THE IMPACT OF ICTS IN THE LIVES OF PEOPLE: A CASE STUDY OF MMAPHASHALALA VILLAGE KITSONG CENTRE USERS

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ABSTRACT

The study evaluated the impact of access and use of ICTs in the lives of users at Mmaphashalala Kitsong Centre. The study was a descriptive case study which employed the use of questionnaires, interviews and unobtrusive observations. The study was guided by the International Fund for Agricultural Development (IFAD) Sustainable Livelihood Framework. Findings revealed that some users acquired some ICT skills which they learnt from the Kitsong centre. Findings further showed the varied use of ICTs among different age and gender groups. The outcomes of using the ICTs offered through Kitsong Centre included: income and employment generation; information sharing and enhanced communication; advertising and marketing; educational research and entertainment. The individual motivational factors which influenced the users to use the centre are reduced travelling distance, cost savings and training. The study concludes and recommends that awareness and good marketing of ICT services should be done. This study could be helpful to the government of Botswana and the private sector on how they can improve on their telecenter/Kitsong centre initiatives. It could also be beneficial to the entrepreneurs who wish to start on the business of Kitsong centres.

Keywords: *Botswana, Mmaphashalala, International Fund for Agricultural Development (IFAD), Information Communication and Technology for Developments (ICT4D), Information Communications and Technology (ICT), Kitsong centres*

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1. INTRODUCTION

One of the principles which have been put forth by the World Summit of Information Society (WSIS) held in Geneva in 2003 is to encourage member states towards attaining the status of information society. Member states are encouraged to build the information infrastructure through telecommunications and invest in technology, achieve universal and equitable access to information technology and make information a common goal to everyone (WSIS, 2003a; Joseph, 2014). WSIS encourages member states to connect rural areas, universities, colleges, secondary and primary schools, scientific and research centres, public libraries, cultural centres, museums, post offices, archives, health centre, hospitals and all local and central governments departments with ICTs and establish access points (Joseph, 2014). In Botswana, through the Maitlamo National ICT policy initiative of connecting commnuties, we have seen the government providing access to ICTs to the rural communities through the Kitsong Centres, an equivalence of telecentres (Joseph, 2012; 2014).

The Kitsong centres house and provide ICT services to the community rural dwellers. According to Mazhani (as cited in Joseph, 2014,) the Kitsong centres are an initiative which was brought about by Botswana Technology Centre (BOTEC), a research and development institution. BOTEC carried out a desk study on the use of the Internet technologies and how these could be developed to benefit the rural communities in terms of information exchange and the applications of ICTs. BOTEC gave these centres a name “Kitsong centres” to try and associate the centres with “acquiring knowledge” for socio-economic development for the rural communities (Mazhani, 2009). According to Kuthan (2009), after the completion of the pilot project BOTEC handed over the project to the government of Botswana and then the Kitsong centres were transferred to BotswanaPost for countrywide implementation via post offices.

Kitsong centres also include the centres all around the country which are opened after every commemoration of the WSIS day. Each village which host the celebrations of WSIS day and has no centre or is not closer to any village with a centre is normally equipped with the ICTs afterwards. The Kitsong centres also comprise of centres which are a result of Nteletsa 11 project. Through the Nteletsa 11 project, the government extend the telecommunications services and sets up of ICT infrastructure to all rural areas of the country.

The government of Botswana contracted Botswana Telecommunications Corporation (BTC) and a private telecommunications service provider, Mascom Wireless mobile company to implement and set up the Kitsong centres through the Nteletsa 11 project in rural and remote areas around the Botswana (Cossou, 2011). The village development communities and youth entrepreneurs together with Mascom run the operations of these centres. (MTRP, 2009). The following services are offered through these Kitsong centres: Internet-based services and the small business support services provided to the communities at a nominal fee, classified as: fax, photocopying, desktop publishing and printing services (Joseph, 2012; 2014).

1.1 STATEMENT OF THE PROBLEM

Illiteracy and lack of ICT skills and training does not only hinder economic and social development, it is a major obstacle to the spread, access and use of ICTs (OECD, 2008). Similarly, the use of ICTs as a tool for economic growth and poverty reduction especially by creating new opportunities for income and employment generation is a multi dimensional challenge (ITU, 2006; OECD, 2008).Therefore it is not sufficient to address ICT at economic and technical levels only, but it also requires the social context, that is, the impact on people.

According to Tsiane (2011), Botswana is faced with challenges and problems of ICT access and use. There are disparities in usage and training of ICTs between females and males. There is less representation of women in core ICT services and occupations (SADC, 2010). This disparity is also evident among the different ages, particularly the younger generation being the ones who access and use the ICTs more as compared to the older age groups (ITU, 2006). Therefore, the impact of ICTs (Kitsong centres) on lives of people, particularly in terms of ICT skills, training, income and employment generation and overall contribution to the millennium development goal of eradicating poverty and discrimination on gender issues has not been assessed in Botswana. Only one study by Morakanyane (2010) has been done so far about the Kitsong centres in Botswana since their establishment in 2004.

The study addressed impact on a general broad note, without showing the area of impact explicitly. It investigated how much the centres have made impact in the lives of the communities, communities's attitudes towards the centres and the experience and lessons communities learnt from the centres. Hence, the purpose of this study is to find out the impact of

ICTs access and usage at Mmaphashalala Kitsong Centre among users of different ages and gender groups, focusing on ICT skills and training, income and employment generation.

1.2 RESEARCH OBJECTIVES AND QUESTIONS

In order to address the aforementioned problem, the study considered the following specific questions and objective

Table 1: Study's research objectives and questions

RESEACH QUESTIONS	RESEARCH OBJECTIVES
1.What is the impact of PAV ICTs at Mmaphashalala Kitsong Centre on ICT skills and training of the users? 2. What is the impact of PAV ICTs at Mmaphashalala Kitsong Centre on income generation and employment of the users? 3. What are the skills empowerment measures in place to the users of Mmaphashalala Kitsong Centre? 4. What are the differences or variations in terms of ICT access, use and skills across the gender divide of the users of Mmaphashalala Kitsong Centre? 5. What are the differences or variations in terms of ICT access, use and skills across the age groups of the users of Mmaphashalala Kitsong Centre? 6. What are the livelihoods assests which users of Mmaphashalala Kitsong centre have? 7. What are the livelihood outcomes emanating from the access and usage of PAV ICTs at Mmaphashalala Kitsong centre?	1. To find out if there is any impact of PAV ICTs at Mmaphashalala Kitsong Centre on ICT skills and training of the users. 2. To find out if there is any impact of PAV ICTs at Mmaphashalala Kitsong Centre on income generation and employment of the users. 3. To explore skills empowerment measures in place to the users of Mmaphashalala Kitsong Centre. 4. To explore variations in terms of ICT access, use and skills across the gender divide of the users of Mmaphashalala Kitsong Centre. 5. To explore variations in terms of ICT access, use and skills across the age groups of the users of Mmaphashalala Kitsong Centre. 6. To identify the livelihoods assests which users of Mmapshalala Kitsong centre have 7. To explore the livelihood outcomes emanating from the access and usage of PAV ICTs at Mmaphashalala Kitsong centre.

2. METHODOLOGY

This section discusses the methodology which was carried out in conducting this study. The section discusses the framework which guided the study, sampling, participants, data collection and analysis procedures and the study's limitations.

2.1 THEORITICAL FRAMEWORK

This study adopted the use of the **International Fund for Agricultural Development Sustainable Livelihood (IFAD SL) framework.** The IFAD SL framework components or indicators which this study covered include: the people (users of Mmaphashalala Kitsong Centre), socio-economic factors of the users -: age and gender, vulnerability context of trends (Mmaphashalala Kitsong Centre - ICTs), three of the capital assets (the livelihoods assets): human capital, physical capital and personal capital and lastly the livelihood outcomes. Figure 1 below show the IFAD SL framework.

Figure 1: IFAD Sustainable Livelihood Framework (Peach & Townsley, 2004).

International Fund for Agricultural Development (IFAD) Sustainable Livelihood framework is an improvement of the Department for International Development (DFID) Sustainable Livelihood framework. The original DFID SL framework shows how, in different context, sustainable livelihoods are achieved through access to a range of livelihood resources (natural, financial, human, and social capitals) which are combined in the pursuit of different livelihood strategies. Central to the DFID framework is the analysis of the range of the formal and informal organisational and institutional factors that influence sustainable livelihood outcomes. IFAD SL framework, which is an improved version of the DFID, is built to include certain important aspects which impact on the livelihoods of people. These aspects which were not explicitly expressed in the original DFID SL include the people (poor) at the centre, social processes:

gender, age, class and ethnic group, personal assets, delivery agencies, enabling agencies, markets, politics, culture, rights, aspirations and opportunities.

The framework replaced the DFID SL framework strategies with actions (Peach & Townsley, 2004). This framework makes the relationships between the vulnerability contexts and other elements in the framework such as people, their socio-economic factors such as age, gender, ethnic ability, class, capital assets and the policy and process structures clearer and more explicit. If the people are able to access the livelihood assets and are adequately supported by service providers and enabling agencies as well as making the markets, politics, rules and norms work to their advantage, and then it should help them cope with those elements of their vulnerability context.

2.2 SAMPLING

Purposive sampling was used to select the Kitsong centre located in Mmaphashalala village which is operated by a young Motswana entrepreneur who is supported by Mascom Wireless company. Mmaphashalala Kitsong Centre is part of the Nteletsa 11 project. It is under the control of Mascom Wireless mobile company in area 4. Mmaphashalala Kitsong Centre is located in Mmaphashalala village in the Central District of Botswana. It is situated at the hub of the village, surrounded by the developments such as the: government offices, kgotla (tribal authority), police station, primary school, a health clinic and some community churches. There are also some homesteads closer to the centre. Mmaphashalala Kitsong Centre offers the following services: Mascom airtime and simcard purchases, headsets, email and Internet services, pay phones, mobile charging, printing, faxing, photocopying, scanning, typesetting and computer tutoring. The centre houses eight computers, a scanner, copier, fax machine, three payphones, furniture (chairs and tables) and is air conditioned.

2.3 PARTICIPANTS

This study was carried out to explore and gain deep insights into the use and impact of ICTs at Mmaphashalala Kitsong Centre on lives of users. The sample of this study comprised of the males and females users of Mmaphashalala Kitsong Centre, who were of different ages ranging from 16 years old. The samples were selected by the use of the purposive sampling technique and theoretical sampling. The validity of the measuring instruments was measured by pre-testing.

The interviews were carried out and questionnaires administered to two University of Botswana librarians and ten users at an Internet cafe in Gaborone to check if the people can be able to understand the questions well. Written permission to conduct the study was obtained from the Ministry of Transport and Communications, at the Department of Telecommunications and Postal Services Office dealing with the Kitsong centres.

2.4 DATA COLLECTION AND ANALYSIS

In this study, interpretations and conclusions were made from source materials of transcripts of interviews and observations which were aimed at reproducing the meanings of the realities as seen by users of Mmaphashalala Kitsong Centre. This study used the descriptive case study method. Interviews and observations were used to gather information about the ICTs and how they impact the lives of the users. Information was also gathered through questionnaires about the demographic details of users.

The data obtained was qualitatively analysed. This involved usage of thematic analysis procedure emphasised by Braun and Clarke (2006) and Computer assisted qualitative data analysis software (CAQDAS). The CAQDAS which was used in particular was the Weft QDA.

2.5 LIMITATION OF THE STUDY

This study did not cover all the elements of the IFAD SL framework. It focused only on the users of the Kitsong centre; age; gender; vulnerability context of trends (ICTs provided through the Kitsong centre); capital assets: personal, human and physical; opportunities, actions and aspirations as the outcomes of ICTs as shown in the framework. Non users of the Kitsong centre were excluded from the study because impact was assed only on those people who were using the centre. The study was limited to one site-case study so that in-depth insights of people's vulnerability context of introduction of the ICTs- the Kitsong centre could be fully explored.

3. FINDINGS OF THE STUDY

The study sought to find out the impact of ICTs access and usage at Mmaphashalala Kitsong Centre among users of different ages and gender, focusing on ICT skills and training, income and employment generation. The demographic characteristics of users who were interviewed in this study are: gender, age, occupation, highest level of education and the individual income.

The respondents comprised both males and females whose ages ranged from 16 years and above. The respondents comprised of the youth and the elderly people both groups comprised of the employed and unemployed, students and business personnels. The findings which emanated from this study, which was mostly qualitative in nature, were collapsed and organised according to the major following categories and themes: **skills and training; ICT use and outcomes; possession of ICT assets and the motivational factors for ICT use.** These findings are discussed below. Throughout the discussion, the findings are linked or interwoven to the study's objectives, linked to the literature review and some of aspects of the IFAD SL framework which the findings illuminate.

IMPACT ON ICT SKILLS AND TRAINING

The findings of the study indicated that users had or acquired skills: **already existing skills** before using the centre and **acquired the skills** through the training offered at the Kitsong centre. The findings show that through these ICT skills and training, they are able to use them in different activities which help them to sustain and live better lives. They use the skills to apply for jobs, sustain already existing jobs they had, do educational researches, information sharing and communication.

This study results seem like what Lopez- Bassols (2002) pointed that, there are strong reasons to believe that as ICT continues to diffuse throughout the economy, basic ICT skills are becoming a new category of general competency, like numeracy or literacy skills. Lopez- Bassols argues that ICT skills not only increase the earnings potential of information workers, they are becoming necessary for a broad range of activities. Hence, in addition to creating a larger and more skilled ICT workforce, the focus should also be on building ICT skills for all.

The IFAD SL framework which guided this study indicates that human capital is an important aspect which people should have or should be trained on in order to deal with or endure their vulnerability context. Human capital according to the framework is the skills, knowledge and ability to labour and good health and physical capability important for the successful pursuit of different livelihood strategies. It is necessary for the users of Mmaphashalala Kistong Centre to have or acquire the ICT skills and knowledge. This would help them to endure the vulnerability context of trends of ICTs which are brought to their environment through the Kitsong centre.

Through the skills they attain from the Kitsong centre, they would be able to pursue different livelihood strategies which can better and help sustain their lives.

IMPACT OF ICTS ON INCOME AND EMPLOYMENT GENERATION

The study sought to find out if the ICTs had an impact on income and employment generation of the users. The findings revealed that the ICTs offered through Mmapashalala Kitsong Centre plays a very crucial role in how some users earn their living. The results revealed that some users were helped by the ICTs at the Kitsong centre to sustain their business which they earn their living from.

Lopez-Bassols (2002) study on ICT skills and employment also reflects this, that indeed information and communication technologies (ICTs) offer the promise of new business and employment opportunities along with elevated productivity gains. Other studies also reflect that there is a significant substantiation of how ICTs have facilitated business activities, such as: customer acquisition and retention in remote communities, for marginalised people and others in developing nations (Batchelor, et al., 2003; Boateng, et al., 2008; Dalvit, et al., 2007; Donner, 2007; Molony, 2006; Odame, 2005; Soriano, 2007; Ulrich, 2004; Wood, 2004)

According to IFAD SL framework the actual impact of any intervention must take into account people's views and actions regarding what they perceive as the outcomes of interventions under review (Omosa, 2002; Peach & Townsley, 2004). Hence, the users of Mmapashalala Kistong Centre use the ICTs (Kitsong centre) and benefit from using it as one of the outcomes is of income and employment generation. The ICTs are helping them in various ways: the business people are coming up with business strategies. The strategies mentioned on this study are business related and are: business advertisement and marketing through the ICTs provided by the centre. Similarly, other users who are not business people also see the ICTs (Kitsong centre) as beneficial still on the outcome of income and employment generation. The Kitsong centre helps them and equips them for new opportunities (jobs). The IFAD SLF emphasise that the livelihood outcomes can include increased income and savings, but mostly, include improved wellbeing.

SKILLS EMPOWERMENT MEASURES

The results of the study showed that there is computer training and tutoring done at a nominal fee. Users are trained on how to use ICTs. Through this empowerment measures or training, users are able to operate the technology, benefit from using it, either through information sharing or enhanced communication, education, research, entertainment, income and employment generation. The results of this study looks like what O' Connor et.al. (2007) points, that everyday activity have been transformed by ICTs and as a result there is a growing need for all citizens to acquire a basic knowledge of ICT. Similarly, this is also pointed out by Boo and Blanco (2010) that, basic ICT skills can play a pertinent role in increasing employability. Boo and Blanco further point out that people can be excluded from consideration for employment just by virtue of not being able to demonstrate basic ICT knowledge.

GENDER AND AGE USE OF ICTS

The study's findings revealed the ICT use of surfing the Internet to be cutting across gender and age. The findings further revealed that the Internet was surfed and accessed for business websites, social network and for communication. Based on the study's findings, it can be said that all gender groups use the ICTs. However, there are variations in terms of use and patterns of use. For example young males used the Internet to surf entertainment websites such as YouTube and played computer games from those website while young females read online fashion, home decor magazines and social networked. These variations could be attributed to the fact that generally males are always considered to have the competencies of utilisation of the ICT skills more than females. A conclusion explaining variation in terms of use can be made based on the assumption that may be females choose those activities that they are easy for them to handle or do, which will not give them any problems.

This interpretation or assumptions echoed what by Gillwald, Milek and Stork (2010) and Tella and Mutula (2008)'s study's findings showed, that lack of relevant competencies in utilisation of ICTs is said to be more prevalent in females than in males. On the other hand, elderly people accessed the centre to mostly get the services such as printing and photocopying documents and only those elders who surf the Internet had a tertiary education qualification and had the ICT skills. Therefore, it can be concluded that young people used the ICTs especially Internet and the

elderly used the centre to mostly get the printing, photocopying and scanning services. This might be because most elders who were interviewed have gone as far as secondary with their education as compared to the young people.

The findings of this study which shows that young people access and use the Internet confirms what Hermes, Hestman and Haeland (2000) observed in their study of age and ICTs related behaviour of teachers in Nigeria, that the share of teachers who stated that they have good command of the use of the Internet were young teachers of the ages of 25 years and below. This study results also seem to be like the results of Parkison and Lauzon (2008) study of the impact of Internet on local social equity in a case study of a telecentre users and non users at Arguablanca. Their study showed in general that those who had never used a computer and Internet were older and less educated. Those who had used the Internet were more likely to be students or the employed with basic ICT skills.

The nature of the IFAD SLF is bottom up. Hence, people are placed at the centre as they are the key players in each context. A set of fundamental social processes: gender, age, class (or caste) and ethnic group are always placed immediately around the people in the framework. According to the framework, these are the factors that influence the relations of the people in everything. They also highlight the importance of a clear definition of who, for instance (e.g. children, young women, young men, elderly people) access and use what (e.g. capital base such the physical assets, human capital and so on) to sustain their livelihoods (Peach & Townsley, 2004). Therefore, as the framework emphasise, the people who are placed at the centre of investigation here are the users of Mmaphashalala Kitsong Centre. Their demographic or social status are also stated, that is their gender and ages. This is done to clearly define each user who uses the centre, their ages, gender. Their assets are also investigated to find what they own which they sustain their lives with.

OUTCOMES OF ICTS

The key findings of the study showed some outcomes which the users said were a result of using the Kitsong centre. The users mentioned outcomes such as information sharing and enhanced communication, contribution to education and research, crime and social ills prevention. It can be concluded that ICTs offered through Mmaphashalala Kitsong Centre are very helpful in the

lives of the users because they assists them with livelihood strategies. ICTs are facilitating the livelihoods strategies in different ways. Users access information using these ICTs at Mmaphashalala Kitsong Centre which in turn help in increasing participation in economic and human development activities (e.g. education, research and business markets).

The idea that ICTs can yield or facilitate the livelihood strategies of the users which improves their lives as shown in the results of this study is also highlighted by Duncombe (2006), McNamara (2008), Parkinson (2005) and Grunfeld (2011) . These studies have shown that there are different ways in which ICT could facilitate the livelihood strategies by providing access to employment, creating more opportunities for interactions and communications. Hence, leading to new economic opportunities (e.g., through improved market information whether for supply or demand purposes).

The IFAD Sustainable Livelihood Framework, emphasise that the actual impact of any intervention must take into account people's views and actions regarding what they perceive as the outcomes of interventions under review (Omosa, 2002; Peach & Townsley, 2004). In other words, the framework allows for the application of a 'negotiated' set of indicators to measure performance and success. These indicators are seen as negotiated because they are derived from the 'target beneficiaries' themselves and this is arrived at by using the people's own objectives and actions in pursuing certain activities (Carney, 1998).

The livelihood outcomes can include increased income and savings, but mostly, include improved well being, reduced vulnerability to risk, improved future livelihood options, and the sustenance, or even replenishment, of natural resources (Parkinson & Ramirez, 2006). Therefore the study results show peoples's views about the usefulness of the ICTs (Kitsong centre), the actions they do of accessing and using the ICTs offered through the Kitsong centre as guided by the framework. The study's results further show the strategies these users come up with to improve their livelihoods for example, business people use the ICTs to advertise and market their businesses. Some users use their human capital (skills) to work and earn a living. The users also make use of the ICT to help with a long term goal of education which can be seen as a strategy and also an opportunity which one pursues to improve his or her life.

LIVELIHOODS ASSETS

The study findings revealed that some of the users of the Kitsong centre had the human (user skills), physical ((owned) some ICTs garget) and personal assets (motivational factors to use the centre). They were motivated to use the centre by factors such as reduced travelling distance, reduced costs (cost saving) as well as the training and the support they got from the centre).

Assets in general can be helpful in terms of sustaining and improving the lives of people. People are able to convert them to sustainable livelihood strategies which can help improve their lives, for example people can use their skills (human capital) to work and earn income. Physical capital can be sold also to generate income. This conversion also will be increasing the financial capital in the long run. Hence the users of Mmaphashala Kitsong Centre also converted these human capital-assets (skills) to sustainable livelihoods strategies such as looking for jobs and providing the printing and photocopying services to the other users as a way of generating income and increasing their financial capital.

IFAD SL states that resources and livelihoods are inter-linked and this relationship determines the type and direction of outcomes resulting from various interventions (Omosa, 2002). According to the IFAD Sustainable Livelihoods framework, some of the key resources that need to be looked into in assessing impact include natural capital; social capital; **human capital; physical capital;** financial capital and **personal capital**. Each actor may either own or have access to a unique set of these assets. Therefore, the results showed that users of Mmaphashalala Kitsong Centre had access to the centre which assisted or led users to have human capital, physical capital and personal capital. The results also showed how they used their capital base or assets to come up with ways to improve their lives. As the IFAD SL framework emphasises, such an analysis of the asset portfolio of people under study provides a useful starting point in efforts aimed at understanding how and in what combinations assets translate into sustainable livelihoods (Carney, 1998).

4. CONCLUSIONS

After careful consideration of the unobtrusive observations results and what the interviewees said about the ICTs provided through Mmaphashalala Kitsong Center, it can be concluded that, through the use of the ICTs provided through Mmapashalala Kitsong centre some users managed

to acquire some ICT skills. ICT skills were mainly the basic computing skills, typing, scanning, faxing and Internet skills. The Kitsong centre has enabled the users to carry out different activities with these skills. The users of Mmaphashalala Kitsong Centre also mentioned that as a "result" of using the ICTs, they are "able" to experience positive outcomes such as income and employment generation; information sharing and enhanced communication, advertising and marketing; contribution to education and research; entertainment and crime prevention. The motivational factors of using ICTs show that the availability of the Kitsong centre (ICTs) at Mmaphashalala village motivates the users to use the ICTs because it is closer to them. The users used the words like "it shortened" or "reduced" travelling distances and saved costs to go and do the services such as printing, faxing, scanning, photocopying and lamination of documents in their neighbouring places such as Mahalapye. Therefore it could be concluded that the ICTs offered through Mmaphashalala Kitsong Centre has a positive impact on the lives of Mmphashalala people(users of the centre) on ICT skills and training, income and employment generation.

5. RECOMMENDATIONS

In view of the findings, the following recommendations are made.

The study findings revealed that elderly people accessed the centre to mostly get the services such as printing and photocopying documents and only those elders who surf the Internet had a tertiary education qualification and had the ICT skills. Therefore the researcher recommends that the elders should be made aware of the Internet and encouraged to enrol in the training and tutoring lessons. This could help increase the level of ICT literacy and awareness as well as an understanding of ICTs and the Internet.

Another issue which is revealed in the findings of this study is of training in Kitsong centre which is informal and not awarding certificates. A recommendation is made that in the future as telecentres or Kitsong centres grow, the private and financing organisations or companies who establish them, should consider making the training formal and provide certificated programmes. These programmes should also be accredited and should offer official and recognised certificates which can be used for employment opportunities. This is in-line with one of the pillars of

Botswana's vision 2016 which the Government is aspiring to have an educated and informed nation by the year 2016 (Botswana MDGR, 2010).

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