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### **Namibia's transition to an information society: challenges and prospects**

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#### ***Abstract***

*Namibia is still far from providing equal access to information, but has a functional telecommunication infrastructure, political stability and an attractive economic environment for investors and this is an incentive for Namibia to become an information society. The e-sectors are growing but not at the same pace as elsewhere in the world. A digital divide exists between income groups in Namibia as well as between the country's rural and urban population. The lack of ICT expertise, in particular in rural areas and the high communication costs are critical challenges. Overcoming these problems is a challenge to the country's ICT policy and program implementation. Debating these issues, the paper also discusses the ICT policy framework and the use of ICT, the efforts of the Namibian Government to introduce information technology into the country, and the efforts of libraries and archives in positioning their services and facilities to provide wider access to information and knowledge.*

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#### **1.1 INTRODUCTION**

This paper falls into five sections. Section one looks at the ICT policy framework while section two looks at efforts of the Namibian Government to introduce information technology into the

country, it also illustrate efforts by libraries and archives in positioning their services and facilities to provide wider access to information and knowledge. Section three looks at the digital divide between rural and urban as well as the divide between income groups in Namibia. The fourth section focuses on the ICT use in leading economic sectors of the country while the fifth section looks at the conclusions and recommendations.

Namibia is still far from providing equal access to information, but has a functional telecommunication infrastructure, political stability and an attractive economic environment for investors and this is an incentive for Namibia to become an information society.

The e-sectors are growing in Namibia but not at the same pace as elsewhere in the world. A digital divide exists between income groups in Namibia as well as between Namibia's rural and urban population. The lack of ICT expertise in Namibia, in particular in rural areas and the high communication costs are critical challenges. Overcoming these problems is a challenge to the country's ICT policy and program implementation.

The introduction of ICT to Namibia was not brought about by the need to transform the country from agriculture to an information society. Within government, the ICT was seen as a necessary tool for bringing about efficiency and effectiveness in the Public Service. The Namibian Government embraced ICT as enabling tool for reaching out to the people and teaching of democracy. There was an urgent need to reach out and to spread government information to the people. The belief was that access to information would help build and sustain the country's hard-won democracy, promote transparency and good governance. From the very beginning ICT initiative has been driven toward creating content and making it available so that services are brought closer to those that need them.

Information Society is understood mainly as an economic concept, referring to the value contribution to the GDP by information than through industry or agriculture services within a society. The actual value can only be determined when the information has actually been used and depending on who used it and how it was used. Advances in information and communication technology are the factors behind the phenomenal increase in importance of information.

In Namibia, there are differences in defining the value of information between different stakeholders and librarians and archivists. While officials in public and private sector value information for their immediate use librarians and archivists consider information value beyond immediate office use and hence the importance of having it preserved.

## **1.2. THE ICT POLICY FRAMEWORK**

The transition to an information society relies heavily on a reliable ICT infrastructure to serve as a superhighway to the new society. Africa has joined other continents in creating the tools to move from a largely agricultural society to an information society. Since 1995, African countries have held conferences, passed on a number of declarations<sup>1</sup>, agreement<sup>2</sup>, and formulated

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<sup>1</sup> Yaounde Declaration (2002)  
Istanbul Declaration (2002)

strategies aimed at overcoming the digital divide and providing universal access to information and knowledge. Individual African countries too have taken the initiative to formulate national policies and strategies to transform their societies from an agricultural to an information society.

Namibia is a case in point. The legal framework for the building of an information society is found in the basic laws of the land. Article 21 (1) of the Namibian Constitution provides for the free flow of information. The constitution recognizes that access to information is a key factor in improving the quality of life and is fundamental to the existence of human race.

Vision 2030 of the Namibian Government visualizes that come the year 2030 Namibians should enjoy standards of living comparable to a developed country. So far, ICT has changed the way people live and work in some sectors of Namibian society. In most offices and businesses, if people arrive at work and there is no electricity, for example, most workers would sit in the offices without much to do because most of the work is based on computer systems. A knowledge economy is the main component, which should allow Namibians to reach the status of a developed country by 2030. Such tremendous development has to be a step-by-step process.

## **2. NAMIBIAN GOVERNMENT EFFORTS TO INTRODUCE ICT**

The Namibian Government completed the formulation of the “Information Technology Policy for the Public Service” in 1993. All the typewriters were replaced with computers and an e-administration strategy, driven by a concept of promoting efficiency and effectiveness in the public service was born.

Every Government Ministry/Office/Agency was encouraged to establish a website with critical information about its mandate, services provided and how they are obtained. A government Internet Intranet was developed and there was a general belief that making government information easily accessible was essential for the growth of the information society and that it would create multiple benefits such as an educated public, new jobs, business opportunities and the advancement of science and technology.

The first government institution in Namibia to develop and maintain a website and provide online information services<sup>3</sup>, was the National Archives of Namibia. However, it should be noted that

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<sup>2</sup> Cotonou Namibia is characterized by uncoordinated ICT initiatives, which prevent effective utilization and sustainability of ICT expansion programmes. For example, Ministry of Higher Education is putting up Youth Centres all over the country, Ministry of Information and Broadcasting is putting up Telecentres all over the country, Ministry of Basic Education, Sport and Culture (MBESC) is putting up libraries all over the country. Unfortunately there is little coordination of their efforts to use their bargaining power against the Telecommunications Authority. Each of them is charged separately and each of them is working without coordinating with the other parties. The end result is infrastructure that is not financially sustainable and cannot be maintained. There is thus need for a policy coordination of the Government sector to ensure that rapid expansion can be achieved at the lowest cost possible.

Agreement

<sup>3</sup> The website of the National Archives has been available online since 1995, it is no longer available online.

Namibia's initiative towards an information society did not focus on libraries, archives and museums alone. The ICT initiative was mainly aimed at improving efficiency and effectiveness in the public service and making government information easily accessible to the people to support democracy and good governance.

The objective was to provide better services, to bring government services closer to the people and to enable people to get a better life. The new technology, it was believed, would help bridge the information gap between the rural and urban population and would bring about participation in decision making process at all levels. Internet provides an opportunity for people to access government information whenever needed. Providing appropriate information to the people at the right time will help to get them involved in government decision-making process on matters that concern their communities.

The reasons why the public service of Namibia introduced e-government were, to improve efficiency and effectiveness in the public service. ICT has created an opportunity to communicate with colleagues through the local area network and email attachments. It is faster, direct, cheaper and easy to handle. The efficiency and effectiveness has been realized because one can share documents with colleagues in the regions as long as they have access to the Internet. Compared to the past when one had to wait for a period between two days<sup>4</sup> to a month<sup>5</sup> for a document to arrive, ICT has really brought about a tremendous improvement.

## **2.1. USING ICT TO TEACH DEMOCRACY**

Namibia is a country that has just emerged from the apartheid regime where the population was denied participation in the affairs of the country. The independence government inherited a population, which did not have a democratic culture. Parliament, for example, introduced "public hearing" to discuss bills with the people before they are passed by parliament. This was an attempt to ensure that the legislative process takes into account aspirations and wishes of the people. A program "taking parliament to the people" was launched in 1996 to educate the people on how they can participate in the legislative process. Parliament took advantage of the ICT initiative and established an ICT Mobile Training Unit, it also created a parliament website. This Unit has a bus, which is equipped with generator and ICT equipments.

The Mobile Unit travels from village to village throughout the country and teaching the people about democracy, using ICT. The content of parliament website is downloaded and when they travel to communities where there is no electricity and telephone connections, they connect by using a generator power and access the parliament website offline. Parliamentarians are also trained in ICT so that when they travel abroad and see their colleagues pulling out laptops, they would not feel out of place. The parliamentarians received ICT induction training enabling them to take the ICT education to their constituencies and encouraging the electorate to visit the parliament website to read and understand democracy and good governance so that the people do not just become mere consumers of legislation, but can indeed influence the outcome of the legislative process. The parliament library has been at the center of these activities, in fact, it is

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<sup>4</sup> When mail is posted by courier or DHL

<sup>5</sup> If the documents were posted by normal mail

the library of parliament which is responsible for ICT training, hosting the website and the administration of ICT at Parliament.

## **2.2. USING ICT IN EDUCATION**

Education Institutions in Namibia have taken the training of ICT seriously. At secondary school level, plans are underway to ensure that computer studies are one of the courses offered. At the moment Basic Information Science is a compulsory subject in all schools in Namibia from grades 4-7 while grades 8-10 they have a weekly period in their school timetable devoted to this subject. There is a Syllabus and an Information Manual for teaching this subject in schools. The syllabus is currently revised to include teaching of computer science. At our two institutions of higher learning, namely, the University of Namibia and the Polytechnic of Namibia, there are many courses offered on ICT skills. Significantly, the University of Namibia, has now introduced computer awareness as a compulsory course for all students at first year level.

## **2.3. THE ROLE OF LIBRARIES AND ARCHIVES IN NAMIBIA'S TRANSITION TO AN INFORMATION SOCIETY**

What is the role of the libraries and Archives in the information age? Is there any role for libraries and archives in the paperless society? The information literacy initiative came so fast into the public sector that the libraries and archives services were caught unprepared to deal with their preservation and local content functions in the information age. The ICT initiatives in Namibia were coordinated within each sector of the economy. Librarians and Archivists were scattered in their mother-institutions, each one trying to fight a lone battle to incorporate ICT into their activities.

The role of librarians and other information professionals is to bring into the ICT programs the creation and operation of electronic information resources as organized content, which ICT specialists are often not able to perceive clearly, given their preoccupation with technical matters. Mlaki<sup>6</sup>, for example, calls for ICT to be seen as extension and tools of information access rather than a new medium that has no relation with the traditional tools. The involvement of librarians, archivists and records managers becomes essential to ensure that ICT developments are supported by an adequate input from these information professionals. Several examples illustrate the problems created by the inadequate involvement of library and archives staff.

The information on the government and parastate websites are seldom sent to the registry because we are in the information age or paperless society. For future administration and research or in an event of legal challenge to a government decision, this could be catastrophic. One of the challenges posed by the information society concept in government is that, when every official has access to a computer with an Internet connection, paper documents are seldom created and often bypassed altogether.

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<sup>6</sup> Mlaki, Theo (1998) Convergence of information and informatics. Paper delivered at the 12th session of the PGI Council and the 7th Session of if the IIP Committee, held in Paris from 7-11 December, 1998.

A very important component of information, which is evidence, reliability and the preservation of the memory of government offices for future use, has been overlooked. A lot of important documents, reports and correspondence done through electronic means is lost to government because officials create documents, use them electronically and delete them as they so wish. They exchange electronic files and leave no trace of their day-to-day administrative decisions. When they retire or are transferred, they leave behind an empty office. The new incumbent who will inherit their job will not understand what their predecessors did and important commitments made by that office might be lost. So, information society has posed a challenge to continuity because officials do not understand the value of records and information beyond the immediate office use. Preservation is the core function of memory institutions, such as the National Library and National Archives. If the memory of the country is lost to the world then we have failed in our duty to capture evidence of day-to-day administration and to preserve the heritage of humanity.

In 1999, the National Archives of Namibia issued a circular<sup>7</sup> to the whole public service with directives on how to preserve the administrative memories by continuing to send paper records to the registries. The experience of Botswana is one we should all closely watch in future. The National Archives of Botswana has put out tender, inviting bids for an electronic records management system that would help them to manage paper records electronically.

Information is intended to provide liability and evidence. So far paper records is the only widely recognized legal evidence in any courts of law and they will remain so until the legal base is changed. This will only happen if technical tools for digital signatures and protecting records from falsification become widely available.

### **3. THE DIGITAL DIVIDE BETWEEN RURAL AND URBAN LIBRARIES**

Often digital divide is referred to as dividing the developed from developing countries. This is supported by statistics that show how many Internet users there are in developed countries compared to developing countries. However, it fails to examine the main reason for the digital divide that is income disparity. The digital divide run more sharply between income groups than nations. Teenagers of wealthy families in Vietnam, Namibia, the USA and Europe all have access to cell-phones, computer, and Internet while teenagers from poor families in these countries do not have similar access.

The most crucial challenges for libraries and librarians in Africa is, the marketing of libraries and information services to create a culture that value information and knowledge, a culture that read and consult existing information before taking a decision in all aspects of their lives. The learners come to the libraries in order to complete school projects and the university students use the public libraries for information necessary for them to complete assignments and research. All our libraries are full to capacity during the examination period, but their use dramatically declines for the rest of the year. Thus, there is no awareness of the value of information beyond passing examinations even for Africa's young generation of scholars and learners.

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<sup>7</sup> Circular to All Ministries, Local Authorities and Parastatals Falling Under the Archives Act, No.12 of 1992 in respect of record keeping: Official communication sent or received as email, (26 March 1999), Ref: 2/4/24/3

However, there are clear signs that communication is growing as a broad human right even without the intervention of information professionals. A case in point is the use of cellular telephones. One is simply amazed that even the oldest people in the villages, who cannot even speak English, the official language, the ones that do not have a bank account, they too have and use cellular telephones. There has been no campaign to introduce cellular telephones, yet their diffusion has been both wide and rapid. Why?

During 2002, public libraries in the rural areas got computers and the Internet connection for the first time in our history. The library got their Internet connections through the normal telephone lines dial-up service because this was the only existing communication infrastructure. The Internet Providers are situated in Windhoek, the capital city and the rural areas are connected by the use of regional telephone network and not local telephone network. The library users were quick to learn the use of the Internet and email for communication purposes. The users of these libraries created their email accounts through web-based systems.

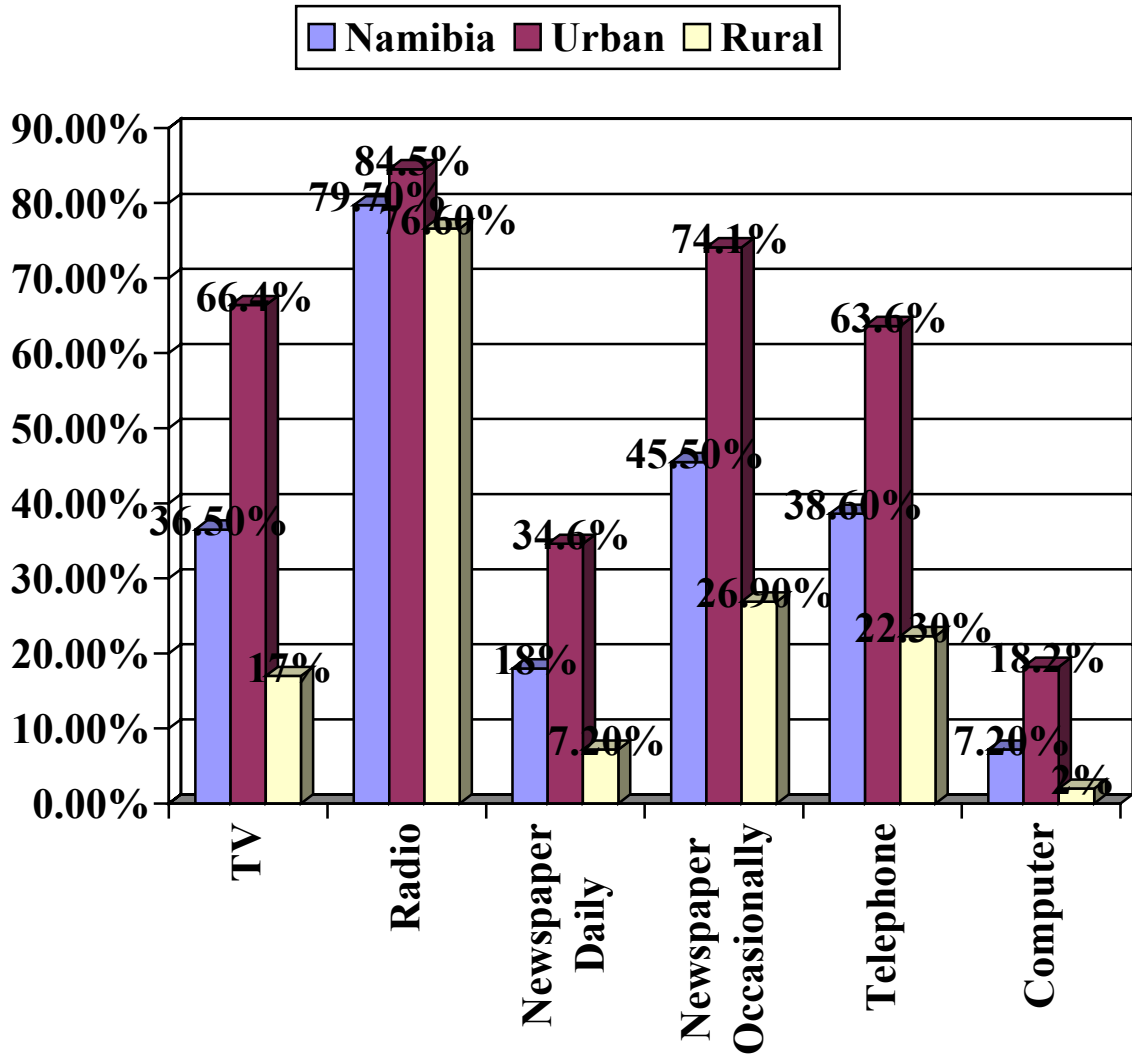
However, when these developments were conceived, an important component has been overlooked, that is, information and communication infrastructure, the lack of electricity and the availability of technical expertise at local level. Within a few months, most of those connections were cut because the telephone bills, which had become too high, were not paid. Unfortunately, when the system was disrupted, the initiative was lost. Three months later, when the Internet was restored, the users came back only to find that their email account did not work anymore and their email communications were lost. This was detrimental to the people who used the library Internet service for their study assignment and important communication. These disruptions undermine the credibility of public libraries as centers of access to global information and knowledge.

According to the IFLA Internet Manifesto: "Intellectual freedom is the right of every individual both to hold and express opinions and to seek and receive information; it is the basis of democracy and it is the core of library service." However there is a price to exercising this right, which need to be taken into account.

The lack of communication infrastructure such as leased lines makes the Internet connections much more expensive and difficult to maintain in the rural areas than it is in Windhoek, Swakopmund and Walvisbay. The rural libraries are forced to sustain their services by charging high fees to the users. The majority of families in the rural areas survive mainly on subsistence agriculture with little cash income. You can therefore imagine the difficulties individual users face when they have to pay high fees compared to those paid in urban areas. Equitable access, a main principle in the public provision of education and information, is undermined.

The other obstacle is posed by the lack of technical experts in the rural areas. The Internet providers and ICT experts and technicians are also mainly in Windhoek. So, whenever there is a breakdown, it takes months to get a technician from Windhoek to go and repair the problem that in some cases could have been solved by basic computer skills. The bottom line is that, these breakdowns are frustrating to the institutions providing the service and it affects the morale of the frontline staff in the rural libraries.

Take the example of the small rural town of Keetmanshoop, one of the 13 Namibian regional capitals. It is located about 500km South of Windhoek in the Karas Region. In this beautiful small town, there is a public library, which also serves as a legal deposit library in terms of the Namibia Library and Information Service Act, 4 of 2000. This library is equipped with one computer and printer that had been actively used by the library users and for the administrative functions of the library. After only three months of usage, the computer became dysfunctional. The library staff did not have simple computer skills to analyze and address the problem. The matter was reported to the library Head Office in Windhoek and a colleague who was already on his way traveling through Keetmanshoop was asked to look at the problem. He found the mouse was not in working order and after various telephone calls to try and find out if there was a place in Keetmanshoop he could buy a mouse. He was finally told that there was no shop that sold such devices in Keetmanshoop and the colleague returned to Windhoek without sorting out the problem. The library users were impatiently waiting for the computer to be repaired, meanwhile, the library staff are sitting with an asset they cannot effectively operate? The diagram below illustrates the rural urban disparities in the provision of ICT in Namibia.





## **DISPARITIES BETWEEN RURAL\URBAN PROVISIONS OF ICT IN NAMIBIA<sup>8</sup>**

This table can be understood considering the following information. Namibia has a population of 1.83 million people, out of which 67% live in the rural areas and only 33% live in the urban areas. According to the diagram above only 2% of the rural population (76% of Namibian population) has access to a computer while 18.2% of the urban population (33% of Namibian population) had access to computers in 2001. While this scenario has slightly changed over 2002, 2003 and 2004, the urban/rural disparities remained generally unchallenged.

Finding solutions to the lack of ITC skills and the high cost of ICT infrastructure is made worse by agricultural and climate based scattered settlement pattern where by people do not settle in villages, but in scattered farms, cattle posts and homestead that are far from each other. Providing services to each of these farms, cattle posts and homesteads will require quite a substantial investment.

### **4. ICT USE IN SELECTED ECONOMIC SECTORS OF THE COUNTRY**

The information society initiative has indeed created jobs in some economic sectors in Namibia, but it has also created a divide between those who can afford the luxury of information technology and those who cannot. Information technology literacy has also created a redundant workforce of people who are challenged by the transformation from typewriters to computers and computer literacy became a requirement for about 80% of skilled job advertisements. So, as the society moved towards information literacy, it created legacies, challenges, and gaps within the society. For example, in all the SADC countries, there are about 20% of the population that are already living within the information age. They have a telephone, fax, and a computer with Internet connection, printers, photocopiers, email facilities, a radio, television and cellular telephone both at home and in the office. They can be reached 24 hours a day and can access information around the globe at any place and time. However, there is the other 80% of the population to whom information society is still a distant dream, they are still queuing up for basic services and have no direct or easy access to information technology and other information services.

On the other hand the private sector has been quick to discover the value of information technology and was quick to respond by formulating ICT policies, retraining of personnel, providing infrastructure and equipment. Services such as e-banking, e-learning, e-commerce, e-booking and e-newspapers were introduced and have created an immediate impact on clients who saw the new services as time saving. A few examples are discussed below to illustrate this transformation to an information society.

#### **4.1. SMALL SCALE BUSINESS**

The private sector has realized the economic importance of information. For example, if you do an Internet search, using Namibia as search term, you will realize that about 80% of the posting you will get would be on tourism. These are mainly guest farms, lodges and small businesses that had realized that they could no longer sustain their businesses by selling domestic livestock

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<sup>8</sup> Christoph Stork and Albertus Aochamub (2003), Namibian in the Information Age, NEPRU research report no.25

alone. So, they have put up guesthouses to attract tourists to sustain their farming businesses. Almost all these guest farms and lodges have a website that is marketing their product and what they offer. They realized that Internet is a useful tool of reaching out to the whole world. According to the Namibia Tourism Board, about 95% of accommodation by tourists to Namibia is now done through the Internet. Namibia has a big tourism industry. However, the ICT development in this sector is geared toward creating content in the Internet for the external clientele.

## **4.2. MINING SECTOR**

Namibia is a poor-rich country, given the availability of natural resources such as diamonds, fishing, uranium, zinc, copper to name but a few. One would question how, a country of 1.8 million inhabitants, 70 percent of who live just below the poverty line, how can it be challenged to provide its citizens access to basic information infrastructure, given so much wealth at its disposal? The answer is not that simple.

The rich natural resources are sitting under the ground or under the sea. They will not by themselves come out to bring wealth to the people of the land. The mining sector is very much dependent on costly geological mapping, exploratory studies and research data analysis. In Namibia, the government has established a Directorate of Geological Survey, which carries out geological mapping and evaluation of the exploration results. The exploration rights are leased out to international companies to carry out exploratory studies to locate and evaluate existing mineral resources and to mine.

The exploration studies are expensive because they are done by highly technical skilled staff and specialized equipment. These studies are financed by multinational companies that carry out the exploration studies, research analysis of the geological data and compile the reports.

Mineral resources are the economic factor that in fact can create conditions to create and maintain an independent sustainable economy. To achieve the economically important exploitation of mineral resources what the Namibian Government is doing is:

- Geological surveys creates information on the mineral base of the country – this information is well organized and processed – and freely or at a nominal costs available to investment companies.
- Government offers economic incentives and a well-developed easy to use licensing system to create interest and favorable conditions for international investment on the mining sector – for the investors to choose to invest in Namibia.

## **4.3. IMPORTANCE OF KNOWLEDGE MANAGEMENT**

In Namibia, the Mining Act, requires that companies provides the Ministry of Mines and Energy with a detailed report of their exploration findings irrespective of whether or not the exploration results lead to mining investment. Thus, the Mining Act<sup>9</sup> taps into a rich vein of knowledge for the future development of the country because every company which explore/prospect for minerals needs a license, which compel them to write a report on all the exploration experiments

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<sup>9</sup> Mineral Prospecting and Mining Act, No.33 of 1992

and results and deposit the findings with the Ministry of Mines and Energy. These exploration reports form a repository archive at the library of the Ministry and it has reports dating to the last century.

The of Ministry of Mines and Energy place a high value to this library and this appreciation is derived from economic benefits the library information contribute to the national economy. This archive is now being digitalized to safe guard the original documents. Digitalization also aims to incorporate information from reports with digital maps and all other geological data and information. It is extremely valuable information databank as can be judged from the high interest from national and international investors and mineral exploration companies.

Information means power and therefore one can really understand from the mining sector that the multi-national companies that are carrying out the exploration studies are the power of the mining sector. The companies have the information on the geological/mineral, financial feasibility calculations, as well as technological feasibility. They decide what detail to include in their report and what to leave out. If you do not have the knowledge base within your national economy, a country may have little control over this knowledge and can loose a lot of money due to lack of capacity and skills to counter check and verify the validity of the information deposited by big companies. Therefore information literacy is also expected to make officials understand the value of mining information to the economy of the country in order to make the right decisions for the future of the country.

## **5. CONCLUSIONS AND RECOMMENDATION**

For national policies to benefit the country, there is need for the state to have the capacity to evaluate independently incoming information to make policy choices that will benefit the country. Despite the information era, in which we find ourselves, it is still questionable, as to, what kind of information do we have at our disposal when planning and formulating policies in Africa?

- Namibia has started an ICT programs and they are bringing positive results in terms of efficient communication within the country and with the outside world. Namibia is characterized by uncoordinated ICT initiatives, which prevent effective utilization and sustainability of ICT expansion programs. For example, Ministry of Higher Education is putting up Youth Centers all over the country, Ministry of Information and Broadcasting is putting up Telecentres all over the country, Ministry of Basic Education, Sport and Culture (MBESC) is putting up libraries all over the country. Unfortunately there is little coordination of their efforts to use their bargaining power against the Telecommunications Authority. Each of them is charged separately and each of them is working without coordinating with the other parties. The end result is infrastructure that is not financially sustainable and cannot be maintained. There is thus need for a policy coordination of the Government sector to ensure that rapid expansion can be achieved at the lowest cost possible.
- The ICT is expensive and individual citizens cannot afford to buy computers of their own and to pay telecommunication fees to access the Internet. So, the technology is there but it is only benefiting the few.

- Public access through libraries is at the moment not sustainable due to very high cost of telecommunication infrastructure.
- The ICT expertise is needed in the country at both planning and implementation levels to make ICT strategies feasible. Namibia must make ICT training as a priority field of study to ensure the availability of local expertise to build, sustain and maintain the infrastructure and find alternative strategies for implementing feasible ICT programs.
- There is a need for partnership forming amongst the institutions that need telecommunication infrastructure to strengthen their negotiating power to secure sustainable/affordable telecommunication services.
- Partnership forming with training institutions, private sector and government to ensure tailor-made training for the needed ICT skills.
- Community Libraries throughout Namibia provide access to information and knowledge; they are the center for lifelong learning. ICT skills training for library staff and the provision of ICT equipment and software is necessary because these libraries exist all around the country and they are utilized on a daily basis by many people. With ICT support these libraries have a potential to become information centers in the real sense of the word.
- ICT is contributing to economic development because local information is more organized and accessible to investors worldwide through electronic format and communication network
- It is envisaged that a library consortium would be formed in Namibia to create a pressure group to negotiate for cheaper and wider access to ICT. The consortium is expected to address issues of capacity building for working librarians to bring them at par with technological development and to bridge the digital divide through resource sharing.