

# USE OF ICT IN PROVISION OF INFORMATION TO RURAL WOMEN FOR SUSTAINABLE DEVELOPMENT.

## Abstract

Information and Communication Technologies are critical tools in disseminating of information for Socio-Economic Development. Every person globally strives to have access to this vital information. However most women in rural areas have limited access to this information. This study therefore was set to find out how ICTs could be used to empower rural women of Keiyo South Constituency, Elgeiyo/Marakwet County through provision of information for sustainable Development. The objectives of the study were to; assess the information needs for rural women; find out how use of ICT could influence socio-economic status of rural women and challenges in accessing this information for sustainable Development. The study was informed by Harris Info-Mobilization theory. The study adopted a qualitative research design. The target population was 3070 women in Keiyo South. Stratified sampling was used to divide the constituency into divisions and locations and purposive and snowball sampling techniques were used to obtain 141 respondents. Data was collected using semi-structured interview schedules supplemented by document review and observation and analyzed using descriptive statistics. The study found that the rural women of Keiyo South has limited access to ICT Technology and infrastructure, which has affected negatively on their socio-economic and political status. Access to information was mainly through informal sources such as friends and neighbors; they need education and training to provide them with knowledge and skills for accessing ICT information, which can help them to attain sustainable Development. The study concluded that use of ICT has helped to reduce poverty through economic empowerment and has enabled the rural women to obtain new life skills. In addition, ICT has enabled them to participate in political election online. With relevant ICT infrastructure and policies in place, ICT could be used to improve the socio-economic status of rural women for sustainable development in Keiyo South. The study recommended that the County government of Elgeyo/Marakwet should empower rural women economically by providing them with information through ICT and by enacting policies that support development of ICT infrastructure and projects for rural women. Through these projects, the rural women could be trained to gain the knowledge and skills for searching and retrieving information through ICT. This knowledge could help them develop socio- Economic strategies for sustainable Development.

**Key words:** Information Communication Technology. Rural women. Sustainable Development. **Sub-Theme:** Socio-Economic Issues-Gender

## Introduction and Background Information

Information and communication Technologies (ICTs) have great potential to contribute to sustainable social development and empower rural women. The social and political inequalities that characterize sharing of information between the rich and poor, urban and rural, men and women, skilled and unskilled can hardly be underrated. Unequal access and use of ICTs are said to deepen already hard existing socio- economic inequalities in most rural areas of developing countries, if they are not addressed (McNamara, 2003:75) But ICTs have been found to improve economic growth and social empowerment to rural people, Sibanda, Musingaji and Chikudza (2011). The rural economies can benefit from ICTs when their focus is directed to social production, social consumption and social services,

Kundishora,(2010).The ICT applications can enhance rural women access to markets, health, education and bring government services closer to them, thereby reducing risks and widen access to micro-finance. Sustainable rural development using rural informatics are achievable so long as ICT interventions are able to respond to the local needs and re-adjust as per the prevailing knowledge gap of the rural people (Kwake & Ochola, 2007).

Rural areas in Kenya like Keiyo South have limited ICT infrastructure and majority of the women live in remote rural areas where they form the majority poor Kimani E (2006). Their poverty status is measured through economic deprivation, political marginalization denial of rights and limited access to credit facilities and other inputs (McFerson,2010). They need information that can empower them to improve their socio-economic status and livelihoods. Providing them access to unlimited information through ICT can empower them to overcome social, economic and political constraints that depict rural areas.

### **Statement of the Problem**

Kenya is a country made up of villages and about 80% are located in the rural areas and have very poor socio-economic conditions. Since independence, constant efforts have been made to emancipate the living standard of rural masses. The government adopted development strategies, which included; the economic recovery strategy (2003 - 2007), Millennium Development Goals (MDGs), Sector Development Goals (SDGs) and the Vision 2030 with the aim of Rural Development. The same is also enshrined in the Kenya Constitution 2010 and the Ministry of Rural Development have formulated policies, regulations and acts pertaining to the development of the rural sector. The economic recovery strategy in its social political front, included equity and social-economic agenda aimed at reducing inequalities in access to productive resources and basic goods and services. Very little was made on how the disadvantaged rural poor can access and share information for socio-economic development. Majority of the rural women are illiterate, have limited education and ICT skills perverted with cultural and social exclusion.

Poverty has recurrently been associated with inequity, and correlated with vulnerabilities and social exclusion (Lock-Dessalien, 2000), with only 29 percent (25-64 years) of the population engaged in active employment. The poverty status of rural women in Keiyo South constituency goes beyond the view of income level to include social exclusion and fear. Majority of women in the constituency are poor, illiterate and dependent mainly on unreliable sources for information. The nature of ICT access and use by rural women is mainly influenced by discriminatory practices that exclude them (Hafkin & Huyer, 2007)

The county's gender inequality index reflects gender-based disadvantage of women in three dimensions, namely; reproductive health, sustainable development and the labour market. These disparities are undermining the economic and social participation and contribution by majority of the population in the county. The literature show that ICT have the potential to improve sustainable development, reduce poverty and improve the well-being of rural women and their families, only if the problem of illiteracy, ICT access skills and poverty could be addressed, (Adeya, 2002, Hafkin & Huyer, 2007 and Hudson, 2001). The best way of leveraging the benefits of ICTs for social economic development is by analyzing current problems and associated contextual conditions. This research undertook to explore how rural women of Keiyo South constituency could be empowered to tap the potential benefits of using ICT to access information for sustainable development within the prevailing conditions. The study was based on assumptions that ICT use, information access are essential for sustainable rural economic development.

## **The Study Focus**

The study aimed at investigating 'Use of ICTs in provision of information for sustainable development among rural women of Keiyo South Constituency, Elgeyo /Marakwet County; with a view of recommending the best practices for using ICT to gain sustainable development among rural women in Kenya. The study adopted the following research questions;

1. What are the information needs for rural women of Keiyo South?
2. How do rural women in Keiyo South access information for sustainable development?
3. How has ICT use influenced the socio-economic status of rural women
4. What challenges do rural women encounter in accessing information for sustainable Development?

## **Literature Review**

Information Technology and communication Technology (ICT) refers to the Technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication Technologies. These include the Internet, wireless networks, cell phones, live broadcasting technologies and other communication mediums (UNESCO, 2019).

ICTs have been used to directly and indirectly improve the way education, healthcare, community development, communication, and employment are provided and used (Kombo,2006), Kimani, E.N., & Kombo, D. K. (2010). & McNamara, (2003) found ICTs to transform rural women socio-economic status including health education and livelihoods (Gurumurthy A, 2004), In the Kenyan context, social influences of ICT use in poverty reduction is highly regarded by other scholars; (Kwake & Ochola, 2007) and Ochieng, R,(2011) affirms the positive influence of ICT use by rural women for social and economic development and in poverty reduction. They upheld the mobile phone's critical role in communication and provision of easy access to mortgage and loans. However, they cautioned that these benefits are difficult to gauge in most African countries and may lead to policy makers not giving priority to creating effective ICT strategies.

An information need is defined, in this context, as a gap in knowledge or the lack of information necessary to perform a task, answer a question, or make a crucial decision in a particular situation (Jiyane,V.. et.al, 2012)

The International Conference on population and Development (ICPD, 2015) stated that all people must be equated the same opportunities and freedoms when making choices on matters affecting their lives. Based on the principles of non-exclusion, participation and inclusiveness rural women have right to information that can enable them participate in Sustainable Development.

ICT is an important tool for disseminating information to rural women to achieve social economic goal for sustainable Development. Unwin (2009), asserts that the lives of poor and marginalized communities can be positively influenced through effective application of ICT; and that the only way to sustain these ICTs is to understand the needs of the users and realigned appropriately on the user's needs.

Women are dynamic in nature and since they are preoccupied in subsistence farming, they need information on modern farming systems, market prices and climatic change (Suleiman, ..et al, 2019). As homemakers, it is very vital for rural women to access information on health and hygiene. According to Ariyanandan, (2013) rural women need quality education and training through ICT for them to learn new skills and techniques for sustainable development. This will change the prerequisites for development and enable contact over geographical boundaries, as well as diminishing distances in both time and space, increasing participation,(Wicander, 2006). Rural women need ICTs to serve as tools for social integration through communication with business partners, friends and all family members in other villages and regions and even money transfers.

Globally, women's access to information is a major concern especially in the developing countries like Kenya. This has placed lack of access to information as the third most important setback of most women after poverty and violence. In traditionally male dominated environment inadequate access and democratic control over communication technology and gender stereotypes has negatively derailed the empowerment of rural women for sustainable development. This is witnessed in access to; ICT, Professional careers advancement, leadership and decision-making. It is further, aggravated by the powerful male dominated communication technologies used to coordinate and reinforce social-cultural dominance, which threaten women confidence in using ICTs.

(Jorge, 2002) applauded the revolution in ICT industry for the new ICTs like the mobile phone that are easily accessible and have improved the accessibility of information in rural areas. However, Access to Telecommunications infrastructure in Kenya is limited and costs are exceedingly high. Whatever little infrastructure is available, it is concentrated in the larger urban areas and services provided are only affordable to a few (Adeya, 2001). Bandwidth costs as well as transmission costs incurred by Internet Service Providers (ISP) are high and passed on to users. In rural areas, where women make up the majority of the population, infrastructure could almost be non-existing and services might be generally too expensive to poor populations.

ICT provides access and means to exploit information and create knowledge. They are helping accelerate productivity gains and access to health information or educational services, and are modifying the way people learn and interact, and exchange and voice their interests (Information Economy Report, 2006). They enhance facilities such as rural infrastructure and livelihoods. Beside farmers, micro-enterprise and small business benefiting from access to market data, improvement in the social integration of the rural population could be seen as a benefit and accelerator of sustainable development in rural areas in Kenya.

Typical initiatives in Kenya aimed at promoting ICT access and use include; the establishment of the private owned "Pasha Centers" established in 2010 under the ICT Board of Digital Village Project (DVP) funding. The aim of the project is to bridge the disparities of ICT potentials between urban and rural areas. Although this project hoped to have bared fruits by 2013 in all the counties, to date those projects have not reached most rural areas in Kenya like Keiyo South. The project was piloted in major cities like Nairobi and have not gone anywhere beyond. This has disadvantaged the rural areas to wallow in digital divide. Another notable example is the application of mobile telephone to provide

business opportunities such as savings and loans and mobile money. Two initiatives by mobile phone providers in relation to this are the M-Pesa, Mobile Banking and the M-swari (Kipruto, S., Wanyonyi...et al 2015) and Institute of Economic Affairs. 2008. there is also the recent development of " HUDUMA" centres in every county to bring government services closer to the people but the rural women are still disadvantaged in skills and they still need education , training, and the relevant information for sustainable development.

Studies on ICT, have focused on communication channels and databases ignoring the provision of information for sustainable development among rural. Areas of social exclusion and digital divide were not emphasized, thus, warranted this study on the use of ICT in provision of information to rural women for sustainable development.

### Research Design

The study adopted a descriptive research design, which was most appropriate for the study. This was because the purpose of study was to create a detailed description of the use of information communication technology in provision of information for sustainable development Best and Kahn (2007). Some aspect of quantitative method was employed in simple statistics, expressed in frequencies, and percentages were used to explain demographic characteristics of the respondents and Qualitative data was used to analyze data thematically

### Study Area

The study was conducted in Keiyo South Constituency Elgeiyo/Marakwet County. The Constituency is one of the two constituencies of the former Keiyo District in the North Rift region. It borders Uasin-Gishu County to the West and Koibatek to South. The constituency lies between Latitude 00 10" to 00 52" North and Longitude 35 25" to 35 45" East with the highlands having altitude between 2400 to 2700m above sea level.

### Study Population

The study population refers to a group of individuals, objects or items from which samples are taken for measurement. It also refers to an entire group of persons or elements that have at least one thing in common (Kombo, 2006) for example the case of rural women of Keiyo South Constituency together with their demographics such as; age, marital status and class. Keiyo South was targeted for the study because it covers the largest area of 900.1 sq.km and had the highest population of rural women who live below one dollar per day and they form the majority of households. According to Kenya Bureau of Statistics; (Elgeiyo Marakwet, 2013-17), Keiyo south constituency has a total of 8577 women population of rural women households, drawn from the 17 (seventeen) administrative locations as indicated in Table 3.1

The population studied consisted of rural women aged between 18-60 studying, working and living in Keiyo South Constituency of Elgeyo/Marakwet County. The word "rural" is intended to mean places with rural characteristics, such as low levels of service (e.g. transport, water and medical services), low settlements structures and high lowly developed (Okunna,C,2004) and (Kwake & Ochola, 2007). These are the women within the productive age and who can participate fully in economic development.

**Table 3.1: Population of rural women in Keiyo South Constituency**

Division	Location	Female Population
Chepkorio	Marichor	450
	Nyaru	472
	Kabiemit	567
	Kitany	480
	Mosop	580
	Kaptarakwa	570
Metkei	Tumeiyo	464

	Maoui	460
	Kapwosor	504
	Kapkwoni	480
	Metkei	541
	Kachalwo	450
	Chemoibon	425
<b>Soy</b>	Kibargoi	479
	Soy	524
	Epke	580
	Chpsigot	551
<b>Total</b>	<b>17</b>	<b>8577</b>

**Source: (District Statistic Offices, Iten, 2001)**

### **Sampling Procedure**

The study employed different sampling techniques, which were in line with this particular study to provide information that was sought from the rural women of Keiyo South and the policy and decision makers of the county. Stratified systematic random sampling and purposive sampling methods were applied. These methods gave the women in the locations, sub-location and villages in the constituency an equal chance of inclusion in the sample.

### **Stratified Systematic Sampling and Purposive method**

In the first stage, the researcher stratified the Elgeyo/Marakwet County into four constituencies and purposely selected Keiyo South because it is one of the densely populated divisions and productive areas compared to the other four divisions Iten (2001).

Six locations were Purposely sampled because of their high representation leaving one location which was sparsely populated and un accessible this formed the sample frame. These are Kapwosor, Marichor, Kaptarakwa, Epke Chepsigot and Chemoibon and each of the divisions; Chepkorio, Metkei and Soy. The rural women from every location were grouped according to three sectors of occupation; formal, informal and household and interviewed. Purposive sampling was applied on the side of decision and policy makers.

### **Sample Size**

The population of the rural women studied was sampled from the six locations; (Marichor, Kaptarakwa, Kapwosor, Chemoibon, Epke and Chepsigot), which had an estimated population of 3070 women. According to (Mugnenda, 2003) between 10-15 % of population can be taken in for a sample size. Therefore, the study took 10% of rural women, who were purposively selected from the six locations depending on the roles they played in the society and which the researcher found resourceful formed the sample size. These included for example women group leaders, women in formal employment, religious leaders and Housewives. This provided a sample size of 141 women interviewed. Snowball sampling was used to get the list of women groups available in every location and their leaders. The study focused on rural women because they play a very important role in socio economic development only if they are provided with education and relevant up to date information, they can minimize poverty.

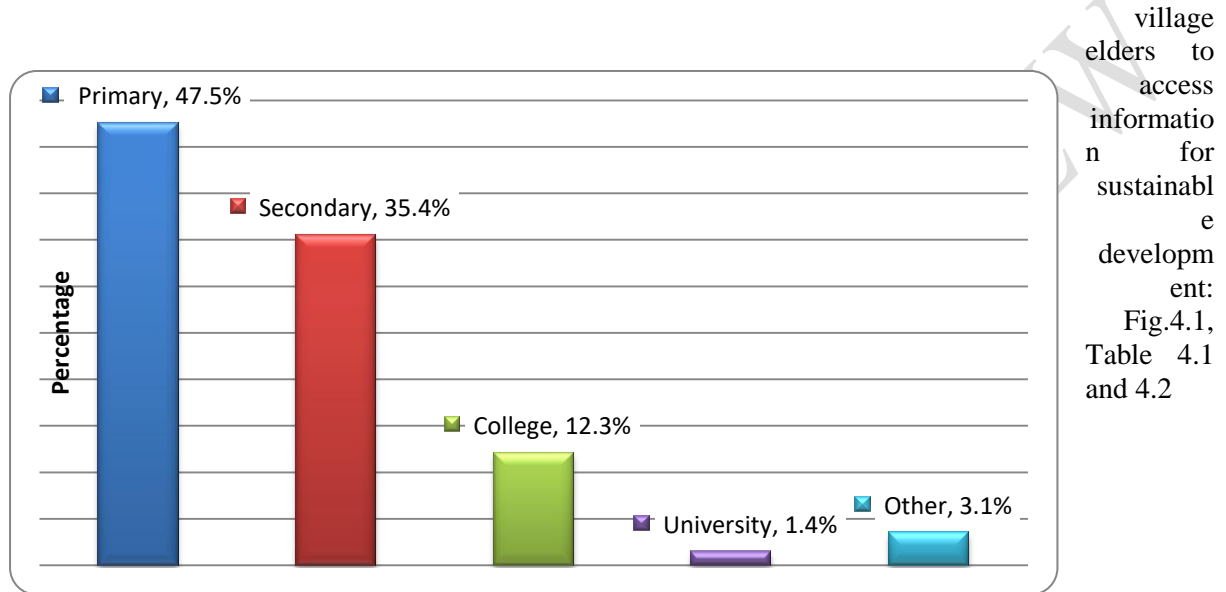
### **Data Presentation, Analysis and Interpretation**

Completed interview schedules were analysed according to selective coding and categories were developed that reflected on the response from the respondents. Finally, data were presented in form of text, tables, pie charts and percentages.

### **Discussions and Findings**

The study sought to examine whether the rural women of Keiyo South Constituency are aware of the potential benefits of using ICT to access information for sustainable development. The interviewed women were drawn from three divisions namely: Chepkorio, Metkei and Soy. Two locations were selected for interview from every division, giving a total of six locations. **Chepkorio and Metkei divisions where majority of the respondents were drawn from. Each division is represented as follows. 59(45.3%) from Metkei, 62(47.8%) Chepkorio and Soy division had 20(6.9%).**

Among the Key questions asked were their demographic characteristics which included the level of education, age occupation and sources of information for the rural women. The findings revealed that majority of the rural women are uneducated, young and do not have reliable sources of income. Most of them consult unreliable sources of information such as their neighbours, friends, husbands or



village elders to access information for sustainable development: Fig.4.1, Table 4.1 and 4.2

Source: (Author, 2015)

**Figure 4.1 Education level of respondents**

As illustrated in the figure above it shows that majority of the rural women are able to read, write and possess numerical skills that help them in book keeping of their business or harvests. Although they demonstrate to have the numerical skills, majority have primary education only. This could be an indication of high rate of poverty, because majority of them cannot qualify for formal employment. In addition, they are limited from accessing meaningful information because they are unable to determine their information needs. Their inability to determine relevant economic information can lead to high rate of poverty among rural women. According to the information provided by the education officer, majority of school enrollments are female students but as they continue learning majority of them dropout along the way. This was attributed to some social problems for example; early pregnancies, lack of school fees, orphaned or both. These have negatively impacted on the number of women who have access to Tertiary or University Education thus reducing their chances of employment opportunities. In emphasizing the importance of education. (Burch, B, 2006) referred education as a “major force in economic, intellectual, social and cultural empowerment” and this is widely recognized as essential to processes of sustainable development

**Table 4.1 Rural Women Occupation**

Status	Frequency	Percent (%)
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Opinion leader/traditional leader	2	1.4
Teacher	2	0.7
Women group leader	1	0.7
Subsistence farmer	61	46.2
Government officer	12	9.2
House wife	45	34.6
Business	7	5.0
<b>Total</b>	<b>130</b>	<b>100.0</b>

Majority of the rural women 60(46.2%) were farmers and 45(34.6) are housewives and the rest 25(19.2%) are occupied in in-formal employment or small business. Table 4.1 above

#### 4.2CT information needs for rural women

The first objective sought to find out the kind of information needs the rural women in Keiyo South access from ICT. An item was posed in the questionnaire, which sought to the reasons why they use ICT and the type of information they access. The findings were summarized in Likert scale as shown in Table 4.2 below

**Table 4.2 ICT information needs for rural women**  
**KEY: SA-Strongly Agree, N-Neutral, DA- Disagree**

Human and Social reasons for using ICTs		SA	N	DA
Obtain new skills by using new ICTs, and new products on the mobile such as mobile banking	Freq.	87	5	38
	%	67.4	3.6	29
Get information, especially from the radio, relevant to improving agriculture	Freq.	54	32	44
	%	41	24.6	34.4
Obtaining new skills (learning to use the computer; getting skills to improve agriculture (radio)	Freq.	27	19	84
	%	20.6	14.6	64.8
Children able to get educational programmes (radio)	Freq.	86	6	38
	%	66.1	4.6	29.3
Communicate with friends and family	Freq.	120	0	10
	%	92.2	0	7.8

Participate in local government decisions	Freq.	48	20	62
	%	36.8	15	48.2
Avoid face to face communication with political and social opponents	Freq.	41	36	53
	%	31.5	27.7	40.8
Use the mobile to get assistance during need and in emergencies	Freq.	114	10	6
	%	87.7	8	4.3
Increased ability to communicate socially with friends and family	Freq.	39	13	78
	%	30	10	60
Increased ability to participate in discussions on political decisions (mainly radio)	Freq.	91	6	33
	%	70	5	25

The findings above show that most of the selected women have embraced the use of ICT technology especially the use of radios, TVs and mobile phones to enhance their quality of life. However, it was noted that most of the rural women have not fully utilized ICT in obtaining new information. They do not think the use of ICT has provided them with new knowledge and skills or enabled them embrace ICT and communication with friends and relatives. Few of them agreed that the use of ICT has increased ability to communicate socially with friends and family. Similar findings were reported by Ilboudo J.P. (2003) came out in support of radio to have the capacity to enable the broad participation of women of a local community and is the cheapest of all mass communication tools and one that rural people can easily afford. Panos, 2004) also confirmed the findings of this research about the capability of ICTs, more especially on the mobile phone. This modern technology have greatly simplified the provision of service among other rural women. It was noted that the mobile phone had contributed towards development by facilitating social change and economic activity; improving the quality of life, bringing cost benefits in rural social service delivery, and promoting sustainable development.

#### 4.2 Sources of Information for rural women

**Table 4.2.1: Sources of information available to rural women**

Source	Frequency	Percent
Government offices	22	17.0
Radio/TV broadcast	19	14.6
Public meetings/barazas	35	27.0
Village elders	30	24
Other: Neighbours	24	18.4
<b>Total</b>	<b>130</b>	<b>100.0</b>

Out of the 130 rural women, 22(17%) indicated that their source of information was from government offices, while 19(14.6%) obtained information from radio/TV broadcast, 35(27.0%) obtained their information from public meetings/barazas, 30(24%) obtained from village elders and the rest

24(18.4%) from their neighbours. As shown above the major source of information for rural women in Keiyo South is public meetings/barazas and village elders.

The second question sought to find out the reasons for rural women consulting unreliable sources of Information. The summary of the findings in Table 4.2.2 below elaborate.

**Table 4.2.2: Limitation to Accessing ICT Information**

	Frequency	Percent
Illiteracy and low education	27	21
Gender discrimination	41	31
Single parenting/widowhood	27	21
Over dependent on women	13	10
Role of Women in the society	22	17
<b>Total</b>	<b>130</b>	<b>100.0</b>

Table 4.3 shows that illiteracy and gender discrimination are the major limitation to effective utilization of reliable information 27(21%) and 41(31%) respectively. Single parenting and widowhood is drawback to their ability to own ICT 27(21%), similarly high rate of dependence 13(10%) further inflate the situation. Also the role of women in the society 22(17%) has strained their resources limiting their ability to own any ICT technology. (Burtch, B, 2006) affirmed that education is a major force in economic, intellectual, social and cultural empowerment. Another aspect, which was noted to hinder access to ICT by rural women is discrimination Odiini, S. J, 2012) noted that restriction to women's right to land ownership as a factor that can fuel poverty among rural women. This fact was found as a reality in Keiyo South such that women are the main cultivators of land, undertaking 80% of work in food storage and transportation, 90% of the work hoeing and weeding and 60% harvesting and marketing but the proceeds belongs to the family.

#### 4.3 Influence of ICT use on Socio-Economic status of rural women of Keiyo South

The second objective sought to find out the benefits of ICT in Economic life of Rural Women in Keiyo South. An item was included in the interview, which sought information on the influence of ICT on the social life of rural women. Table 4.3 summarizes the findings of the study

**Table 4.3 Economic Benefits of Using ICT**

**Key: A-Agree, N- None, D-Disagree**

Economic Benefits of Using ICT		A	N	D
I Use ICTs to reduce travel time and costs for social and business communications purposes	Freq.	85	16	29
	%	65	12	23
I Network with friends to look for information about jobs	Freq.	82	23	25
	%	63.1	17.21	19.42

I Use ICTs for getting new products and business clients	Freq.	69	7.7	51
	%	53.1	22.1	39.2
I Use mobiles to send and receive money	Freq.	79	11	40
	%	60.8	8.2	31
I use mobile to save money	Freq.	63	24	43
	%	48.8	18.2	33
I use ICT to obtain climate information	Freq.	23	2	105
	%	18	1.2	80.8

Table 4.3 above revealed that majority of the respondents, 85(65%) agreed that they use ICTs to reduce travel time and costs for social and business and communications purposes while 29(23%) disagreed. Out of the 130 women 82(63.1%) agreed that they use ICT to Network with friends to look for information about jobs, 25(19.42%) disagreed, 69(53.1%) agreed that they use ICTs for getting new products and business clients, 51(39.2%) disagreed. In addition to this, 79(60.8%) of the selected women agreed that they use mobiles to send and receive money, 54(31%) disagreed. The findings also revealed that 63(48.8%) agreed that they use mobile to save money, 43(33%) disagreed. It was noted also that 23(18%) agreed that they use ICT to obtain climate information, while 105(80.8%) disagreed.

The study revealed that the rural women are aware of the benefits that can be derived by using ICT in accessing information for sustainable development. Among them 25(19.2%) responded that ICT can be used to create markets for their products and services, 13(10%) said that it can reduce travel time and cost to the markets. They also know that through ICTs such as Radio, Television and Internet they can get updates on the best farming practices. Some 44(33.8%) said that ICT use can help them develop networks and links with other International women and help them to have a voice in political appointments. While the rest believed that ICT use can help them access information about their nutrition and health and to improve their livelihoods in various ways. Researchers like Slaymaker(2002) also affirmed the immense growth in rural women economic development through ICT use and recommended that ICT can be used to “overcome rural women’s isolation, give them a voice to improve governance and advance gender equality”.

#### 4.4 Challenges to effective use of ICT to access information for sustainable Development

Access to information and Knowledge for sustainable development is most appropriate for rural women to increase productivity, managing resources in a sustainable way, and access markets. ICT can help them work as a team and create effective linkages with service providers. At different levels, they can share experiences and concerns and receive training to build their knowledge and skills. This can only be possible when the correct infrastructure, social and political will is available together with the relevant framework and policies.

**Table 4.4: Barriers to Access to effective use of ICT for Information**

Reason	Frequency %
Poor income	23
High cost of acquiring Information	20
Poor access to information sources	20
Poor Infrastructure	15
Gender discrimination	17
Time constrain	5

100%
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Table 4.4 depict the perceived barriers to rural women effective utilization of ICT to access information for sustainable development. These are; Poor income 23% High cost of acquiring 20% Information, Poor

access to information sources 20% Poor Infrastructure 15% Gender disparities 17% and Time constrain 5%.

Generally the rural women have indicated that the challenges to their effective use of ICT to access information for sustainable development is limited education, poverty, social exclusion and poorly developed ICT infrastructure Alfred-Ockiya (2000). The study has found it necessary for the county government of Elgeiyo/Marakwet to enact policies that promote access and use of ICT for the rural women to be provided with relevant and up to date information to improve their economic and social status and the county at large

The wide use of ICT for sustainable development and change especially at the policy level (Mchombu,2004), require community full involvement as people who need and trusts the services and technologies. As policy, makers there also need to evaluate other programmes that uses ICTs to disseminate and transfer knowledge among the rural communities. (Kundishora, 2010) further emphasized involvemnt of people with disabilities to ensure they are also catered for in the programme.

### **Summary & Recommendations**

The study established that rural women could be empowered through the use of ICT to reduce poverty mainly in social and economic aspects. The findings about the socio- economic benefits of ICT in table 4.3 showed that most of the selected women used technology especially the use of radios, TVs and mobile phones to enhance their quality of life. It was also noted that most of them have not fully utilized ICT in obtaining new skills and few of them agreed that the use of ICT has increased their ability to communicate socially with friends and family. This fact was also supported by the Education officials interviewed who confirmed that ICT has improved self- confidence which can be seen to be one of the most important influences among women of different ages. ICT especially radio, TV and mobile phones has enabled the rural women gain access to new and useful knowledge, information and awareness about a range of issues; including health, Education, Agriculture and business.

In economic empowerment it was noted that most of the women in Keiyo South agreed that they use ICTs to reduce travel time and costs for social and business communications purposes which has improved their living standard. They also agreed that they use ICT to Network with friends to look for information about jobs, to get new products and business clients. Majority of them agreed that they use mobiles to send receive and save money. Majority of the interviewed ministry of educational officials opined that ICT especially the use of radios and TV as well as mobile phones has been used by rural women in obtaining information on how to improve their farm products through TV and radio channels broadcasted in their local dialect.

In conclusion, social benefits of ICT use among rural women can be used to reduce poverty through socio- economic and sustainable development. Majority of the women also supported this view that ICT has enabled them to reduce travel time and costs for social and business communications purposes; because they can use mobile phones to get in touch with their clients. They also indicated that the use of ICT has enabled them to get new products and business clients as well as a market for their products. Mobile phones have been utilized by the rural women to send receive and save money through M-pesa platform. While others have admitted that ICTs has enabled them to access and communicate with their leaders with ease.

The study recommended the use of ICTs such as radio, TV and mobile phones to create awareness and to serve as a tool for community development, especially in sparsely populated areas. These technologies have proven to be effective in transmitting information about poverty reduction such as; new farming techniques, insecticides use and application, marketing and selling prices, stock market and weather forecast. Only the synergy rested in packing and presenting information in both formal and local language and equipping them with the necessary skills and training

The study further recommended county government to enact policies that promote the social and economic welfare of rural women through ICT use. Such policies are those that can lead to establishment of community projects for rural women, training centres as well as income generating projects. Women can acquire the skills and money derived from the proceeds of the projects 'to improve their livelihoods. They should also provide incentives to private investors in order for them to be motivated to set up ICT projects in local areas that can enable rural women access information on social- economic information and sustainable development.

UNDER PEER REVIEW

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