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The African Experience with ICT for Rural Women's Development

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1. Introduction

ICTs for the development of rural women

Information and Communication Technologies (ICTs) such as radio, internet, telephone, television, computers and mobile phones can facilitate communication, processing and transmission of information. Singh (1999) defines rural development as the process that lead to sustainable improvement of the quality of life of the rural poor. Rural women play a major role in rural development.

ICTs have the potential to improve the quality of lives of the rural women. Information and Communication Technologies for Rural Women's Development (ICT4WD (Joseph 2007) research stems from the lack of understanding of rural women's capabilities for their development through the use of ICTs. ICT4WD is an ongoing project that facilitates the development of rural women using ICTs. The aim of this project is to create awareness of the potential of ICTs and to improve the quality of life of rural women through the use of ICTs in developmental projects. This chapter covers only some aspects of the above ICT4WD research project.

The following meta-theoretical considerations guide this research.

- ICTs have the potential to develop rural women.
- Rural poverty can be addressed through the use of ICT-enabled projects.
- The political arrangements, cultural and social barriers would hinder rural women in accessing communication technologies.
- Mere provision of low cost technologies, good ICT infrastructure and access to the technologies may not necessarily empower rural women. The ICTs should be suited to the rural women's needs.
- Providing more opportunities for the empowerment of rural women can enhance women's capabilities and lead to rural development.

After almost seventeen years of democracy and implementation of many transformative strategies, South Africa still faces many challenges to empower the rural communities. The Constitution of South Africa (Act no 108, 1996) guarantees to improve the lives of all citizens and free the potential of each person. Most of the rural women in South Africa still lack socio-economic opportunities and come from female-headed households. They were deprived of access to land partly due to cultural norms and live in poverty.

Some of the South African rural women still lack basic needs, and have other economic hardships related to HIV / AIDS as well as Tuberculosis in their family. Some women are subjected to human rights abuses and violence against women. When their physical needs were met rural women were satisfied. ICT-enabled developmental projects will provide more opportunities for African rural women's development.

2. Objectives and scope of the study

The aim of this chapter is to highlight the opportunities ICTs can provide for rural women's development and to propose strategies for their development. The key research question here is "Can the expansion of capabilities through the use of ICTs develop the rural women in Africa?". The chapter provides novel ways to understand ICT4WD through Sen's human development paradigm - the 'Capability Approach' (Sen 1999 a. 1999 b.). The chapter will provide insights and experiences on the lives of rural South African women through the use of case studies and visual methods.

There was a need to understand the opportunities provided to the rural people in South Africa in order to expand the choices of rural women. The deep understanding of the quality of life of rural women in South Africa, the challenges they face and the associated capability of the rural people to function is crucial to this ICT4WD study.

The study examines the need for rural women's partnership in the ICT projects to improve their quality of lives. Some of the rural women working in Johannesburg, South Africa are migrant laborers from other African countries and other provinces of South Africa. The study explores how and why these rural women came to cities of South Africa as well as the role of ICTs in the rural women's developmental goals. The literature review would throw light on similar initiatives elsewhere in Africa that enable rural women empowerment through ICTs.

The sub-objectives of this research are:

- To explore the lives of rural women in Africa;
- To analyze the role of women agency in rural women's development;
- To identify the opportunities that ICTs can provide for African rural women's development;
- To identify factor impeding rural women's development;
- To apply Sen's capability approach to conceptualize African rural women's development through the use of ICTs.
- To propose strategies for African rural women's development.

3. Research methodology

Qualitative research (Denzin, N. K., & Lincoln, Y. S. 2000; Silverman 2010) was used as it allowed active and direct involvement of rural women, organizations and the researcher to understand the role of ICTs in rural women's development. Literature review enabled a deep understanding of rural women's capabilities and insights on the livelihood of rural women in Africa. Qualitative research tends to be systematic, inductive and subjective. As a result it tends to produce results that cannot be generalized. The data analysis is specific to the participants in the African context only.

The research methods used for this study are case study approach and 'visual methodology' (Rose 2004). Case study and visual methodology helps to interpret and make sense of rural women's life experiences and the world in which they live. The rationale behind the single case study is that it is a 'longitudinal case'; a 'critical case' and a 'unique case' (Yin 2009).

A 'typical' and unique case study (Yin 2009) based on the National Movement of Rural Women (NMRW) and its' role in empowering rural women are provided. *"The case study is in a sense a kind of simulation of a real-life situation in which the experience is second-hand and probably condensed. The important merit of the case study is that it allows a problem to be studied in a complex form, including elements of real-life events..... The main virtue of case studies is the way in which they can efficiently integrate a wide diversity of subject matter"*(Jaques 1994: 94).

Data collection methods involved in the case study approach involved interviews with rural women from different age groups, locations and the rural women's organization in South Africa. During sampling, 'convenient sampling' was used for both research methods. Interviews allow for a sustained interaction and the discernment of subtle nuances of unfamiliar perspectives (Bell, 1993:89). Unstructured questions were posed to the rural woman during face-to-face interview during the period October- November 2010 to a rural woman in NMRW. The organization and its role in developing rural women are of national importance.

The case study of another rural woman intending to work in a similar woman's organization was collected in the year 2010 and reexamined in June 2011. These case studies are 'typical' story of the life of women in Africa and will provide insights on the lives of rural women in South Africa as well as the role of ICT in their daily lives. I had to also rely on interviews with rural women and 'visual methodology' (Rose 2004) as well for such a study.

Michael Emmison (2011) opines the two-dimensional images (photos) are a constituent feature of social life. The photographs provided a way to 'see' the lives of rural women and the use of ICTs by women for their development, as opposed to just 'listening' to their stories. The visual still images were selected from a 4 year period. A major growth is certain in the use of video given the affordability of the new digital technologies (Michael Emmison 2011).

The main data analysis technique used to analyze the visual data and the text is content analysis. 'Content analysis has been defined as a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding'(Krippendorff, K. 1980). In the case of videos the unit of observation is 'video segments'. Some videos consist of many still images. The unit of analysis is sentence unit that indicate the main category 'ICT for African rural women's development'.

Table 1 shows the search criteria used for final sampling of videos. Themes based on the categories were also identified. Although seven videos were initially analyzed from relevant international organizations such as ITU (2010), World Bank (2007), FRI(2008) and other women's organizations, only four were selected.

3.1 Case study 1: National Movement of Rural Women (NMRW), South Africa

National Movement of Rural Women (NMRW) is an independent , Section 21 non-profit making organization made up of poor rural women from South Africa. The movement came about after forced evictions from ancestral land by the apartheid system in South Africa. The movement concentrated in areas where the black people suffered as the result of the evictions.

Search criteria used in You tube(2011) for the 'final sampling' of video:

- Rural women of South Africa
- Radio by farmers
- Female broadcasters
- Village phone
- Potential of ICTs
- Telemedicine in rural areas

Table 1. Search criteria used for the final sampling of video

The customary law made African women minors. In certain instances husbands left them seeking jobs in urban areas. Most of the decisions for the women were taken by their husbands. Traditional leaders had an equal role in certain decisions in their lives. Women had unequal succession rights to the land. Moreover wealth was calculated in livestock. Women were allowed to buy cows with husband's remittance, but could not sell without the permission of husbands. During land removals men were organising alone. Women in those areas came with different agendas that tackled other issues such as customary marriages, inheritance, abusive men, issues of poverty.

The movement has extended to other rural areas where these and other issues were also tackled. Some income generating strategies or projects were used to address issues of poverty and empowerment of rural women. Rural women from Limpopo are trained to do internet banking, work on computers and sell agricultural products. As part of the chicken farming initiative the farmed chicken are cut into pieces and sold to the local communities. This project is active in provinces such as Limpopo, Kwazulu Natal, Mpumalanga and NorthWest.

I (author) was invited to train many rural women working in NMRW, Johannesburg at the end of the year 2010. The rural women working in the organization were provided basic training in computers, file managing, spreadsheets, creating documents, fax, faxtoemail, mail and paint programs. During the year 2011 other provincial co-ordinators will be provided similar training. The women will use these skills to run small business in their areas.

These women will enhance the capabilities and provide ICTs skills or training to other rural women with guidance and support from NMRW located in Johannesburg. At the end of the training session, I interviewed some of the women working in NMRW, Johannesburg.

3.2 Case study 2: Life of rural women in South Africa

The following section provides the life of two rural women in South Africa. One rural woman (Cynthia Khulamo) is already working in NMRW and the other woman (Lethabo Mashego) intends to join the women's organisation for her development. Some of the unstructured questions posed to the rural women were :

- How did you make a living?
- What did you spend your wages for?
- What are the traditions and customs followed during marriage?
- Did you use ICTs such as computer, mobile phone, radio, internet etc. and for what purpose?

i. Life of Cynthia Khumalo

Ms. Cynthia Khumalo(not her real name) is a rural woman who was living in the rural areas of South Africa. Cynthia's family is from Lesotho, but she has been residing in South Africa for many years and she is now staying permanently in South Africa. Cynthia is 56 years old and a mother of three children. Cynthia had gone through a customary marriage (not a polygamous marriage), had a lebola ceremony and later her marriage was registered through a legal office.

She says her marriage helps her community and family to acknowledge what wealth she brought to her family. Many of her friends had gone through a polygamous marriage. The traditional leaders, 'to be' husband and elders made these decisions for them. Although the first wife in the marriage has to take major decisions in rural women's lives, often the above people made choices in polygamous marriages.

Cynthia mentioned her friends sell jewellery and other crafts made of beads to generate income for the family members. Other friends made a living by selling eggs, 'African beaded(or printed)' mobile phone pouches, pen cases and vegetables. Cynthia herself used to make a living by selling tupperwares until NMRW identified her as a candidate to 'provide ICT training'. She currently works as an administrator for NMRW in Johannesburg. Now that she knows how to use ICTs, Cynthia mentioned it would have been ideal for these rural women to market products or generate income through 'ICTs skills' as well.

Cynthia currently uses ICTs such as mobile phone, computer, internet(email), fax, newspaper, TV and radio. Radio was mostly used for listening to music or news. There was no objection from her family members in buying or owning the above ICTs. Some of the ICTs such as TV and radio were bought by the family members, and they shared them. She mentioned she used ICTs to communicate, to exchange information, for security reasons and to learn new ICT skills especially through the use of computer as well as the internet. The South African newspapers (such as Times(2011) and Mail and Guardian(2011)) enabled her to increase her vocabulary as well as enhance her knowledge. She also mentioned the Internet, email and newspaper helps her to understand what is going on around her.

ii. Life of Lethabo Mashego

Ms. Lethabo Mashego (not her real name) is 22 years old and is a rural woman from the Venda tribe in Limpopo South Africa. She speaks Sepedi. Lethabo was 17 years when she delivered her first child. She was still at school when she fell pregnant and her daughter's father was her classmate. Her daughter's father dropped out of school to find a job to support their kid for two years only. Her mom was disappointed due to Lethabo's teenage pregnancy, but decided to support Lethabo and her child.

Lethabo is traditional, but does not believe in Sangomas (traditional healers), as she is now a 'converted' Christian. Lethabo's mum suffers from Tuberculosis and her aunt died of HIV/AIDS related ailments. Lethabo says she is glad that she has not attended any funerals for the past few years as the anti-retroviral medication is readily available now in Limpopo.

Lethabo's father used to work as a chief for the local King Mashego (who passed away recently). He used to help the rural people to purchase the land from the king. Even now her mom has to pay money to the king's son (the new King) to stay in the current land. Lethabo

and her mom are surviving with Lethabo's father's pension money as her father passed away in 2009.

Her mom had to sell atchar, cold drinks and old clothes to make a living. Her mom could make only R30 a day by selling these things. She spends some of money for bread, meat and milk on a daily basis. Lethabo mentioned water is free in Bushbuck ridge, and R100 a month from her mom's earnings was used for electricity in the past. During the month end, her mom collects money (R350) from a group of friends and uses the small amount from her husband's pension money to buy groceries in bulk. She buys groceries such a sugar, maize meal, washing powder, tea flour, cooking oil and shares it with her friends and family. She says buying in bulk is cheaper. Lethabo's mom had to pay R250 per year as school fees while she was studying. Nowadays education and food, during school hours is provided for free in most rural areas of Limpopo.

Although Lethabo completed grade 12 (matric) she had to move to Johannesburg and work as a helper in one of the houses to earn and send money to her mom to support her kid. She earns R1700 per month as a domestic worker, out of which she sends R400 to her mom to support her daughter as well. She visits her mom and her daughter twice a year for a few weeks. Another R350 is spent on transport per month, and R500 per month to rent (includes water and electricity) a one room outhouse in Johannesburg and R100 for food. She saves only R350 per month while working in Johannesburg.

She also describes how her sister got married. Uncles, aunts, and the traditional leaders (and indunas and chiefs) discussed the 'lobola' (bride price). Phulamelong (amount paid for initial ceremony) even to talk about such a lobola ceremony can be as high as R250. The amount the bride's family asks for lobola from groom's parents can be as high as R10000. There were instances when families paid R20000 for lobola. Lobola is paid as cattle each worth R2000 or more.

The money is first introduced to the ancestors, to make sure that her sister left the house. Lethabo explains if the bride does not fall pregnant or is not a hardworker the bride should go back to their father's family. Half or full amount of the lobola should be paid back to the bridegroom. Lethabo's uncle will decide her lobola, and her future husband, as he is involved in cattle-rearing and agriculture.

While in Limpopo, she uses radio to listen to the station Thobela FM (2011), watches TV (news and soaps). She used computers in the Centre for youth (Department of Home Affairs (2011)), mobile phones just to connect to people and to call family when 'there is something bad'. Library was something that she saw only in Johannesburg, and printed media (such as newspaper, books) were not popular there. Lethabo will be approaching NMRW soon.

3.3 Visual methodology

Visual methodology (Rose 2004) is yet another means of visual inquiry employed for this ICT4WD research. The photos and video links enabled rural women to share their life experiences with the rest of the world. These experiences were unavailable in writing. Still photographs used are based on other related projects. Both the case study and the photography help us to understand the role of ICTs in rural women's development and the life of rural women in Africa.

3.3.1 Photos

Figure 1, illustrates the rural women from remote areas of South Africa are provided ICT training in NMRW office in Johannesburg. The two rural women in this photo taken in the year 2010 have used ICTs for the past one year to expand their capabilities.

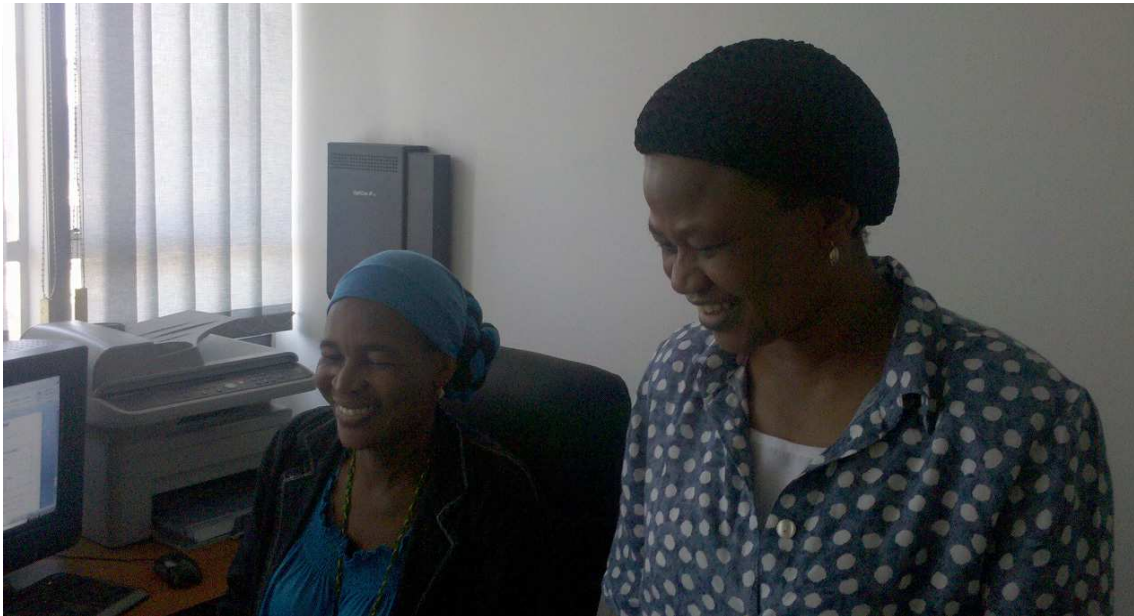


Fig. 1. ICT Training provided for the rural women by the women's organization in Johannesburg.

Figure 2, illustrates the rural woman using mobile phone.

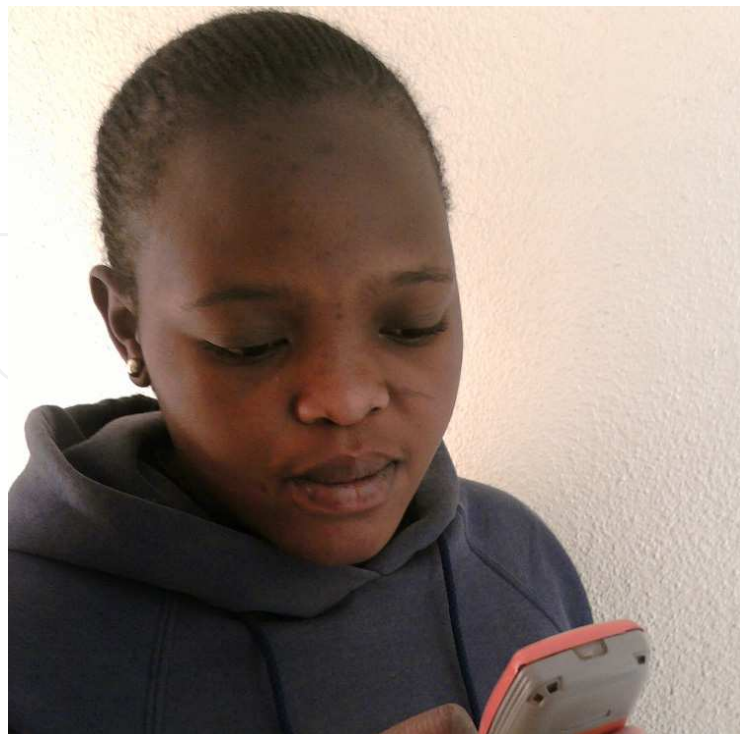


Fig. 2. A rural woman from South Africa using mobile phone.

Figure 3 illustrates the life of the rural women in Kenya. The woman in the picture is making a video on the conditions in rural areas. This photo taken in 2006 is part of the Practical Action project.



Fig. 3. Practical action. Photographer -Zulu

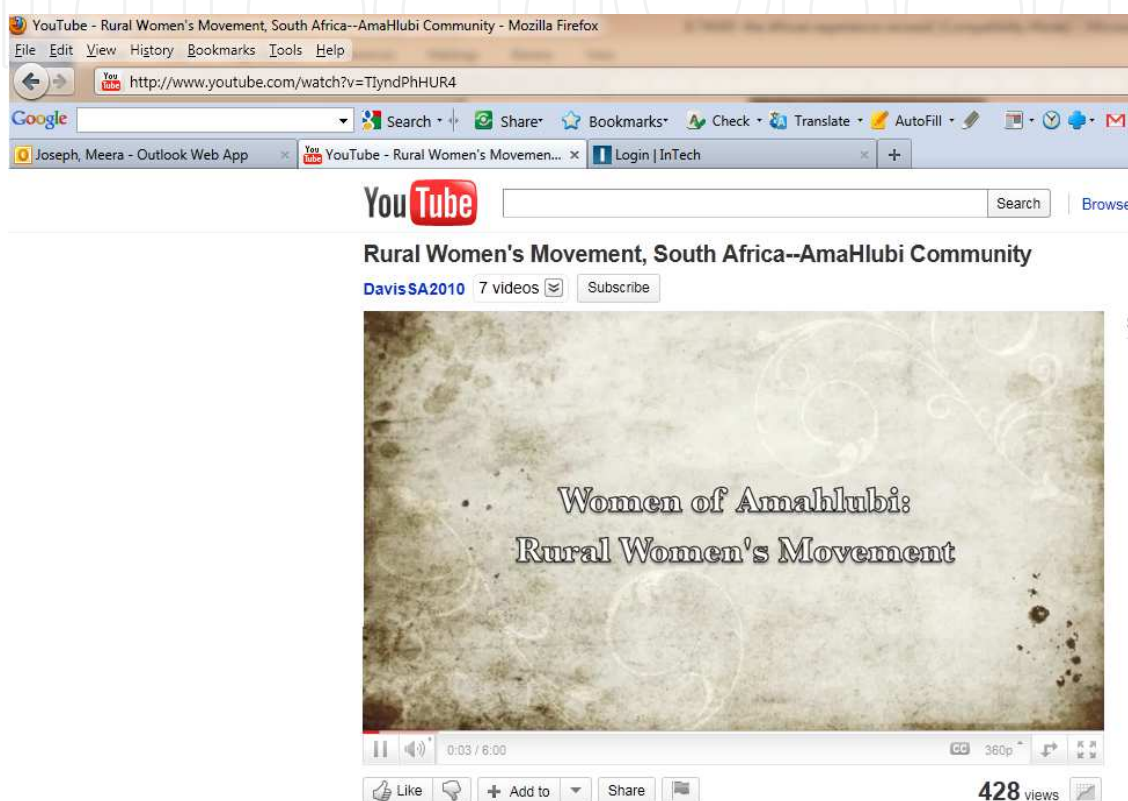
Figure 4 illustrates the rural women and peri-urban women getting ICT training at a community centre in Johannesburg, South Africa.



Fig. 4. ICT training at a community centre.

3.3.2 Videos

The living conditions and the quality of life of the rural women of Amahlubi, Kwazulu Natal, South Africa are evident in Video 1. The rural women lack facilities and there is clearly a lack of good infrastructure, inadequate water supply and lack of housing facility in the specific area as seen in the video. It is clear from Video 1 the rural women in the area under study face sexual and emotional abuse, domestic violence and HIV/AIDS. They use a community garden to produce the agricultural crops for sustenance. RWM used ICTs to address social injustice and to address land ownership rights.



Video 1. Rural Women's Movement (RWM), South Africa - Women of Amahlubi (Rural Women's Movement 2011): Source: Link: <http://www.youtube.com/watch?v=TlyndPhHUR4> (accessed 1 June 2011)

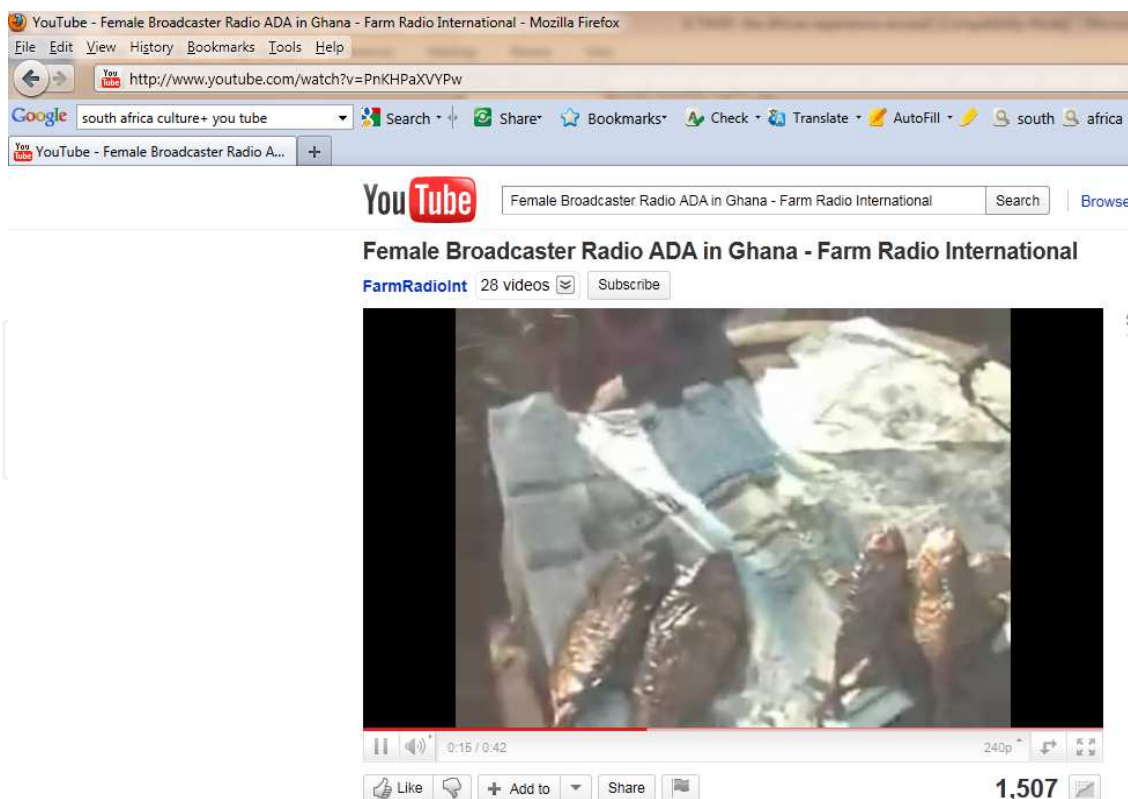
Video 2 illustrates how the Village phone initiative and the phone ladies in Nigeria (World Bank (2007)) helped the economically disadvantaged women in the rural areas of Nigeria with employment opportunities. Video 2 illustrates how the phone ladies used village phones to make a living and improve their quality of life.

Video 3: illustrates how the female radio broadcaster checks the commodity prices on Tuesdays. The lady in the video goes around the local market in Ghana, asking for prices of commodities and broadcasts it on radio ADA (2011). Farm Radio International has provided this tailor made ICT solution to market the products and improve rural women's quality of life.

ITU (2011) is the leading United Nations agency for Information and Communication Technology issues. Video 4 explores how tailor made ICT solutions were used for the diagnosis in the hospitals that were many miles away. Getting access to e-health was a



Video 2. World Bank- Village Phone Nigeria (World Bank 2007) Source: Link: <http://www.youtube.com/watch?v=crHS9YEx4lg> (accessed 5 June 2011)



Video 3. Female Broadcaster Radio ADA in Ghana (Farm Radio International(FRI)2008) <http://www.youtube.com/watch?v=PnKHPaXVYPw>

dream for the majority of Kenyans. Video 4 illustrates how telemedicine allows the less experienced doctors to liaise with specialist doctors many miles away and get assistance.

Video 4: Telemedicine: Episode from "ICTs for a Better Future" (ITU-Telecommunication 2010) <http://www.youtube.com/watch?v=T2dgTs0b-44>

4. Data analysis and results

This section analyses the data provided by the National Movement of Rural Women case study, case study on the life of rural women, and the data used for visual research. The content analysis revealed three categories provided in three tables in this section. The ICT-enabled opportunities that various organizations provide for the development of African women are elaborated in Table 2.

Some of the ICTs that were used by rural women in Africa	Opportunities that ICTs can provide for African rural women's development	According to the data in
Computer, internet, phone, radio	ICTs to improve the quality of life	RWM(Video 1), ITU(Video 4), World Bank(Video 2), FRI (Video 3), NMRW, Lethabo's and Cynthia's case study
Computer and Internet	ICT training - a community based approach	Community centre in Johannesburg, RWM, NMRW, Cynthia's case study; Figure 1, 4
Digital camera	ICTs to address social injustice	RWM(Video1), Practical action
Mobile phone, radio, computer	ICTs to address land ownership rights	RWM(Video1), NMRW
Radio	Tailor made ICT solutions for women's development	Radio ADA(Video3), ITU(Video4), World Bank(Video 2)
Computer, Digital camera Radio and Internet	ICTs to enhance collaboration with women's organization and women's agencies	RWM, NMRW, Cynthia's case study

Table 2. Category 1: Opportunities that the ICTs can provide for African rural women's development

Table 2, shows the type of ICTs that were used by the rural women of Africa for their development and the various opportunities it can provide for them. These opportunities are based on the analysis of case study and the visual methodologies used. Figure 2, Cynthia's and Lethabo's case study reveal ICTs such as TV, radio and mobile phone were also used by women for entertainment as well.

Factors impeding rural development include: low accessibility and quality of telephone facilities, especially in rural areas; weak and inadequate Internet infrastructure, as well as lack of accessibility to ICTs due to high costs (AFRRI (2011)). Some of these factors that

impede women's development are also evident in Table 3. Table 3 illustrates the social injustice and factors impeding some rural women's development which include: HIV/AIDS related illness, unwanted teenage pregnancy, domestic violence, lack of good housing facility, inadequate water supply and the effects of land ownership rights.

Social injustice/menace in Africa and factors impeding African rural women's development	According to the visual methods	According to the data in interviews with women/ interview with organization
HIV/AIDS related illness	Video 1 (RWM)	Lethabo's case study
Unwanted teenage pregnancy		Lethabo' case study
Domestic violence	Video 1 (RWM)	
Lack of good housing facility	Figure 3. Practical Action	Lethabo' case study
Inadequate water supply in rural areas	Video 1(RWM); Figure 3: Practical Action	
Effects of land ownership rights	Video 1(RWM)	RWM, NMRW

Table 3. Category 2: Factors impeding African rural women's development

The factors that are often cited as having an influence on ICT use are: gender; income; level of education and skills; age; and the available infrastructure in an area (World Bank 1998, UNDP 2001, Madhusudan 2002). Table 4 adapted from the above illustrates the factors influencing use of ICTs by the rural women under study. They include: available infrastructure, income, age, level of ICT skills, costs of ICTs and the knowledge of opportunities ICTs can provide for women's development.

Factors influencing use of ICTs	According to the visual methods	According to the data in interviews with women/ interview with organization
Available ICT infrastructure	Figure 4: Community centre	NMRW- Cynthia's case
Income		Cynthia's case
Age		Cynthia's case
Level of ICT skills	Video 2: World Bank; Video 3: Radio ADA (FRI)	Cynthia's case
Costs of ICTs	Video 2: World Bank; Video 3: Radio ADA (FRI)	Cynthia's case
Knowledge of opportunities that ICTs provide	Video 2: World Bank; Video 3: Radio ADA (FRI) Video 4: ITU	Cynthia's case

Table 4. Category 3: Factors influencing use of ICTs

Figure 3 reveals the quality of the housing facility in one of the rural areas in Kenya. The picture clearly reveals the condition of their shelters and the living conditions in general in the remote area. The Rural Women's Movement (video 1) provided illustrates the remote rural areas of Kwazulu Natal, South Africa. Video 1: Illustrates the women lack resources and there is clearly a lack of good infrastructure, inadequate water supply and housing facility.

Figure 4, illustrates the use of computer and Internet facility by the rural and peri-urban women in the community centre in Katlehong, Johannesburg. The peri-urban men provide ICT training to these women.

Video 4 illustrates how telemedicine and the ICTs such as the scanner, digital camera and broadband connection and the video conferencing facility enabled to transform the hospital in Kenya.

It is evident from the interviews, the typical rural women, lack skills to use technology, have to meet cultural expectations and they have to hold on to their traditions. Lethabo's case reveals a 'typical' rural woman in South Africa earned as low as R30 a day for instance by selling various products. Women also sold other traditional and agricultural products such as eggs, 'African beaded(or printed)' cell phone pouches, pen cases and vegetables to make a living. Video 2 illustrates the village phone model used in Nigeria. Video illustrates the rural women were able to make more than \$80 per day using this concept and improve their quality of life.

The rural women who participated in the study have tried their best to hold on to their culture and traditions even in difficult times. Eventhough Cynthia came from a traditional background, ICTs such as printed media, computer, internet and mobile phone has played a role in Cynthia's development. Although Lethabo passed matric 5 years ago, the economic realities, the unwanted pregnancy and limited opportunities for growth have inhibited Lethabo's developmental goals. She had to move to a city and adapt to the city life and make a living.

Letsoalo(1987) argues the chief is in control of the land and once it is allocated to individual households his authority ends. There were cultural obligations that Lethabo's father had to the local king. As a tribal authority her father governed the rural landscape and the land tenure system has impacted Lethabo's rural household. Cynthia's story highlights the role of ICTs in her day to day life. It also reflects the life of other rural women and how they made a living.

4.1 Strategies for African rural women's development through the use of ICTs

Human development is about "creating an environment in which people can develop their full potential and lead productive, creative lives in accordance with their needs and interests.... Development is thus about expanding the choices people have to lead lives that they value" (United Nations Development Programme (UNDP) 2001).

Even after many years of democracy the inequalities in income and wealth, as well as disparity in accessing education, health care, housing and other social infrastructure (Bloch 2009; Chisholm 2004; Fiske & Ladd 2004; Soudien 2004) exist in South Africa. Although many broad-based black South African citizens enjoyed the economic growth to a certain extent, the South African National Planning Commission's diagnostic document(2011) identifies the key challenges the country faces (even in the year 2011) to reduce inequality and eliminate poverty.

They are: high unemployment, poor education; disease and associated burden for health system; uneven performance in public service; marginalisation of the poor by spatial pattern that forced people to live far from jobs; damaged social ethics that led to corruption; a crumbling infrastructure and divided communities.

For the rural women the work within the rural household involves productive work outside such as providing basic needs to other family members, for example, food water and fuel (Bryceson 2008). The poultry keeping has been practiced by African village communities for many generations (Guèye, E.F. 2000). The grandmother is the main care provider for children of absent daughters: a phenomenon observed in most countries in Southern Africa.

Both poultry and cattle played a major role in rural African women's life. Cattle have been thought to constitute basis of wealth in South Africa (Quin 1959:94; Monig 1967). The cattle were used to pay lebola (to exchange the cattle to the father of the bride in exchange for the productive and reproductive capacity of his daughter) (Kuper 1982:167). Cattle are also used to settle fines by Pedi and other tribes of South Africa (Quin 1959:94). The cattle were slaughtered only in special occasions, rituals and ceremonies and not used as regular food (Quin 1959:96).

The ICT services and information are tools to develop traditional African women. NMRW has supported many rural women in South Africa to provide opportunities to use ICTs for empowerment. NMRW employs rural women from all provinces of South Africa. Richardson (2000) opines the women with access to ICT services increase their ability to generate income and plays a role to empower other rural women. NMRW case study in the following section provides insights on the women agencies' role in women's development and the life of rural women in Africa.

Table 2 illustrates the type of ICTs that were used by the rural women of Africa for their development and the various opportunities it can provide for them. These opportunities are based on the analysis of case study and the visual methodologies used. The environment that ICTs created to develop women's potential for their interests and needs are explained below.

ICTs for improving the quality of life of rural women: The life of rural women as revealed in video 1 (RWM) illustrates the quality of life they have. There is high rate of death in Africa due to malnutrition and diseases and the impact of HIV/AIDS should be examined with other factors such as food insecurity, high climate variability, market fluctuations, and poor governance (Alam, Meyer and and Ziervogel 2006). The video 3 illustrate how some rural women farmers have used radio to broadcast commodity prices. Village phone (video 2) illustrates rural women's status has been enhanced through ICT (such as phone) and it has given rural women freedom. The phone booth and the phones helped to alleviate poverty and provide more services to other community members via the phone ladies. Mobile banking and determining commodity prices will be the future services offered through such an initiative. The ITU film (video 4) explores how ICTs contribute to a better life of the rural people of Kenya.

A community based approach to provide ICT training: Education for women in Sub-Saharan Africa has been noted to have a powerful developmental effect (Kongolo M. and Bamgose OO 2002). ICT can be a tool for education and development of women. Figure 3 is a typical example of a community based approach that provides ICT skills and basic training. Once internet is available in the remote areas of Africa, ICT will provide more e-learning opportunities for rural women's development. ICT training is an essential component for women's development as evident from the visual research (Figure 3, Figure 1) and the case study. In all the pictures that were provided, the presence of a 'women's

space', and a community based approach to providing ICT training is evident. Most of the training centres were also owned by the community itself.

The use of ICTs to address social injustice: Figure 3 illustrates how the video woman in the picture (provided by Practical action project) could use video to voice issues in the settlements in rural areas. ICTs can address associated burden for health system. More than 60% of all people infected with HIV/AIDS are living in sub-Saharan Africa, even though this region has just over 10% of the world's population (Alam, Meyer and Ziervogel 2006). Other social injustice such as unwanted teenage pregnancy, HIV/AIDS in Africa, rape, crime can be addressed to an extent through the use of appropriate ICTs such as social networking sites, mobile phone as well as Internet. Video 1 also reveals social injustice in the rural areas of South Africa.

The use of ICTs to address land rights issues: There is still a major debate whether the rural landscapes that the tribal authorities hold on to is 'communal' (Ntsebeza 2000 p. 287) or not. In the post-apartheid era it is necessary to address such land ownership rights issues through the use of social networking sites, mobile phones and radio and discussions with the tribal authorities. The organization such as National Movement of Rural Woman and Rural Women's Movement came about after forced evictions from ancestral land by the apartheid system in South Africa.

Due to the cultural expectations, although I acknowledge traditional leaders and elders should play a role in rural women's well-being, any misuse of such 'power' should be addressed through the use of SMS and other ICTs. *"It is in its avoidance of discussing power that the fundamental weakness of the literature on women and development lies"* (Rowlands 1997).

As part of the UmNyango Project, RWM(2011) made podcasts on evictions of widows from their marital homes, women's inheritance rights and the impact of HIV/AIDS, sexual violence against young girls, forced/arranged marriages, young women and employment and grandmothers and orphans. These issues receive little mainstream media attention.

Tailor made ICT solutions for rural women's development: ICTs can help to process and disseminate information suited for rural women's needs. The only thing that is going to change for rural women is in the way in which one would disseminate information. Tailor made ICTs are essential for specific areas and based on the needs of rural women. The tailor made creative ICT solutions taking into account rural women's needs are evident in the Village Phone model (Video 2), Video 4 and Video 3. The rate of women's participation in development initiatives is strongly influenced by their educational levels (Kongolo and Bamgose 2002) and computer skills. The need for women's participation in the developmental programmes is evident from forums such as the Beijing Declaration, and the United Nations Development Fund for Women (2000). People-centred approach to development and tailor made solutions for the benefit of rural women are essential to address women's developmental goals. *"Both on who gets what, when and how and who gets left out and how"* (Bachrach and Baratz 1970, 105) depends on rural women's active involvement in developmental programmes.

ICT to enhance collaboration with other women and women's agencies: The case study (NMRW) and video 1 reveals the role of women's organization in rural women's development. Some women's organizations and community centres helped to expand the

capabilities of rural women through the use of ICTs. Women agencies collaborated with the rural women and improved the confidence in using ICTs. Although women from rural areas faced many constraints, these agencies assisted in women’s development the existing ICT resources. These organizations also provide a meeting place to share their views with other women. Women agencies can facilitate discussions on the traditional knowledge that should be passed to younger generations. Apart from basic ICT training and capacity building, some women’s organizations have used social networking sites, websites and podcasts to communicate, network and collaborate with other rural women.

4.1.1 Applying Capability Approach to conceptualize African rural women’s development through ICTs

The Capability Approach (CA) is a human development paradigm and a framework for assessing social arrangements, quality of life, inequality, poverty and justice. Capabilities “are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead” (Sen, Hawthorn & Muellbauer 1988, p.36).

Figure 5 (adapted from Alampay, E. 2006) illustrates how the capability approach (CA) can be applied to the use of ICTs for rural women’s development. In this case the CA is about realized ‘functionings’ - about the things a person does and the ‘capability set of alternatives’ that women has - about the things a person is substantively free to do (Sen 1999, p.75).

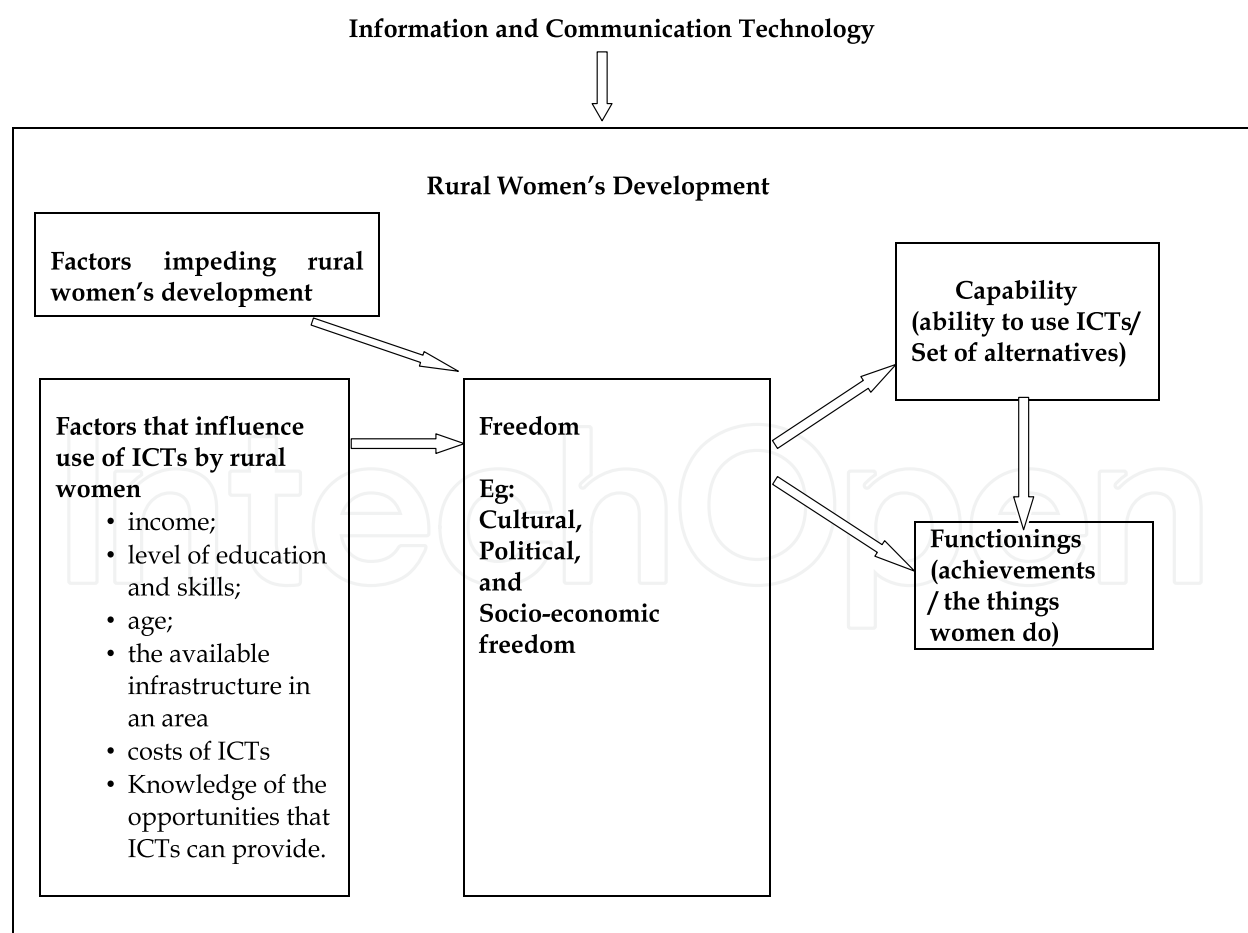


Fig. 5. Capability approach applied to the use of ICTs for rural women’s development

Sen (1999 a.) clarifies individual capabilities (women's capabilities) depend on socio-economic, political arrangements, among others. The political arrangements, living conditions and the socio-economic situation in rural areas of Africa will influence rural women's capabilities to use ICTs. The cultural freedom (UNESCO 1996), political freedom and the socio-economic freedom depend on the factors that influence use of ICTs by rural women. The factors such as adequate infrastructure, low cost ICTs and reliable ICTs have influenced use of ICTs as well.

The factors such as HIV/AIDS related illness, unwanted teenage pregnancy, domestic violence, lack of good housing facility, inadequate water supply and the effects of land ownership rights which impede rural women's development will influence all types of 'freedom' and their capability to use ICTs.

The expansion of capabilities of rural women depends on the real opportunities that ICTs provide for them and their living conditions. The capability and functionings will also depend on rural women's freedom to choose the life they want to lead. The "commodities and functionings" are crucial for African women's development. The expansion of rural women's capabilities through the use of ICTs will have a direct impact on the functionings and their development. Rural women's development will enable the development of the rural areas of Africa.

If the commodities (eg: basic needs such as food and shelter) are unequally distributed it will affect the well-being of the individuals. The functionings reflects what rural women can do (in this context through the use of ICTs). As long as the inequality in the quality of life and the disparity between rich and poor exists in Africa it will affect the functionings of rural women or their ability to achieve anything.

5. Conclusion

Rural women are the agents of rural development. Rural women's development is a complex process which needs participation in developmental activities that shape their lives. Rural women were keepers of agricultural and health-related knowledge. Their role was mainly reproduction (giving birth) and production (agriculture related). ICTs can enable the participation of rural women in the developmental projects to alleviate poverty, provide them with education and training as well as other informal employment opportunities. In the South African context access to ICTs, as well as education, freed women from the crippling and discriminating concept of Bantu education, are crucial elements that form the building blocks of the concept of empowerment (Intelecon Research 2000:38). The economic realities and poverty in Africa are linked to the education realities.

ICTs are enablers of rural women's development and an instrument for bridging the gap between the rich and the poor. ICTs can provide rural women, access to information about agricultural market and health information. ICTs can also ensure participation in political changes. A women friendly approach to development (Huyer 2005), pro-poor growth policies (Huyer & Mitter 2003) and inclusion of gender issues in ICT policies, plans and strategies (Buskens & Webb 2009) will provide more opportunities for African rural women.

Sen (1999 a.) clarifies individual capabilities (women's capabilities) depend on among others, socio-economic and political arrangements. The political arrangements, living conditions and the socio-economic situation in rural areas of Africa will influence rural women's capabilities to use ICTs. The paper highlights the role of ICTs and opportunities it

can provide to the development of rural women in South Africa. The paper elaborates a single case study – National Movement of Rural Women (NMRW), South Africa and its role in ICT4WD. There is scope for further research on the use of social networking for rural women's development.

Rural women's development refers to the freedom and the capabilities and functionings that they value, the quality of life and the resources they would like to use. The ability to use ICTs, situation the rural women are in (for example, location of use, wealth) and exclusion from basic needs will affect capability of rural women. Rural women's development through the use of ICTs is the opportunities ICTs can provide to meet their values and goals.

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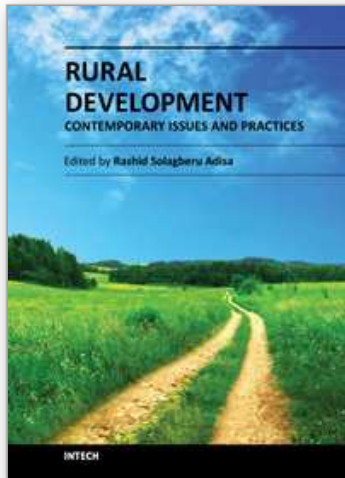
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Development of rural areas has witnessed increasing attention globally, especially over the past three to four decades. The highpoint in the renewed global interest in the development of rural people and their environment was reached with the setting of the Millennium Development Goals (MDGs) in the year 2000. All of the set goals are basically rural development goals. With less than four years to the deadline for the achievement of the MDGs, it is almost certain that the goals are far from being achieved in, especially, most developing countries for whom the MDGs were essentially set. The struggle thus continues for rural development. As long as problems of poverty, disease, illiteracy, unemployment, poor infrastructure, environmental degradation and others persist (or increase) in rural communities, better and more result-oriented solutions to perennial and emerging problems of rural communities would be required. But rural development, in spite of the variations in thresholds of rurality among nations, is not exclusively a Third World or “developing countries’ process, owing to its multi-dimensionality. It is a global phenomenon that obviously requires global strategies. This book not only looks at rural development from its multi-dimensional perspectives, it is also a product of the experiences and expertise of distinguished scholars across the continents. Aiming to provide a comprehensive single volume that addresses salient issues and practices in rural development, the book covers themes ranging from sustainable agriculture, biodiversity conservation, strategic environmental assessment, renewable energy, rural financial resources, assessment of protected areas to statistics for rural development policy. Other subject matters covered by the book include social marginality, land use conflict, gender, cooperatives, animal health, rural marketing, information and communication technology, micro-business, and rural economic crisis. The book is thus an invaluable source of useful information on contemporary issues in rural development for researchers, policy makers, and students of rural development and other related fields.

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