The Digital Divide and Access to Information Communication Technologies

An Investigation into Some Problems in Rural Local Communities[1] *in KwaZulu-Natal, South Africa*

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Abstract

This contribution profiles one local community[2] in KwaZulu-Natal with regard to the digital divide. It reviews several approaches that were followed worldwide to solve the problem of the digital divide and shows which ones succeeded. For the empirical part of this article the authors collected data by means of questionnaires and subsequently conducted interviews with some of the respondents to clarify some comments they made while completing questionnaires. The conclusion for the study is that the Government needs to pay attention to issues that could help reduce the gap. It will, however, take a couple of years to show a real reduction.

Key Terms

Digital divide, information communication technology (ICT), local community, information, literacy, computer literacy, computer skills

[1] The term "rural local community" and "urban local community" are used rather than "rural community" and "urban community" because the latter terms have become stigmatized from a developmental point of view. Furthermore, with the proper implementation of information communication technologies (ICTs) the specific urban or rural locality of a community will be immaterial to the access that its inhabitants have to electronic information communication sources.

[2] The term "local community" is being used rather than "rural community" because the latter term has become stigmatized from a developmental point of view. Furthermore, with the proper implementation of information communication technologies (ICTs) the locality of a community will be immaterial to the access that its inhabitants have to electronic information sources.

Introduction

What rural local communities in third world countries find a problem with is the lack of access to information in rural local communities (Yu (2002)). The lack of infrastructure in rural local communities contributed to the lack of access to information and the lives of African people in the community. This was motivation for the researchers to investigate these problems experienced to access information in rural areas. This study used the residents in Melmoth, Emkhindini Reserve in KwaZulu-Natal (South Africa) as respondents.

The digital divide refers to a gap that exists between individuals who have reasonable opportunities to access technology tools and these that do not have such opportunities. The digital divide breaks along many fault lines, including but not limited to, education, income, ethnicity, geography, infrastructure, and disability. The digital divide exists anytime there is a gap in opportunities experienced (Yu (2002)).

Theoretical Review of Past Research

It appears that there is a gap between rural and urban local communities accessing information (The Daily, 2003). In urban communities, people have easier access to resources (i.e. libraries, computers and Multipurpose Community Centres (MPCCs)) that can be used to access information. However, in rural local communities people have no access at all and they fall behind in accessing information due to a scarcity of resources (Warschauer (2002)).

People living in rural local communities lack access to information because of poor infrastructure. Houses are scattered and it is difficult to have a centre for people to access information (Computers for Africa, 2004). People living in rural local communities don't have skills to use resources and there are no trainers to assist people to use these resources (Warschauer (2002)). Millward (2003), on the other hand, states that the Internet remains the main source of information.

Anding (2003) notes that communities do not know how to decrease the digital divide. McMillan (2003) supports this by stating that information and other government services are not accessible to everyone because they have no resources. To access resources they have to travel long distances to reach those services (i.e. libraries, clinics, internet cafes, etc.).

Fell (2002) states that the digital divide is getting wider even though telecommunications penetration had risen worldwide. In Westernised countries people use mobile phones that allow them easier access to computers and the Internet. In Third World countries the lack of infrastructure does not allow people to think about tomorrow (Gennaio (2002)). Whelan (2004) reports that people in Africa are denied access to computers (1 in every 100 has access to a telephone). Lepage (2004) states that Africa is lagging behind the rest of the world to develop their ICT infrastructures.

There are more factors contributing towards a lack of facilities in rural areas. These include low literacy level, high rate of unemployment, and lower level of income (all ignored by governments). These families have to make a decision between buying a computer or food on the table (Tognetti (2004)). People living in urban areas are getting a better income, and it is easier for them to invest into computers or they might have access to a computing facility, they have a phone for basic communication and a TV.

Developing Countries and the Digital Divide

Most of these countries are poor; they have a high unemployment rate and are overpopulated. They are financially unstable and the infrastructure is poor. Therefore, in order for developing countries to bridge the digital divide, the infrastructure must be improved (Fors (2003)). Programs have been established to conceptualize the digital divide in Africa (e.g. Canadian Fund for Africa, Whelan (2004)). Whelan (2004) also states that in partnership with African institutions, Connectivity Africa support research development and effective use of ICT in

the following areas: innovative, low-cost applications and connectivity across regions, research and development, etc.

"Computers for Africa" is another non-profit organization that refurbishes second hand computers and ships them to Africa (Computers for Africa (2004)). These computers are given to disadvantaged groups, and organizations that work for social development. They state that in Africa there are only three computers for every 1000 persons (Computers for Africa (2004)). In 2002 the government of New Delhi (India), in collaboration with Information Technology Corporation, established a project known as the "Hole-in-the-Wall" experiment to provide computers for the city's street children (Warschauer (2002)). These computers are connected to the Internet (24/7) through a dial-up access and no instructors are provided to allow learning at their own pace and speeding (Warschauer (2002)).

SA has been regarded as a country that has a better infrastructure in Africa. To bridge the digital divide SA has dedicated itself by introducing Multi-Purpose Community Centres (MPCCs) into the communities, bringing services closer to people in rural areas; also government services (e.g. identity documents, marriage certificates, birth certificates (Annual Report (2002)). Martindale (2002) argues that the digital divide is evident in technology. ICT has unwittingly excluded the masses as technology raced on leaving many in SA behind. Socio-economic circumstances, imbalanced education polices, as well as language barriers are some of the factors forcing this exclusion.

In Johannesburg there is a group that formed an independent community organization to help bridge the digital divide. They hope to create an environment where people can become computer literate and learn about benefits of technology (Scott, 2004). This will help people in poorer communities to learn computer skills and to access information. Scott (2004) cites Mzolo (a founder member of the project) who noted that they would provide computer literacy training. Most computer programs are in English and to deal with this matter, translate.org.za (i.e. http://www.translate.org.za) has been set up to translate

software into other languages in SA (Martindale (2002)). In order to close the literacy gap, banks have changed their Automatic Teller Machines to a multilingual system. In March 2004 ABSA machines allowed users to select from five different languages used in SA.

In SA the Government is trying to bring services to the people as a way of combating the digital divide. In 2002 the SA government installed more than 29 MPCCs throughout the country (Annual Report, 2002). In Colesberg people used to travel 200 kilometres to De Aar to access Government services using private transport (about R300) for a trip to access information. In Soweto the Ekurhuleni Metro Municipality is fighting the lack of access by participating in the Mindset Network Schools Mayoral Project to assist schools by providing a program that delivers courses (e.g. Mathematics, Physical Science and English). It includes TV sets, video recorders, satellite dishes and smart cards (Sunday Times, 30/05/04 p 22).

Literacy

Literacy can help to bridge the digital divide. It is understood that, for a nation to develop, the level of literacy must be uplifted. People in developing countries also have low levels of literacy compared to those in developed countries because of unavailability of resources to educate people (Warschauer (2002)). In developing countries people are not concerned about information because they can't use it, which causes these countries to fall behind (The Daily, 2003). The Internet is supporting instruction with new models of e-Learning, with the students at the centre of the learning process. Institutions for learning are placing course materials online; schools can become agents for change, helping to reengineer the education system and stimulate lifelong learning (Ishaq (2001)).

Sehrt (2003) states that organizations (e.g. World Bank) provide a training program that has trained teachers in African, Asian, Latin American and Middle Eastern nations in the use of technology. For e-Learning to be successful in the developing world it needs another im-

portant pillar, i.e. a decent infrastructure and the Internet (Sehrt (2003)). There are some connections between literacy and Internet access. Warschauer (2002), for instance, argues that access to the Internet is like being connected to advances in communication by means of knowledge and production.

For learners schooling usually correlates with the income level of the child's parents. It is difficult for children in rural local communities to advance in school because most people living in rural local communities do not have any income (The Daily, 2003) (e.g. 70% of Ghanaians cannot read and write - Eyiah, 2004). Tognetti (2004) cites Brynson who argues that it is hard for people who don't speak English to become computer literate because programs are in English. Early school leavers find it difficult to learn computer skills as many of the computer programs are in English. The other factor that contributes towards illiteracy in rural local communities is that schools are built far away from the community due to structures of the land.

Training

Training is integral to the sustainability of ICT projects. Technology changes and it is necessary for tutors to keep up-to-date with software trends (Problems that keep the Divide in existence...., 2004). Fors (2003) suggests that the UN together with the IT companies provide the community with skills to use computers and the Internet. Sehrt (2003) states that computer literacy is a precondition for learners to benefit from technology based learning as e-Learning can build on basic computer skills.

Technology and Infrastructure

The digital divide is a complex concept, as it does not only cover the Internet access; it encompasses anything that accesses information and communication (i.e. computers connected to the Internet, radios, TV, access to telephone and mobile phone networks, etc.). Developed countries are advanced in technology but there is a big gap between the USA and Africa. The cost of supporting computers and the Internet

today is billions of dollars and African countries do not have these funds available. Additionally, the cost for training, support, and changes in infrastructure will make ICTs projects less desirable then other pressing and easily solvable issues (Problems that keep the Divide in existence...., 2004).

Warschauer (2002) compares a Professor at the University of California with a high-speed connection in her office, a student in Seoul who occasionally uses a cyber café, and a rural activist in Indonesia who has no computer or phone line, but whose female colleagues in her group download and print the information for her. This illustrates the digital divide on three dimensions and shows how people from different parts of the world access the information. Mulama (2004) argues that the communication infrastructure in Africa is concentrated in urban areas, 50% of telephone lines are found in capitals where only about 10% of Africa's population resides. Infrastructures are essential for economic globalization and improving international competition (Mulama (2004)). SA's communication system is almost entirely digital with microwave and fibre optics serving as the main transmission media. State controlled Telkom is responsible for the installation and maintenance of these facilities (Bendi (2002)).

Benefits of ICTs

Companies, governmental and NGO's who help combating the digital divide are aware of the benefits that ICTs can bring to the community. ICTs have the capacity to decrease marginalisation and empower people fully by giving access to information (Jackson, 2004). The introduction of ICTs, a factor in combating the digital divide in the community, provides isolated individuals with the opportunity to communicate.

Crede & Mause (2004) state that if governments and other stakeholders design and implement effective ICTs and services this may reduce the knowledge gap between community members. These strategies need to focus on using ICTs in ways relevant to development pri-

orities. They also argue that special attention needs to be given to provide least-developed countries (especially Sub-Saharan Africa), with financial resources, physical infrastructure, and a knowledge base to achieve sustainable development goals.

Crede & Mause (2004) showed that a digital divide also exists between males and females. They give an example as follows: in the USA women account for more than 50% of Internet users, the percentage of women using internet is as low as 19% in SA, 13% in Netherlands and 8% in China (non-literacy is an obstacle to Internet access and women make up to nearly two thirds of the world's non-literates).

By implementing ICTs in working environments, employees directly promote technological changes in their organizations and indirectly in society in general.

Research Questions

This article addressed the need of communities influenced by the digital divide. Some aspects of the literature have solved part of the problem, however the following needs attention:

1. How do the computer skills of the community compare with other places?
2. How can computer skills help to bridge the digital divide?
3. Can this be extended to other communities?
4. How can the digital divide gap be closed in rural areas?
5. Who is responsible for closing the gap?
6. Why is bridging the digital divide important?
7. What resources are available to bridge the digital divide?

Summary of Theory

The revolution in computers and telecommunications networks and the accelerated rate of this change along with the explosion in knowledge are creating changes in information needs among commu-

nities. New jobs, an explosion in entrepreneurship, access to education, and new models of community building, ease of access to global markets, and many more are dividends of this revolution. Yet the benefits of the information age are out of reach for many in both developed and developing countries. This gap threatens to cut off populations from a chance to participate in society.

Research Methodology

The study was conducted in Melmoth (Emkhindini Reserve, KwaZulu-Natal Midlands, South Africa) with a population of about 500. The researchers randomly selected a sample of 200 people by using a quantitative approach to meet the demands of accuracy and reliability for a scientific research project. According to Chaudhary (1991:8) quantitative research is based on the measurement of the quantity of the phenomenon under study. The researchers handed the questionnaires to respondents to complete. The questionnaires consisted of two types of questions (multiple choice and open ended). The researchers received 196 completed questionnaires from the people in the community of Melmoth at Emkhindini Reserve. All the data gathered from the respondents was analyzed, interpreted and expressed in the form of graphs, tables, percentages and statistical analysis by means of the program SPSS 11.5.

Discussion of the Results

The purpose of the data analysis in this research is to reflect the extent in which the lack of information access affects disadvantaged communities, especially those living in rural local communities in SA.

Demographics

Because some members in the community cannot read and write, it was difficult for them to complete the questionnaire on their own. The survey was therefore conducted during one-on-one interviews. The findings reveal that of the 193 interviewees, 62% are males and 38% females. The gender imbalance in the sample is due to the fact

that in rural local communities females are not as easily accessible for research as males because they are assigned domestic duties in the home while males by contrast generally perform physical work outdoors, making them more accessible than females as interviewees. The investigation reveals that males in rural local communities are likely to decide who is going to be interviewed because they regard themselves as heads of their families. This is in accordance with an observation in the Daily (2003) to the effect that the levels of education between males and females are reported to be different, with males usually being better educated than females.

African households largely occupy the area where the study was conducted. Approximately 93% of the population in the area are Africans followed by coloureds (4%) and whites (3%). The investigation reveals that unavailability of resources is related to past policies. Many white people were not affected by the lack of information access as they own computers and have a better infrastructure. One contributing factor to the lack of access to information in the community is the need of knowledge. Even if people have access to information, in many cases they don't know how and where to use it (Warschauer (2002)).

Fifty five percent of the participants (106) were younger than 20 years and all reported being negatively affected by a lack of resources in the community. It is especially difficult for learners because some of the material is computerized and they cannot access it. In the village there are two schools (a primary and a secondary school) that respectively offer Grade 0 to Grade 7 and Grade 8 to Grade 12, but without any ICT infrastructure. If learners want to use a computer they have to travel to Empangeni or Eshowe where there are computers available to the public.

Older people are not concerned about accessing information, among others because they don't know how to use the information to alleviate the immediate pressing problems of daily existence. This observation is supported by the findings reported in Millward (2003).

The researchers in the present project discovered that the lack of education in the community is a contributing factor to the poor information access. For instance, only 16% of the respondents reported having some higher education qualification Most of the educated community members are teachers, appointed from outside, therefore long-term residents in the community. This is in accordance with Scott (2004) who noted that the digital divide is applicable to permanent members of the community, and an environment where these people can become computer literate must be established. This is supported by Daly (2004) which states that African learners and students are failing to properly adhere to the current educational system based on technology. As a result they find themselves at a disadvantage in their careers.

Computer Literacy and Ownership

The study discovered that about 70% of the members of the community do not have computer skills. This is because there is no infrastructure and there are no people in the community who can teach them. This is supported by Gennaio (2003) who states that in third world countries there are debts to be paid and people do not have funds available for training. Schools are using typewriters to prepare test and examination papers, but they cannot photocopy them because they do not have facilities. These papers are then written on blackboards for the learners to answer.

Some people in the community don't even know what a computer looks like and what it is used for. Another contributing factor to the poor infrastructure in the community is that the geographical location of the village is not conducive to personal visits, let alone electronic communications. Dwellings in the community are scattered and some of them are isolated by mountains or dense bushes. There is no convenient central location where a community centre can be built and households have little spare income to put towards visits to such a centre. Only 30% of the community members have some computer skills and about 29% of the respondents report having poor skills. Those who reported having good computer skills were students or learners

who were taught to use computers in the schools in the Melmoth area. However, few families can afford to educate their children in Melmoth because of higher school fees and additional travel costs.

About 98% of the community (mostly Zulu people) do not own computers. This is, among others, because their income is too low to buy computers, or because they do not have the infrastructure to operate a computer and Internet access (e.g. electricity and telephone lines). This is in agreement with the results of McMillan (2003) who notes that services like electricity and telephones are not accessible to everyone. The data also reveals that elderly people (pensioners) support most homes while some are dependent on child support grants. The income of grandparent supported households is too meagre to enable them to buy computers. This statement is also in agreement with the findings of Computers for Africa (2004) which state that African workers are so financially disadvantaged that some people only earn $1.00 a day, about R7.00 a day (South African currency) at the present exchange rate.

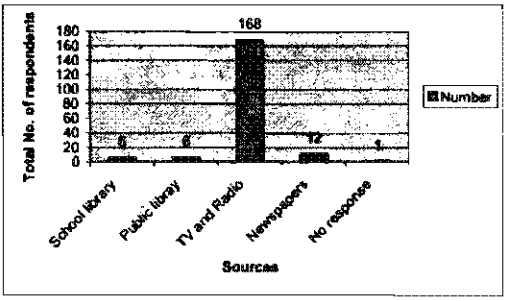

Figure 1: Where interviewees access information

Figure 1 indicates that most community members depend on passive (non-interactive) forms of electronic communication like television and radio to get information (87%). The public library is in Melmoth and it is difficult for people to travel for library visits due to financial constraints. Schools in the community don't have libraries and learners get all their information from teachers. This contributes to the

gap in the digital divide because teachers themselves do not have access to electronic data on the Internet. McMillan (2003) notes that governmental news services are not accessible to everyone with the result that people in rural local communities use radios and TVs, which confirms the findings of the present study.

Regular use of information	Number
Never	16
Daily	112
Weekly	43
Monthly	16
No response	6

Table 1: Regular use of information

Nearly 60% of the members of the community report that they depend on the news for current information. Although they listen to the news they generally do not have the means of using the information. This is confirmed by Computers for Africa (2004) who proposes that pre-owned computers could be refurbished and donated to disadvantaged communities to promote literacy and social development.

There is a 92% unemployment rate in the community that was studied, and therefore a wide gap between employed and the unemployed people in the community. The findings of the present study reveals that most people in the community are not working because of the following reasons:

- The level of education is low in the community;
- There are no business sectors where they can work;
- There is no infrastructure; as a result it is difficult to establish a small business;
- They have no knowledge or information on how to create jobs for themselves;

- There are no community projects that will help them to use the land they have; and
- No Community Outreach Programs to educate people.

The unemployed people in the community contributed to the lack of information access. Ninety five percent of the community members believe that by providing computers to the community it will solve problems by giving people access to information. Although most of them don't know anything about computers they believe that computers could help close the gap (digital divide) between them and those who have access to computers. The research also reveals that people in the community that have never used computers before are willing to learn how to use computers. They think that computers can improve their lives. The majority of community members believe that computers will provide them with marketable skills and easier access to information.

Computers play a role in business, providing education via the Internet, etc. Thus the community will be able to empower themselves (especially the unemployed). Computers in rural schools can help close the gap that exists between rural learners and urban learners. This is in agreement with Sehrt (2003) who argues that, for e-Learning to be successful in the developing world, it needs to build on another pillar (that is the existence of infrastructure along with access to the Internet).

		do you have pc skills?			
		yes	no	spoilt response	no response
gender	male	42	75	1	2
	female	19	52		2

Table 2: Computer skills by gender

		level of education					
		no formal education	primary education	secondary education	tertiary education	other	no response
gender	male	3	5	100	7	1	4
	female	3	4	57	9		

Table 3: Level of education by gender

		how much will you spend per month on pc training?				
		R100 or less	R101-R200	R301-R400	R401 or more	no response
gender	male	39	22	23	30	6
	female	17	9	22	23	2

Table 4: The amounts that female and male interviewees are willing to spend per month on computer training

There are more males with computer skills than females (Table 2). The table shows that the correlation between gender and computer skills is 0.087, which is close to 0. This indicates a weak correlation between these variables (gender and computer skills are independent). Having computer skills does not depend on gender because any person can learn to use a computer regardless of gender. There is a weak negative correlation (-.082) between gender and level of education. This is close to 0, this meaning that these variables are independent. Gender has nothing to do with education because either male or female can go to school. So there is no contribution of gender to education meaning all should have equal access to information.

There is a significant positive correlation (.672) between computer skills and the level of understanding. This is supported by Warschauer (2002) in his study where he argued that if you grew up with computers you understand them better.

The above table shows that *per capita* females in the community are willing to spend more money on computer training than males. The reason for this could be that females are more concerned about meeting needs of their families rather than their own needs. Clearly, over and above the provision of ICT in this community, Government should implement developmental policies that promote the sustained com-

puter skills training of the inhabitants of the community. The correlation is 0.106, which indicates a weak positive correlation. These two variables do not possess a stronger relationship between them and displays no casualty – anybody can thus spend any amount of money on computer training. It supports the findings.

		do you have pc skills?			
		yes	no	spoilt response	no response
age	19 or younger	31	75	1	1
	20-29	26	40		3
	30-39	3	4		
	40-49	1	1		
	50 or above		7		

Table 5: Age and computer skills

Most of the affected members in the community are the youth, as the statistics show that many people under the age of 30 do not have computer skills. Most of these are people who learned or are currently learning at schools in the village where there are no ICT resources. This should be kept in mind by Government when they design strategies to reduce the digital divide between South African urban and rural local communities.

Most people are unemployed in the community, among others because the level of education in the community too low to provide a skills base for sustainable community development. The correlation is weak (–0.075). This means that there is no relationship between the two variables. This would affect the digital divide and help increase it. This is in agreement with Computers for Africa (2004) who argue that low levels of education in rural communities will ensure a big gap between rural and urban communities.

Most of the younger people state that they would be willing to pay for computer skills training like word processing skills, learning how to play computer games, and how to use the Internet. Not surprisingly,

it seems that older people in the community are not interested in computers (few of them are willing to spend money on computer training). A lack of general literacy and Web skills among the elderly leads to the opinion among them that ICTs are for the young. This finding is supported by Millward, (2003). There is a positive correlation (0.181) between age and the number of people that are willing to spend on computer training because younger people are the ones who want to learn about computers. Therefore, this should help the Government to identify those who could help to reduce the digital divide between urban and rural local communities.

Summary

The research project of which the results are reported in this contribution investigated the effects that difficulties of accessing information by means of ICT has on present-day rural communities in KwaZulu-Natal Province. It used the Melmoth community at Emkhindini Reserve (KwaZulu-Natal Midlands) as a population. If the results reported here is anything to go by, people in rural communities are lagging behind in the usage of the Internet, and this deficit significantly contributes to the lack of economic and social development in these communities. This investigation's first objective was to explore the role that can be played by the Government and other NGOs in empowering the community with resources. It further aimed to discover what could be done by local communities to empower themselves with access to the Internet by building their own resources and thereby realise their own latent potentials.

Because lack of information access is a complicated problem in rural local communities, the researchers reviewed literature with the aim of discovering basic aspects of how the lack of information access affects rural communities. It also investigated strategies that are currently used to deal with the difficulties of accessing information in rural local communities using ICT and how these strategies can be applied in SA as part of an IT for Development framework.

The Government is Not Empowering Communities in Rural Areas

One of the goals of the S. A. Government has been to empower rural local communities. This goal has never been met. The lack of ICT infrastructure and training in Emkhindini Community can be considered as an indication that the South African Government seems to be preoccupied with addressing other pressing social and economic problems rather than using ICT to educate and empower the rural poor with knowledge and skills that would allow them to take an active role in their own development. This observation is supported by the fact that 70 % of the interviewees in the Emkhindini Community who indicated that they have no computer skills and their situation is not improving.

Poor Education and Unemployment Are Some of the Reasons for Lack of Information in Local Rural Communities

The problem of poor education and high rate of unemployment in rural local communities has been an exacerbating factor to poor information access. It has been found that 92% of the interviewees in the Emkhindini Community reported that they were unemployed, and that the majority of the respondents associated their status of poor information access with shortage of resources in the community. They also expressed the view that the high rate of unemployment contributes to their problem of access to information. Low levels of education and lack of access to ICT are posited as mutually self-reinforcing conditions that prevent members of local communities to actively contribute to the development of their communities.

Answers to Research Questions

The researchers conducted this study because there were some questions regarding IT for development that were raised in current literature on the topic. These questions were answered as follows:

1. How do computer skills of the community compare with other places?

The study revealed that only 30% of the interviewees in the Emkhindini Community reported having computer skills. By contrast, in some Indian rural communities computers are connected to the Internet around the clock, giving even street children the opportunity to teach themselves how to use ICT to improve their levels of education.

2. How can computer skills help to bridge the digital divide?

Computers connected to the Internet are main sources of information and therefore bringing computers to the community will help them to gain computer skills (Computers for Africa, 2004).

3. Can this be extended to the other communities?

There is no doubt that computers in the community can contribute to rural development as Yu (2002) emphasizes. Communities that lack knowledge and technology have difficulty in competing and will become increasingly poor and isolated.

4. How will the gap in the digital divide be closed in rural areas?

This can be done in the following ways:

- Prepare young people with technology literacy skills needed.
- Ensure that schools and communities equip individuals with the technology skills they will need to be contributing members to the development of their communities.
- Ensure that adequate funding is provided for schools and communities that will allow them access to technology resources.
- Put technology to work to address the needs of low income and underserved communities.

5. Who is responsible for closing the gap?

All members in the community and the Government are responsible for combating the digital divide.

6. Why is bridging the digital divide important?

The digital divide refers to the knowledge and skills gap that exists between people who have access to technology tools and those who do not have access to those tools (Wikipedia (2004)). Therefore, by bridging the digital divide the community will benefit as follows:

- It helps them acquire knowledge, and enhance educational systems;
- It also enables them to catch up with developed countries by leapfrogging stages of technological development;
- It allows less developed countries to effectively meet their development goals (e.g. poverty reduction, health, sanitation, and education); and
- It also promotes recognition in the international community, thus attracting foreign tourists and investors and enabling the country to benefit from global e-Commerce (Yu (2002)).

7. What resources are available?

The findings of the study reveal that in the rural community there were no resources.

Recommendations

This study has proved that accessing information in rural local communities is a problem. It also discovered that high unemployment rate; low level of literacy and lack of infrastructure contributes to the problem of information access. The study makes the following recommendations:

- People in rural local communities affected by the lack of information should develop a strategy that will need less attention from governmental and focus more on what they can do to combat the digital divide. They should properly manage their own resources.

- The SA Government should revisit the objective of empowerment for poor people who are lagging behind in using technology devices. Special attention should be paid to find solutions that will help neutralize problems associated with information poverty.
- About 92 % of the unemployed at Emkhindini (Melmoth Community) are young people from the local school. Their unemployment is closely related to their low level of education. ICTs should help people to empower themselves with skills and better educational background.
- All recommendations can be made successful by mobilizing people in the community to play a meaningful role in fighting information poverty in the village.

This study argues that the lack of information access in rural local communities is magnified by a lack of infrastructure. Therefore in rural local communities people who are willing to get information have no choice other than listen to the radio or watching television. There are few who use other resources. The reason is that public libraries and newspapers are not available in rural areas, and as a result people in rural local communities do not use this for information (even in schools). Learners get information from their teachers and do not get additional information. Schools that are willing to buy computers have a problem because there is no electricity to run them and it causes the digital divide to grow larger.

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