and social feasibilities of the project. One can also consult government agencies like the National Computer Center (NCC) and the Applied Science and Technology Institute (ASTI), to get a proper assessment of your projects’ basic requirements and the options that may be available for your situation, such as “open-source” software.

potential sources of

<p>CCPSP</p>	<p>PRIVATE SECTOR FINANCING</p> <p>The Coordinating Council for Private Sector Participation (CCPSP) can help obtain financing through private sector proponents. These include BOTs, joint ventures, concessions, leases, management and service contracts. Contact Person: Mr. Noel Eli B. Kintanar, Executive Director, Coordinating Council for Private Sector Participation, 6th Floor, EDPC Bldg., Bangko Sentral ng Pilipinas Complex, Roxas Blvd., Manila. Tel. No. (02) 521-4274, Fax No. (02) 521-4285. E-mail: lguprimer@ccpsp.org Website: http://ccpsp.org.</p>
<p>LGUGC</p>	<p>LGU Guarantee Corporation (LGUGC), a private guarantee institution composed of DBP and member banks of the Bankers Association of the Philippines, can help LGUs obtain private sector loans or help sell their bond flotations. Contact Persons: Mr. Jesus G. Tirona, President and Mr. Vicente A. Laza, Senior Vice President, Local Government Units Guarantee Corporation (LGUGC), 28/F Antel 2000 Corporate Center 121 Valero St., Salcedo Village, Makati City Tel. No. (02) 750-4166 and 845-3387, Fax No. (02) 888-4217. Email: jgtirona@pacific.net.ph or vlaza@pacific.net.ph.</p>
<p>Land Bank, DBP, PNB, Private Banks</p>	<p>BOND FLOTATIONS</p> <p>Bond Flotations are another source of financing for LGU projects. You can contact Private Financial Advisers as well as Land Bank, DBP and the PNB for assistance on bond flotations. Their contact numbers are listed in Step 2 and Step 3. The LGUGC, through its member Private Banks and investments houses, can also help LGUs finance their projects through bond flotations. Their contact number is shown under Private Sector Financing above.</p>
<p>Land Bank</p>	<p>LOANS</p> <p>Land Bank of the Philippines (LBP). Eligible projects: housing, health projects, public markets, bus terminals, waterworks, water systems, sewerage, flood control and drainage, sanitation, slaughterhouse, forestry, waste disposal and wastewater treatment, renewable energy and other environmental projects. Land Bank also finances feasibility studies. Contact Person: Mr. Mauricio C. Feliciano, Assistant Vice-President, Program Management Department, Land Bank.</p>
<p>DBP</p>	<p>Development Bank of the Philippines (DBP) Eligible projects: water supply systems, sanitation and drainage projects, housing, water supply projects, public markets, slaughterhouses, transport terminals, renewable energy, municipal water systems, storage and refrigeration facilities, hospital/health facilities, roads and bridges, heavy equipment, computer hardware and software; refinancing of existing LGU loans and bridge financing. Contact Person: Mr. Florencio E. Deloy, Assistant Vice President, Development Bank of the Philippines, Senator Gil J. Puyat Ave., cor. Makati Avenue, Makati City, Metro Manila. Tel. No. (02) 840-3435.</p>

funding

<p>Philippine National Bank. Eligible projects: public facilities, infrastructure projects, public markets, housing, waste disposal, slaughterhouse, road construction, school buildings, waterworks, water systems, heavy equipment, telephone systems, commercial centers, post-harvest facilities, irrigation, reclamation, sports complexes, and city and municipal halls. Contact Person: Mr. Josefino R. Gamboa, Senior Vice President, Government Banking Group, Philippine National Bank, PNB Financial Center, Roxas Blvd., Metro Manila, TeleFax No. (02) 526-3488; E-mail: gamboajr@pnb.com.ph</p>	<p>PNB</p>
<p>Municipal Development Fund (MDF) of the Department of Finance:: Eligible projects: municipal infrastructure, public markets, slaughterhouse, water supply systems, roads, bridges, flood control, piers and wharves, bus terminals, post-harvest facilities, environmental projects such as solid waste, wastewater treatment and social projects. Technical assistance is available for LGU training and capacity-building and resource mobilization assistance. Eligible borrowers are 3rd to 6th class LGUs, but for environmental projects all LGUs may apply. Contact Person: Ms. Loreta S. Rufo, Program Manager, Municipal Development Fund Office (MDFO) Podium Level, Department of Finance Bldg. Roxas Blvd., Metro Manila, Tel. No. (02) 525-9186-87, Fax No. (02) 525-9187.</p>	<p>MDFO/ DOF</p>
<p>The Community Based Resource Management Program (CBRMP) of the Department of Finance. Eligible projects: upland agriculture and community-based forestry, coastal and near-shore fisheries projects and small-scale rural infrastructure projects. Technical assistance is available for project preparation, capacity-building and resource mobilization assistance. Contact Person: Ms. Floradema C. Eleazar, Program Manager, Community-Based Resource Management Program, Department of Finance, 7F/EDPC Bldg. Bangko Sentral ng Pilipinas Complex, Roxas Blvd., Manila; Tel. No. (02) 523-9940; Fax No. (02) 523-6325; E-mail: folay@asiagate.net.</p>	
<p>GRANTS Information can be obtained from the following agencies for grants from official sources (ODA): Municipal Development Finance Office (MDFO) under the Department of Finance (DOF) , Department of Interior and Local Government (DILG), and the National Economic and Development Authority (NEDA). Some donors provide grants directly to LGUs.</p>	<p>MDFO/ DOF, DILG & NEDA</p>

‘I for an I’: What Does Access to Information Mean to Individuals?

“... the ends of information are after all human ends. The logic of information must ultimately be the logic of humanity. For all information’s independence and extent, it is people, in their communities, organizations, and institutions, who ultimately decide what it all means, and why it matters.”

—Brown and Duguid (2000:18),
‘The Social Life of Information’

Everyone requires information. It could be as simple as needing to know the whereabouts of one’s children, whether a storm is coming, or the prices of galung-gong or instant mami. The more relevant and meaningful the information is to people, the more useful it becomes. For instance, a driver can always appreciate knowing how to identify and correct problems with his jeepney or car. A fisherman can always appreciate knowing where fish are plentiful. Farmers can always use information about crops that are most suitable to their land.

Today, modern transportation and globalization has led to increased mobility among people, which has, in turn, contributed to the dispersion of families. As previously described, ICTs have enabled them to remain close despite the distance. For example, ICTs make it possible to send money electronically, and also allows family members to inform their relatives about when to expect such transactions and how to spend the remit-

tances. At a more basic level, it has allowed them to communicate and keep in touch. People abroad are able to share the new experiences and opportunities they encounter with those they left behind, thereby broadening the latter’s own knowledge.

What information systems planners should consider, however, is that different people have different information needs. Furthermore, the value persons assign to ICTs depend largely on how these technologies are integrated into their daily lives. For instance, a mobile phone may not be important for a person who stays at home most of the time. A landline phone may not be cost effective for a person who only uses it sparingly and may have access to other communication devices.

Usage of ICTs is influenced largely by people’s perceptions and knowledge of how useful and relevant these will be in their lives. A considerable number of people remain ignorant of the use of ICTs because they do not realize how it applies to their situation. Some simply see ICTs as tools for business, without realizing their other economic impacts such as savings in time and transportation costs. Many others find it difficult to identify the types of information that are crucial for running their lives more efficiently and effectively. Educational attainment is one of the more significant variables that influence positive perceptions of the need and usefulness of ICTs, whether it be

telephones, cellular phones, or computers and its auxiliary applications such as the e-mail and Internet.⁶⁰

These imply that policies and strategies which aim to provide more access to ICTs must be integrated with the education of people on the advantages and opportunities that ICTs can provide in their lives.

For instance, when individuals learn how others make use of the technologies, a better appreciation of what it could do for them may develop. With a better appreciation, hopefully, will come new ideas of how it could be used in their own contexts. Only then would ICTs become relevant to a greater number of people.

Ordinary people set priorities based on their own set of values and understanding of what is important in their day to day lives. It is important for developers or community information systems to understand the kinds of information people consider important in order to influ-

ence utilization of ICTs in the future. Box 2 outlines some basic steps on how one may assess people's information needs.

For everyone in society to have equal opportunities to reap the benefits that ICTs provide, plans must address the socio-economic and cultural barriers to its use, and develop people's capabilities to use them. People must be made more aware of the applications and opportunities that new ICTs bring.

Thus, a more integrated approach has to be developed in order to ensure that policies and strategies for universal access to ICTs are not wasted and indeed lead to human and social development. This means integrating the efforts of government, private sector and civil society to provide ICT access, marketing, applications and content development, training and capability building. It also involves linking the various forms of ICTs that are available in the community.

Box 2

Identifying Local Information Needs

As Brown and Duguid said "... the ends of information are after all human ends. The logic of information must ultimately be the logic of humanity." (2000:18). Thus, plans to use ICTs for development should start with the information needs of people. The information should come from the people themselves. The information needs of people vary and is dependent upon the social context and environment in which they are embedded.

There are various ways by which to have a quick assessment of a community's information needs. One can utilize various data collection methods, such as surveys, focused group consultations, and simple observation. The various groupings or organizations within the community should also be identified, as they may serve as logical starting points for consultations, as well as possible access points for the information and ICTs. It is important to identify specific sectors in the community, list down what information they usually access, process, and use in their activities.

The following are some of the basic questions that have to be answered:

1. What are the different segments/sectors in the community?
2. What information is needed for the activities of these key groups?
3. How (or through what media (i.e. ICT)) do they access their information?
4. Where can this information be obtained?
5. When (and how often) do they need the information?

An Integrated Approach to Tapping ICTs for Development

People must be able to access data and assess if they are useful and applicable to their situation, before they could act upon them (refer to Figure 3.) However, transforming data into useful information requires economic, social and action resources. Economic resources include money, skills and technology. ICTs belong in this category, and are only tools that help convert data into usable information. Social resources, on the other hand, include people's motivations and trust. Access to ICTs does not guarantee access to critical data or the understanding of the value of the information, nor the capacity to make use the information. Hence, social resources are crucial in making information significant to the lives of ordinary people by developing their capabilities, or pointing them to intermediaries that can help act on the information that is significant in their contexts. Finally, obtaining the needed information does not necessarily translate to sustainable human development

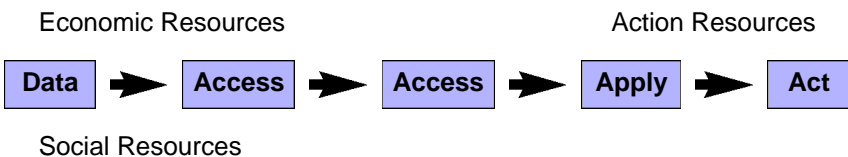
activities, if they are not integrated with other development activities (Refer to Box 3).

While the access strategy is primarily the task of government, it cannot work without public and private organizations.⁶¹ Efforts at the national level, of private providers, and local communities must be integrated to help achieve universal access at a faster pace. For instance, understanding how far markets are willing to go to bring the National Information Infrastructure (NII) into rural areas will be crucial for government, non-private actors and international agencies to determine their own roles in filling the gap.⁶²

The Roles of People, Infrastructure, and Content

There are three interlinked systems that must be considered in any plan to use ICTs for development: people, the infrastructure and applications or content.⁶³ (See Figure 4: ICT for Development Framework)

Figure 3: The Information Chain



Box 3: Making Information Useful

What do people need to make the information chain work? They need four resources:

—Data Resources: they need relevant data to be available in the first place.

—Economic Resources: they need the money, the skills, and the technology in order to access the data.

—Social Resources: they need the motivation, confidence and knowledge to access, assess and apply the data, and they must trust the source.

—Action Resources: they must be able to act on the decisions made with the information. This will require enterprise inputs (e.g. money, skills, technology, raw materials) plus resources like empowerment.

For people in rural areas, though, the problem is that these resources are often absent. Too often we find:

—Data is not available: about customers, about prices, about suppliers, about laws, about business services, etc.

—Data is available but people can't access it: e.g. they don't know who has details about government support schemes, or they can't afford to get those details.

—Data is accessed but people can't assess and apply it: e.g. they don't understand the contents of the government directory they've been given.

—Information is created but people can't act on it: e.g. they have identified new customers but can't afford to purchase materials to supply those customers.

Source: Heeks, Richard (2001)

Foremost in any information systems plan are the stakeholders, or users of the system. This will be the people and the social system in which the system will be embedded. Plans should begin with what people need, and the information they find most relevant and useful. This may vary from one community to another. Community members must be able to define among themselves what the information system should be able to do, and negotiate the kinds of functions and information it can generate.

As Avgerou and Cornford says, "It is better to think of the conception of an information systems project as being the result of negotiation process between people with different concerns. The analysts' role is not to determine alone what system is required, or to show which technical implementation is the best, but to support the negotiation process with as much information and insight as the participants need."⁶⁴

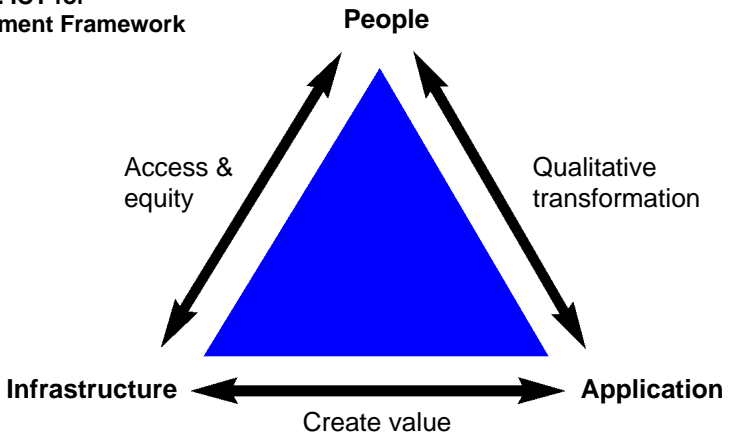
Each of the three elements, being interconnected, have to be addressed by various stakeholders in an integrated manner in order to achieve the successful use of ICTs for the development of local communities and organizations.

Linking people with the infrastructure addresses the issue of universal access to ICTs. Linking the infrastructure with applications points to the issue of creating valuable tools out of ICTs for development. Last, but most importantly, the applications must be relevant to the people for them to have a significant impact on their lives.

Infrastructure and people

Without the infrastructure, the best case scenarios for ICT usage will not be possi-

Figure 4. ICT for Development Framework



Adapted from NITA of Malaysia

ble,⁶⁵ hence the first step is to create an infrastructure that could deliver the information to people. Reforms in telecommunications policies that have liberalized the industry have allowed for more diverse and more competitive markets. While this has increased access to telephony, and has led to the reduction of prices, it has not necessarily led to universal access at the local level. Thus, regulation is still needed to push for greater diffusion of the technologies in more areas in the country.

The priority project of ITECC to create community e-centers⁶⁶ is intended for citizens in small isolated communities who do not have access to basic services and have to travel long-distances just to avail of them. The strategy is to accomplish this with private sector and local community participation to improve bandwidth affordability in remote areas using various deployment models that are feasible.

While the ideal is to attain connectivity in all areas, given limited resources, it may be more practical to prioritize those areas where the needed infrastructure is already

in place. For instance, given a choice between a progressive area and an extremely remote location, the choice would logically be to start with the more progressive area. This is a pragmatic view of where to invest the needed resources. Projects should be piloted in areas where the chances for success are higher.⁶⁷

Furthermore, community-based ICT projects, such as telecenters, should not be seen solely as technology providers or access points for ICTs. As much as possible, they should also be considered as social and cultural community centers if they are to become more successful and sustainable. Thus, the planning and development of any information infrastructure should also consider the social context in which it will be built.

Infrastructure and applications

The infrastructure, however, may not serve its purpose if the applications are not what people find useful. One important component for using ICTs is to determine the kinds of applications and

information that will be relevant to the people being served.

With the telephone, for instance, it could be as simple as knowing critical numbers like the Mayor's Office, the police, the hospital, and the school. With television and radio, it would be knowing the programming schedules. At present, with the growing popularity and ubiquity of cellular phones, many government agencies and organizations are actually turning to text-based interphases to deliver basic services to the people (see Annex A for list of government text numbers and hotlines).

But even with this knowledge, other barriers may exist that prevent actual use of the applications. For instance, with the Internet, a significant portion of its content is in English. Even if access to the Internet is provided, those who are illiterate with respect to the English language will be at a disadvantage. This may also be true with other ICTs, like local TV, which tends to be dominated by shows in English or the Tagalog dialect.

People and applications

As emphasized in the previous chapter, once the relevant application or content has been made available, the next challenge is how to bring it to people, and make them use it. While newer ICTs such as the Internet and the cell phone were supposed to reduce the need for intermediaries and allow people to have control over the content they wish to obtain, this has not happened. Intermediaries are still needed because of the sheer volume of information and data that are available and are being created.

Also, these newer ICTs sometimes

require a high degree of skill to operate. As a result, educated people are more likely to take advantage of these applications (e.g. the Internet and e-mail) compared to less educated groups of the population. Enabling people how to use ICTs to obtain information is therefore another task that must be considered.

Access to Information: Whose Responsibility?

Most urban areas generally have better access to telecommunications infrastructure. Hence, the burden lies with private sector providers to market their services and make people use them. The primary task of the government in such a case is to put policies in place to ensure that the price of accessing the service does not become prohibitive to the majority of the community. Government and civil society groups, on the other hand, could focus on the development of applications and capabilities for specific groups who may be at a disadvantage, such as the poor, the elderly, or the uneducated.

In rural areas, on the other hand, the challenge is greater. Foremost is providing access and sustaining the operation of the infrastructures. This requires a more integrated approach and interaction between the government and civil society. Often, access in these places is limited. Local government units, non-government and people's organizations could serve as primary access points (Refer to Box 4). For more expensive ICTs, especially, these organizations are the logical groups that could house the ICTs, provide the needed manpower, and have the likely capability to pay for the services, even without commercial use.

Second, the task of identifying applications and needed content will have to begin with these sectors. This is tied with the sustainability of the operations. The more relevant the uses and content of the available ICTs, the more people will use them, thereby increasing demand and possibly attracting private capital. However, the issue of sustainability will not only be about the financial sustainability of maintaining the ICTs, but also the sustainability of the communication process between the ICT-equipped intermediaries and the community that does not have connectivity or access to the needed information.⁶⁹

Third, it is likely that many local communities will not have the needed technical expertise to launch a community information development plan on their own. Thus, skills development is where government, the private sector, and civil society groups could collaborate in providing the needed training for people to gain the skills necessary for maximizing the use of the ICTs. They could also serve as inter-

mediaries for bringing information and knowledge to more people.

An example of an integrated approach of using ICTs for development is illustrated in the case in Box 5, “Landbank-B2B Pricenow.com strategic E-commerce Program”.⁷⁰

It provides an example of how the government (Landbank), the private sector (B2B Pricenow.com), and civil society organizations (cooperatives) can work together to leverage resources (economic, human, social, technological) to address issues of access, training, marketing and sustainability using ICTs for development.

In conclusion, while ICTs are developing rapidly, society is not changing as fast. Norms, values, habits and social realities which exist can not be ignored, and must be linked with any plan to use ICTs for development. In the end, the collaboration of all stakeholders concerned is the best way of increasing the chances of successfully integrating the use of ICTs in the lives of the community.

Box 4. The Role of Local Government Units

The 1991 Local Government Code (LGC) of the Philippines, every local government unit has the authority to handle, manage, and operate any government-funded or assisted project for its maintenance and sustainability. With this provision, the local government may engage in partnerships or take initiatives to undertake a community information system development project that will bring in a wide range of opportunities to the locality.

At the local level, especially in poorer municipalities, the first line of access will tend to be LGUs. As such, LGUs could create the initial demand for basic ICTs. Often, LGUs are the first access point for ICTs, whether basic ICTs such as telephones, fax, etc. They are also potential customers that private providers can be more assured of as being able to pay for services that will be provided.

LGUs can also serve as ideal sites for establishing access points. They may have the physical facility, the resources, and people to man the services, that are crucial for the sustainability of such services.

Questions for the LGU to consider:

1. What are the current and future information needs of the community?
2. Is the present information and communication infrastructure enough to serve these needs?
3. What should the local government do to improve people's access to essential information?

Box 5. The Landbank-B2B Pricenow.com strategic E-commerce Program ⁷⁰

The Land Bank of the Philippines is a government-owned universal bank. Being a government owned company, Landbank is mandated to provide financial and technical assistance to cooperatives. With the credit financing the Bank extends to cooperatives are technical assistance, like institutional building, capability enhancement, enterprise development, technology development and marketing assistance. Under the Bank's marketing assistance is the provision of marketing forum to cooperatives where they meet buyers of their commodities and sometimes the Bank extends its assistance by directly contacting large corporations to assist the Bank-assisted cooperatives. A marketing program created by the Bank is the "Palengke sa ere" which is a radio-based partnership that airs from 5:00-7:00 AM and 6-8 PM. The cooperatives' produce and the buyers' requirements are advertised during the program. Because of this, more private companies have bought the cooperatives' produce.

With the success of the Palengke sa Ere and the advent of the "new economy", the Landbank planned of expanding the program to a new media, the Internet. The plan was to create a website where cooperatives can post their commodities online and transact through the Landbank. During the planning stage, a lot of IT companies approached Landbank to provide an electronic marketing site for farmers. Being a government bank, Landbank refrained from endorsing private companies where a monetary payment was involved. Of the companies that signified interest, only B2Bpricenow.com took the initiative of providing its website for free. It meant free membership for cooperatives and free advertising for Landbank.

Partnership roles and responsibilities:
Landbank shall:

- organize road shows and trainings for bank-assisted cooperatives
- monitor and assess the program with respect to cooperative registration and trainings conducted
- conduct information dissemination campaign to bank-assisted clients

- endorse b2bprice.com to the Bank's clientele as an alternative trading and marketing medium for its products
- advertise its program and its benefits to its clients
- design information materials for dissemination
- provide technology loans for the procurement of computers
- B2Bpricenow.com shall
- conceptualize and design the website
- shoulder all programming costs
- administer and maintain the website
- include Landbank as a strategic partner in all applicable advertisements free of charge
- enlist bank-assisted cooperatives in the website

Under the partnership, Landbank shall provide hardware (computer with internet access) to development assistance centers (DACs) nationwide. DACs are bank units in charge of institutional and enterprise assistance to cooperatives in the area. There are 21 DACs nationwide. As of March 2003, Landbank had been able to conduct 19 of the 21 scheduled road shows.

New developments

A tripartite agreement was forged between Landbank, Polytechnic University of the Philippines (PUP) and B2Bpricenow.com as an off-shoot of the program. This new agreement was to establish IThubs through the member universities of the Philippine Association of State Universities and Colleges (PASUC), which PUP is the lead university. The IThubs shall serve as training centers of this e-commerce program.

Various government agencies and private institutions have partnered with B2Bpricenow.com to obtain training for their target beneficiaries and proponents.

The next phase of the program is the development of a payment gateway where sellers and buyers can transact and pay online. Landbank has allotted an amount for the development of a payment gateway that will cater to the on-line payment of cooperatives and buyers.



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Government Hotlines and Textlines

<p>Civil Service Commission</p>	<p>Text CSC Send messages to 0917-TEXTCSC (0917-8398272).</p>
<p>Department of Education</p>	<p>DETxt hotline. For general concerns, type: "NAME [space] TOWN [space] SCHOOL[space] MESSAGE" and send to 09194560027. For specific teacher concerns, such as payroll, step increments, etc., type: "NAME [space] EMPLOYEE NUMBER [space] DIVISION NUMBER [space] STATION NUMBER [space] MESSAGE" and send to 0919-456-0027 .</p>
<p>Department of Energy</p>	<p>Enertxt Hotline. For complaints and questions regarding any energy issue or development in the energy industry, Type "DOE [your message]" then send to 2920</p>
<p>Department of Finance</p>	<p>DOF Hotline numbers: (02) 404-1774 and (02) 404-1776. DOF Hotline Center operators will be ready to receive calls from 8 a.m. to 5 p.m., Monday to Friday.</p>
<p>Department of Foreign Affairs</p>	<p>DFA Passport Direct Tel. (632) 737.1000. DFA Passport Direct is a passport renewal service. It offers the ultimate convenience of transacting over the telephone and having the renewed passport delivered to you wherever you are.</p>
<p>Department of Health</p>	<p>Text DOH Type "DOH [your message]" or "DOHSEC [your message]" then send to 2960 SARS Hotlines Call 741-7048 / 743-1937 SARS Textlines Type "MED SARS" then send to 2333 for Globe subscribers or 257 for Smart subscribers OR Type "SARS [your message]" then send to 2960</p>
<p>Department of Interior and Local Government, Philippine National Police, Bureau of Fire, Bureau of Jail Management and Penology</p>	<p>Patrol 117. Dial 117 on your PLDTLandline to make an emergency call. An emergency call is a call that refers to an incident or a situation where a person's life or property is in danger or threatened.</p>
<p>Department of Labor and Employment</p>	<p>DOLE Information Hotline Nos.: 527-2127 ; 527-3516 Public Assistance and Complaints Unit: 527-3507</p>
<p>Department of Transportation and Communication</p>	<p>DOTC Hotline. Air complaints, express recommendations and suggestions, report transport abuse, smoke belchers or colorums. Call Hotline number 7890 Text DOTC. Air complaints, express recommendations and suggestions, report transport abuse, smoke belchers or colorums. Type "DOTC [your message] [your name]" then send to 2299</p>
<p>Government Service Insurance System</p>	<p>Text GSIS. GSIS members can send and receive text messages from the GSIS on their loan queries. The GSIS will text its members regularly for advisories and updates. To register, members just have to type "GSIS Reg [Policy#] [Last Name] [First Name]" and send to 248 for Smart users or 2390 for Globe users.</p>
<p>Metro Manila Development Authority</p>	<p>MMDAHotline Call the 24-hour MMDAHotline "136" to report vehicular accidents or send complaints. Callers can also ask for street directions, schedules of high and low tides, and weather reports. Subscribers to Smart may dial 136. Globe users need to dial 02 then 136.</p>

	To text MMDA: Type "MMDA[your message]" then send to 2947 for Globe and 288 for Smart.
National Statistics Office	NSO Helpline Plus. Dial the 24-hour hotline: 737-1111. Apply for certifications of birth, death, marriage or no marriage through a customer care officer, take note of instructions on how to pay for the service, and the requested document will be delivered via courier to the caller's home.
National Wages and Productivity Commission	Information and Publication Division Hotline (632) 5275519 Wages, incomes, and productivity information Direct Line
NCC - Field Operations Office	Text NCC-FOO Send queries and suggestions via mobile phone. Type NCCFOO, space, followed by a question or comment and send it to 2960.
Office of the President	Text GMA. Send your messages to: 09178398462 (0917-TEXTGMA) 09178985462 (0917-TXTKGMA) 09178982462 (0917-TXT2GMA) 09198984621 (0918-TXTGMA1) 09198984622 (0918-TXTGMA2) 09198984623 (0918-TXTGMA3)
Overseas Workers Welfare Administration	TXTOWWA. Send your messages to 0917-TXTOWWA (0917-8986992) OWWA Hotline 551-1560 / 551-6641
Philippine Health Insurance Corporation	PhilHealth TxtCntr. Send your messages to 0918-9219999. Healthline 637-9999
Philippine National Construction Corporation	Text PNCC. Text your inquiries, observations, give comments/suggestions, traffic inquiries or report accidents. Type "PNCC [your message]" then send to 2299 Call the PNCC Hotline numbers 1340 and 1341 to help the motorists during emergency situations. The Hotline may also be dialed to inquire traffic situations along the stretches of both North and South expressways.
Philippine National Police	The Magic Eye Txt Patrol 2910. To send a text message or report, type "CW [message]" and send to 2910. You can also receive latest update from the NCRPO or receive a crime prevention tip for the day. PNP Text 2920. Report erring police personnel, send to messages 2920
Philippine Overseas Employment Administration	TxtPOEA. Inquire about recruitment agencies, job vacancies and other information on POEAand overseas employment. To ask for assistance on txtPOEA services, Type "POEAHELP" and send to 2385 for Globe or 276 for Smart. POEAHotline. 24-hour information center with telephone hotlines 9221144 and 7221155. Info services and processes and overseas employment updates.
Securities and Exchange Commission	Ask SEC. 1908-1-ASKSEC (1-908-1-275732) A Nationwide Government Hotline. Investigate on any investment scheme before you invest. (Toll fees apply)
Social Security System	Text-SSS. Allows members to inquire about their number of contributions and status of loan applications. To get step-by-step instructions and help with keywords: Type "SSS HELP", then send to 288 for Smart or 2931 for Globe subscribers.
Technical Education and Skills Development Authority	TESDA- SMS. To ask questions to and about TESDA, type "TESDA[first name] [last name] [question]" and send to 2333 for Globe or 332 for Smart.

Some useful local resources and links

Advanced Science and Technology Institute
www.asti.dost.gov.ph

Address: Advanced Science and Technology Institute, ASTI Building, C.P. Garcia Avenue, Technology Park Complex, U.P. Campus, Diliman, Quezon City, PHILIPPINES

ASTI hosts the online registration for .Gov.Ph domain. This service is free of charge at the moment, and is only applicable to government organizations / agencies / institutes. For those who wish to register for .GOV.PH domain, they could access <http://dns.gov.ph>. ASTI also conducts training and lecture activities to further develop the capabilities of students and engineers and to update them about the latest advances in I.T.

National Computer Center
www.ncc.gov.ph

The NCC lends its full support to the government's ICT thrust by forging strategic alliances with the private sector, coordinating ICT activities, developing human capital, promoting ICT utilization in all sectors of the society, and advocating Philippine ICT services worldwide.

Free LGU Website Template

The NCC is the lead agency for promoting the use of ICT in government. It launched the eLGU program to guide local government units in the Philippines on how to make use of Internet in their provision of access and use to information and other services. NCC encourages all LGUs to create their own websites and make them available to the public.

With this objective, the NCC has developed an LGU Website Template. The template is like a pattern in which the LGU may modify and further develop the content according to what their websites to appear. This is distributed free of charge to LGUs.

Ph Domain Foundation:
www.phdf.org.ph/profile.html

Address:
11/F Strata 100 Bldg.
Emerald Ave., Ortigas Center,
Pasig City, Philippines

The PH Domain Foundation is the social outreach arm of the local PH Domain Registry (dotPH). It is a SEC-registered Internet-based non-stock, non-profit organization seeking to provide free unlimited email service to people in remote rural areas towards the upliftment of the quality of life in these communities.

Equipped with the technical capabilities and technology to connect remote areas with both email and Internet access, and conscious of the endless possibilities of the Internet in changing people's lives, the Ph Domain Foundation seeks to popularize the use of Internet email in the Philippine countryside as a tool for empowerment.

It partners with local rural area-based groups - whether an NGO, PO, civic organization, religious, educational or media institution with enough interest, willingness and the organizational capability for implementation of its core *free email connectivity project.

Bureau of Agricultural Statistics
www.bas.gov.ph

The BAS serves as the central information source and server of the National Information Network (NIN). It also provides technical assistance to end-users in accessing and analyzing product and market information and technology.

Its website contains online statistics on fisheries and agriculture, as well as updated prices of selected commodities and weekly updated commodity reports, with bulletins and monographs on agriculture and fisheries industry.

Bookmark these sites

Portals

Official Government Portal	www.gov.ph
Global Pinoy	www.globalpinoy.com
Yehey	www.yehey.com.ph

Main government related ICT organizations

Dept. of Transportation and Communication	www.dotcmain.gov.ph
National telecommunications Commission	www.ntc.gov.ph
National Computer Center	www.ncc.gov.ph

Main ICT providers

Philippine Long distance Telephone Co.	www.pldt.com.ph
SMART Telecom	www.smart.com.ph
Sun Cellular	www.suncellular.com.ph
Bayantel	www.byantel.com.ph
Globe Telecom	www.globe.com.ph

Mass media

ABS-CBN Corporation	www.abs-cbn.com
GMA Network	www.igma.tv
RPN	www.rpn9.com
Inquirer and GMA	www.inq7.net
Manila Times	www.manilatimes.net

Academic

University of the Philippines System	www.up.edu.ph
UP Open University	www.upou.org
Department of Education	www.deped.gov.ph
Commission for Higher Education	www.ched.gov.ph

Health

Department of Health	www.doh.gov.ph
Securities and Exchange Commission	www.sec.gov.ph

E-commerce

Bayantrade	www.bayantrade.com
Ayala.com	www.myAyala.com
B2Bpricenow.com	www.B2Bpricenow.com

Others

Census	www.census.gov.ph
Social Security System	www.sss.gov.ph
Government Social Insurance System	www.gsis.gov.ph

Potential hosts for local community content on the web

These are some of the sites that could host the local government website for free and one can find more of these when searched on the web. Most of the sites include pop-up advertisements from their sponsors. The free space determines how much content will be placed on your website. The higher free space available -- the more text, graphics, multimedia, pages, etc. can be uploaded to the site.

Site Name	Web Address	Free Space
Angelfire	angelfire.lycos.com	30MB
Brinkster	www.brinkster.com	30MB
Crosswinds	www.crosswinds.net	999MB
Free Homepages	www.freehomepages.com	50MB
Free Websites	www.freewebsites.com	50MB
Geocities	geocities.yahoo.com/home	15MB
GreatNow	www.greatnow.com	100MB
Prohosting	www.freeprohosting.com	50MB
SDF	www.freeshell.org	10MB
Tripod	www.tripod.lycos.com	20MB

Free email providers

Just like free web hosting, there are numerous sites that offer free email services. An email account has a corresponding free space, higher free space would translate to bigger spaces for receiving and storing e-mails.

Site Name	Web Address	Free Space
AEMAIL4U	www.aemail4u.com	6MB
Hotmail	www.hotmail.com	2MB
Lycos	login.mail.lycos.com	5MB
Pinoymail	www.pinoymail.com	--
Yahoo!	mail.yahoo.com	6MB
PH Domain		

Establishing Telecenters

What is a Telecenter?

It is a community-based facility that caters to the information and communication needs of the people. It provides information services using different intermediaries, assists learning, and access to new forms of communication. A Telecenter may take any form, from a simple community information center to a network of computers with advanced telecommunication capabilities.

How do Telecenters provide information?

It gives the community shared access to information. The telecenter will be set up to address community information needs through relatively low-cost information services. These services may include research resources and materials, database on community/government information, news materials, tutorial services, resource CDs, word processing services, desktop publishing, phone services, internet access, and other customized services depending on the community's needs. The telecenter will serve as a multiplier of information at the heart of the community that will strengthen its information structure.

How do telecenters differ from commercial cybercafés and computershops?

The primary goal of the community telecenter is to provide multi-purpose information services that will accommodate any person in the community regardless of income, sex, ethnicity, educational attainment, and other factors hin-

dering access to ICTs. Aside from diffusing information, the services and content of applications of the telecenter is more localized and is operated based on the community's information needs.

Components of a Telecenter

The components of a Telecenter are the following:

Place—to house the equipment and facilities, and for easy public access

Equipment—includes software and hardware, resource materials, telecommunications equipment, and others

People—manage the operation of the telecenter, conducts social marketing and provides assistance to learning and tutorials/training

Services—refers to information and communication services such as access to resource materials, word processing and desktop publishing services, tutorials, mobile communication services, and internet access.

In other places telecenters are recognized based on strictly defined characteristics, namely:

- a. Having the ability to operate and offer viable services to the community on a network wide basis or individual basis;
- b. Having a level of up to date information technologies and associated equipment to deliver the required relevant services;
- c. Being a community owned, managed and incorporated (shared) – not for profit; and
- d. Being situated in a rural or remote location or at least not in already urbanized area

ANNEX D

Reasons for settingup a Telecenter

Broadly speaking, a telecenter can be considered as a community's information system. The reasons for developing information systems would generally be to: (1) provide solution to a specific problem; (2) respond to a pressure; or (3) exploit an opportunity.

Responding to a Specific Problem

In most cases, projects are conceived to address parallel problems/issues or matters of concern. These projects are implemented in reaction to the actual situation or to prevent future problems from occurring. One basic problem is the isolation of many rural barangays not only from the main areas of commerce but also from their own poblacions or local governments. This isolation deprives them from obtaining needed basic services, such as health information, livelihood and extension programs, as well as communication facilities for emergencies.

Responding to Pressure

Pressure can come from the organization's environment or from within its own consituencies. A good example is the passage of E-commerce Act. The law allowed public offices to perform their functions and transact business using electronic data messages or electronic documents and it also strongly encourages them to adopt computerized information systems. The effect of course is that the government institutions, in essence, are "pressured" to implement projects that use information technology (IT) in its operations in order to improve services to the people. Pressure can also originate from the constituents, other authorities, and stakeholders. Examples of these are:

a. Many households demand for access to ICTs to communicate with families in other places

b. Families demand access to the so-called Internet and such facilities

c. Constituents demand for a more efficient system of the provision of information services through ICTs

d. The education sector (students, teachers) wants to expand their knowledge through ICTs

e. The private sector needs a stronger ICT infrastructure to make business transactions more efficient

Exploiting an opportunity

These projects are always tagged as innovative. It introduces new and distinct means to improve services. Some of the opportunities that the community might see in such a project are: i) The need to improve on the provision of government's services through ICTs; and ii) The need to improve information and communication infrastructure of the community to meet the growing demands of the services.

The community can consider:

a. Introduction of ICTs in the community for better literacy and more competitive workforce in the IT industry

b. Introduction of ICTs in the community to empower the constituents by using government-based on-line transactions and services.

c. Introduction of ICTs in the community to create a better business environment and generate higher tax revenues

d. Introduction of ICTs to help the local industry (e.g. farmers, fisher folks, workers, etc.)

e. Introduction of ICTs to introduce the community to the world

Telecenter Ownership and Management

There are various options that can be considered with respect to the ownership and management of the telecenter. The primary considerations will be the physical structure, location where the telecenter could be housed, technical considerations like electricity and proximity to telecommunications infrastructure, and human resources requirements for the daily operation of the project. Some of the options for the management and ownership of the telecenters are:

- Local government owned and managed
- Local government owned-private sector managed
- Local government owned-community managed
- Private sector owned and

managed

—Community owned and managed

—Other arrangements

It is up to the local government what scheme to enter into. However, telecenter anecdotes indicate greater success for community owns or managed telecenters.

Information Needs

The information needs really depends on the information system in the community. But to have a quick assessment, the local government must first name specific sectors, then list down what information they usually access, process, and use in their activities.

As a guide, answer the following questions in this order:

WHO are the different segments/sectors in the community?

WHAT information is needed

Sector	Info Needs	Medium	Place
Students	Research	Books Reading Materials Telephone	School Library Home
Farmers	Innovative means of planting crops Crop Pricing Market Prices Loans and Financing	Canvassing in Poblacion Regular Visits	Market Neighbors
Government	Profile of the community GIS	Surveys Network of volunteers (e.g. BHWs)	Municipality Barangay
Households	Communication with other relatives/friends	Letter via Tricycle Phone Post Office	Home Local meeting places (e.g. sari-sari store, church, etc.)

Sample Summary Assessment of a Community Information System

for their activities?

HOW do they access those information or by what medium?

WHERE do they get that information?

WHEN do they get and use the information?

The process includes four essential elements: (1) source/sender, (2) the information, (3) the medium, and (4) the receiver. One can add the time and place on how it is communicated. (See Sample Assessment)

Identifying Information Needs

How do organization and communi-

ties identify the information needs of their constituents? The following are some of the more common methods, and they can be used in combination, depending upon the group's available resources and time constraints.

—Consultation

—Survey

—Questionnaire

—Observation

Furthermore, some LGUs have Comprehensive Land Use Plans (CLUP), which can be a good starting point for identifying the community's information needs. Also, it won't hurt to compare or learn with other telecenter projects.

- National College of Public Administration and Governance,
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- Institute for Development Policy and Management (IDPM),
University of Manchester

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