

Impact of Mobile Phone Related Spending on Rural Community in Kenya: A Case Study of Kiabuya Village in Homabay County

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ABSTRACT

The main purpose of this study was to find out whether the perceived highly publicized mobile phones related growth matches the reality on the ground as economic driver in rural areas or not. Steady growth in the number of mobile data users and applications have made the mobile phones an extremely popular form of communication and a new type of media in Kenyan rural community, there is still a gap in our knowledge on whether mobile phone ownership reduces or increases income poverty, especially among the rural poor. The research objectives included to investigate the owned mobile phones cost of acquisition, charging and repair, approximate income of the mobile phone owners and approximate airtime top up of the owned mobile phones. The research used descriptive case study design. The target population was Kiabuya Village residents owning mobile phones. The Research instruments used to collect data from respondents were questionnaires and interview guides. Convenient sampling and simple random sampling were used to derive a manageable sample size for the study. Data was analyzed using descriptive statistical tools such as bar graphs, frequency tables and percentages and pie-charts. The results of this study showed that although mobile phones' uptake by the rural community is higher than expected, their acquisition and maintenance involve sacrifice, which sometimes requires foregoing the very basic needs.

Keywords: *mobile phone, poverty, information and communication technology, Kiabuya*

1. INTRODUCTION

There have been numerous attempts at studying Information and Communication Technologies (ICTs) being a catalyst in the area of socioeconomic development in the past few decades. According to the International Telecommunication Union [1] mobile cellular networks already cover close to 96 per cent of the world inhabitants and 80% of the inhabitants living in rural areas [2].

ITU also expects mobile cellular networks coverage to reach 100 per cent by 2015, eliminating the need for expensive infrastructure such as cabled networks. This extensive network has driven usage and subscription with over 6.8 billion mobile phones being in the developing world in 2013 and an expected 12% growth rate until 2015 [1] [2] [3].

Further, majority of these mobile phone users are said to be in rural Africa. The proportion of rural households with a mobile telephone has reached, or now exceeds, 50 per cent in many developing countries [4]. The increased usage in some ways may indicate systematic decrease in the cost of mobile communication. Mobile cellular services are much more affordable, with an average monthly cost of 15 purchasing power parity dollar (PPP\$) in developing countries compared to around 18 PPP\$ in developed countries [5] [3]. In Africa alone, mobile phone subscriptions exceeded the 500 million mark by June 2010 implying that majority of the people now own these devices according to

ALLAFRICA.COM, 2010 quoting from Informa Telecom and Media. The uptake of mobile phones from has had its advantage, indeed studies have suggested that for every ten new mobile phones in 100 people inhabitants there is a 0.6% GDP growth [6] this is good news to the developing countries that are badly in need of an economic boost.

However, within the same period that has seen an increase in mobile phone penetration, poverty is still on the increase. Studies show that poor people use up to a third of their household income on mobile phone related expenditures. There are statistics that compare the availability of clean water, food and even proper toilets to the number of mobile phones e.g. [7]. All these studies indicate that there are more mobile phones than basic human needs. Could there be a link to the two events? Could we be putting emphasis on the technology at a macro level and assuming its impact on the micro level? Finally are the perceived benefits really beneficial to all?

Assuming that on average a poor person earns Kshs. 160 (US dollar 2) a day, it may be possible that the average spending (i.e. on food, clothing, technology etc) can be more than their daily earnings. We hypothesize that with no proper intervention, adoption and use of technology is likely to impoverish more. We intend to conduct a study to find out how the rural community acquires their mobile phones, air time top up dynamics, battery recharge and repair costs.

The study is set up with the aim of finding out whether the perceived highly publicized mobile phone related growth matches the reality on the ground or not. The main concern is to find out whether there is a direct relationship between increased mobile penetration rates, especially among the rural community, and their economic growth. Insight is drawn from a study conducted in a rural village in Suba, Kenya, on household income and expenditure. The study is inspired by the work of Abhijit V. Banerjee and Esther Duflo, the economic lives of the poor [8] on how the poor use their earnings. Although their work was restricted to radio and television ICTs, it gave a good picture of how the poor distribute their income. The expectation is that findings from this study and similar ones can inform ICT and economic policy makers make an informed and balanced view on the ability of the mobile phone as a preferred ICT choice in improving the lives of the poor.

In this study, we describe the work done in Kenya, Suba District. We report the findings of a research conducted to find out how people at the bottom of the pyramid (BOP), are affected by the technology with regard to forgoing their basic needs in place of mobile phone related expenditure. We show that although many people own and use mobile phones, direct economic gains are not as expected. However, we take into cognizance of the fact that even if there are no direct economic gains, there may be indirect gains that are as a result of social aspects. This is shown by examples where some people have reduced their travel expenses because they no longer need to do frequent visits when they need to communicate with friends or relatives; instead they call or send a message using short message service (SMS) technology.

The remaining part of this paper is organized as follows: Section two gives background information. In section three, methodology used is presented while section four has the results and discussions, and conclude in section five.

Background of the Study

In 2013 Safaricom of Kenya posted over Kshs. 17.5 billion net profit [9], Vodacom of South Africa US dollar 649.4 million [10] and MTN, South Africa US dollar 1.97 Billion [11]. This shows that the mobile service provision is at its peak in Africa and service providers are having a field day in revenue collection. Could they be doing this at the expense of those below the poverty line?

These figures are contradictory to the realities on the ground. 320 million of the world's extreme poor – those living on less than US dollar 1 per day – call the African continent home [12]. There is no place where extreme poverty is more evident than sub-Saharan Africa [13]. Almost 50% of the inhabitants are poor - the highest rate of extreme poverty in the world. They lack basic amenities, cannot afford proper health care and illiteracy is still a problem despite free and compulsory primary education many African and other developing world countries. In addition Infrastructural

development in Africa is poor, there is low electricity penetration and poor roads network.

In these least developed countries (LDC) e.g. the sub-Saharan Africa, high mobile phone penetration in the last decade even among the poor has been reported. However, there has been very little to show for economic development except for cases where there have been interventions or where there was viable economic activities in place prior to introduction of mobile phones e.g. in cases such as those reported by [14] [15].

In the most preferred and widely used networks, a prepaid local SMS costs between Kshs 1 and Kshs 2 while a local call costs a minimum of Kshs 2 and a maximum of Kshs 6 per minute. 98.8% of all active SIM cards are prepaid in Kenya. The cost range depends on whether a call is within network or out of network. Average mobile monthly expenditure is Kshs 832.8 while disposable income is Kshs 1457.6 [16]. Apart from airtime costs and perennial mobile phone repair, rural mobile phone users pay for their mobile phone battery charging. It costs about Kshs 15 for every battery recharge. Depending on the mobile phone and its use, a recharged battery can last for a maximum of up to one week and a minimum of a day.

Statement of the Problem

Although many researchers (e.g. [17], [18], [19], [20]; and [15]) see mobile phones in developing countries in a chiefly positive light, the impact of mobile phones on poor people in Kenya has not been substantiated empirically. That is, there is still a gap in our knowledge on whether mobile phone ownership reduces or increases income poverty, especially among the rural poor. [21] urged for further research into this area to help understand the dynamics of the relationship between telecom access and income. They argued that telephones alone cannot be a silver bullet that will bring the hundreds of millions of people out of poverty in the developing countries [22].

This study takes a critical stance towards the impact of mobile phone ownership on income poverty among the rural poor in Suba, Homabay County Kenya. Emphasis is placed on mobile phone related spending among the rural residents and whether or not they forego various development activities for phones. The study is aimed at substantiating whether mobile phones can be said to reduce or increase poverty in rural areas of Kenya.

Purpose of the Study

The purpose of this study is to find out whether the perceived highly publicized mobile phones related growth matches the reality on the ground as economic driver in rural areas or not.

Objectives of the Study

- To investigate the cost of acquisition, charging and repair of the owned mobile phones

- To establish the approximate income of the mobile phone owners
- To establish the approximate airtime top up of the owned mobile phones

Significance of the Study

The findings of this study are expected to inform ICT and economic policy makers in Kenya to make an informed and balanced view on the ability of the mobile phones as preferred ICT choice in improving the lives of the residents of the rural community in Kenya.

Scope of the Study

This study was carried out in Kiabuya village, Suba in Homabay County as a representation of Kenyan rural areas

Delimitations of the Study

In order to attain the intended purpose of this study, this study includes the mobile phone related spending excluding what the mobile phones are used for and the income associated with them.

Assumptions of the study

This study assumes that the rural community in Kenya mostly contains the poor according to the Kenya National Bureau of Statistics.

2. REVIEW OF RELATED LITERATURE

2.1 Introduction

This section outlines the previous related literature to this study. It is organized in the order as follows: previous studies related to the study, theoretical framework and conceptual framework respectively.

2.2 Previous Studies Related to the Study

The alarm of developments in ICT in Africa, in terms of both ICT development (increased infrastructure and access) and ICT for expansion (adoption of ICT applications), has been to advance the process of improvement itself, in terms of ICT for development. The result of this duality of sector transformation has, itself, been dually vast. On the one hand, it has facilitated the delivery of services, such as education, health, better governance (on the parts of both the leadership and the governed), enterprise, and business development, as well as their overall contribution to socioeconomic well-being (especially poverty reduction), political stability, and self-actualization. [23]

While it was once described as a “black hole” of informational capitalism [24], Africa now has over 620 million mobile phone subscribers, second only to Asia [25], and it has the fastest-growing mobile phone penetration rate in the world. Many claims are made about mobile phones, with the well-known development economist Jeffrey Sachs arguing that “mobile phones are the single most transformative technology for development” (quoted in [26], p. 661). Some European Union officials claim that new ICTs are “time portals” that will bring modernity to the people of the developing world [27]

Mobile phones are also thought to help promote democracy through delivery of voter education [28], and to reduce corruption [29]. Others argue that these technologies enable economic “catch up” through technological leapfrogging [23], with the President of Rwanda arguing that, because his country missed the agricultural and industrial revolutions, it must take advantage of the information one (quoted in [30]. However, while leapfrogging may play a role, differential catch-up growth is additionally achieved by leveraging other advantages of late development, based on different cost bases and the nature of social institutions, particularly the state [31].

Recently, it was noted that Africa had fewer broadband subscribers than Australia, a country of 21 million people [32]. Much of the literature on closing the digital divide shares similarities with work on the “new” economic geography, which argues that Africa suffers from a “proximity gap” or “trap,” as it is too far from rich countries to be able to effectively sell to them [33] [34]; [35]. However, this literature ignores the fact that it is partly the adverse articulation with the international system [36], rather than physical distance per se, that produces underdevelopment.

Related, “the notion of a digital divide has, in many ways, been unhelpful. It has given too much emphasis to the technology [and draws] . . . attention away from other divides and inequalities that hamper development” [37]. Mobile phones, by themselves, have no independent causative power. “What do ICTs do? They handle information in digital format. That’s all” [37], p. 2. To understand the impacts of mobile phones on poverty, it is first necessary to interrogate different conceptualizations of poverty, and to think through how the different forms of geographic articulation that mobile phones facilitate influence it.

Conceptualizing Poverty and Mobile Phones

There are three main schools of thought on poverty the structural, the palliative, and the capability conceptions. The structural conception of poverty examines how it is that poverty is produced (Lines, 2008). It seeks to interrogate the socioeconomic structures that produce inequality, marginalization, and exclusion, rather than assuming these as extant, and then “mopped up” through remedial public action. In this structural conceptualization, then, it is power inequality that produces poverty, as power holders are able to shape socioeconomic structures to their benefit and the detriment

of others [38]. Taking this perspective, the question in relation to mobile phones is this: How do they reconfigure the nature of power relationships, broadly conceived, including differences in economic productivity? In this conceptualization, poverty elimination depends on structural economic transformation.

An alternative is the palliative conception of poverty, which takes poverty as a given and asks how it can be alleviated or reduced through investment in health and education, for example (Sachs, 2005). Development interventions can have major impacts on poverty reduction [39], and there is no necessary contradiction between palliative and more structural approaches to poverty reduction [40]—indeed, both are needed, and they synergize together. However, much of the literature on the poverty reduction potential of new mobile phones fits narrowly within palliation through the delivery of m-health or education—“m-development.” For example, according to Aker and Mbiti, as telecommunication markets mature, mobile phones in Africa are evolving from simple communication tools into service delivery platforms. This has shifted the development paradigm surrounding mobile phones from one that simply reduces communication and coordination costs to one that could transform lives through innovative applications and services. (2010, p. 208) However, this neglects how it is that poverty is produced, which is important if it is to be overcome.

A third approach to poverty seeks to understand what social structures inhibit or enhance capability development and fulfillment [41]. If this approach is adopted, the questions might be these: How is it that mobile phones enhance capabilities (what people are capable of doing), and how may they change social structures that influence or inhibit these capabilities? At first, the capability approach appears to achieve reconciliation between palliative and structural conceptions of poverty, with Sen explicitly stating that his framework draws on the work of both Karl Marx and Adam Smith [42].

However, the unit of analysis of the capability approach is the individual, and consequently, the approach still suffers from an ethical, if not ontological, individualism [43]. This tends to obscure issues of class power and, in particular, the class nature of the state [44], which is charged with implementing policies to overcome poverty.

Consequently, an approach that interrogates how mobile phones change socioeconomic structures enables a more accurate assessment of their poverty reduction and economic developmental potential and impacts. Interestingly, the palliative and structural conceptualizations share some implicit similarities in their emphasis on flows (spatial articulation) between places as primary drivers of (under)development. In the palliative conception of poverty, which fits with the neoliberal project, interconnection and flow promotion will accelerate development. Liberalization and unrestricted trade are to be promoted, and increased aid flows will “end poverty.”

The justification for aid is that, while the free market is beneficial, aid can accelerate growth and development beyond what would occur under a completely laissez-faire regime, particularly when countries are caught in poverty and other traps [45] [46]. In contrast, structuralists argue for the need to regulate international flows to allow for infant industry protection, endogenous technological development, and a reduction of surplus extraction through overseas debt repayments, for example [47]. Some elements of the neoliberal articulation package (trade, foreign investment, new ICTs, and aid) can be beneficial for development.

However, whether poverty reduction or reproduction results depends on the way in which trade and the other elements of the package are structured as a result of (class and state) power relations and the path dependency of previous economic structures. Current global power relations arguably favor structuralist outcomes—the reproduction, rather than reduction, of poverty—at least in Africa, where foreign investment is heavily concentrated in natural resource extraction, and the absolute number of people living in poverty continues to rise [48].

The ability of mobile phones to help change the nature of African economies, and consequently, the depth of poverty on the continent, depends on the extent to which some (overseas) firms are at a competitive advantage relative to others, resulting in a fallacy of composition, where the growth of some firms is the concomitant of the closure of others, and poverty levels remain the same or worsen. Partly, the answer to the above quandary depends on the extent to which mobile phones put African-based firms at a competitive advantage relative to their overseas competitors. There is no reason to think that this should be the case.

Indeed, given higher levels of development in other world regions and, consequently, more conducive complementary conditions and factors of production, such as better transportation infrastructure, it is likely that, if anything, new ICTs actually put firms elsewhere at a relative competitive advantage. While mobile phones can substantially reduce transaction costs [49], “death of distance” arguments about them tend to underplay the continued importance of face-to-face communication for tacit knowledge transfers, for example [50]. This knowledge transfer mechanism favors more developed regions with more (business- and innovation-related) tacit knowledge [51].

2.3 Theoretical Framework

This research adopts the Domestication theory (Haddon, 2003) which aligns well with mobile phone adoption and use. This theory concentrates on how individuals go through the process of discovering, purchasing, and integrating devices into their lives, and helps to account for how individuals judge others’ use of the devices as well as the social consequences of the device. An example is Donner, Gitau, and Marsden (2011) who considers domestication of mobile devices in the absence of experience with

a computer. Domestication can be a fruitful theory to use in developing countries because it accounts for social uses and consequences. Understanding cultural and economic variations through domestication enriches both the theory and our insights into mobile media and communication.

2.4 Conceptual Framework

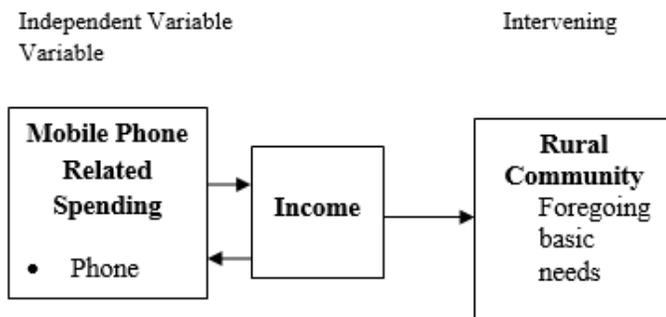


Figure 1: Conceptual framework

The above framework explains that mobile phones related spending such as mobile phone repair costs, airtime top up, mobile phone battery recharge, and acquisition is an independent variable, and rural community foregoing basic needs being the dependent variable, while income in the middle is the intervening variable.

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This section explores the research design and methodology used in the study. It presents the research design, study inhabitants, sample size and sampling procedures, Description of Data instruments, research instruments, validity and reliability of research instruments, Data collection procedures and Data Analysis Techniques.

In order to have a reasonably convincing argument this study adopted qualitative form of study because descriptive research method [52], gets information directly from the respondents about the problem. Descriptive studies basically deal with describing characteristics of particular individual or a group and in this case, it represented the rural inhabitants of Suba district.

Case study method utilizing Questionnaire and face to face interviews was employed during the survey.

The choice of Suba district is because according to the Kenya National Bureau of Statistics [53], it was ranked as one of the poorest District in Kenya. Consequently, the most popular SIM

service provider (Safaricom) network is very strong and available in the village. At the same time, the population sample could be assessed by an individual for accurate results. The village is also unique in that it is found around Lake Victoria region (popular for fishing) yet the occupants (who are the fishermen and women) are still poor. Familiarity with administration, culture and language were added advantage for the success of the research.

3.2 Population of the Study

The study was conducted in Kiabuya Village in Suba, a rural Kenyan district. It is part of the larger Homabay County which has inhabitants of 963,794 people [54]. Suba is a fishing district. The major source of income is fishing, where products are transported for both subsistence consumption and industrial use within the countries larger cities. Safaricom Mobile service provider dominates the area with approximately 100% mobile network coverage, unlike other mobile service providers such as Airtel, Yu, Orange, among others.

3.3 Sample size and Sampling technique

The sample size for this study was 100 respondents. This was adequate number for one person to administer questionnaires.

Based on inhabitants, a sample size of 100 was chosen for this study. This was arrived at by using a statistical calculator applying a statistical formula described in [55].

Here are the formulas used in our Sample Size Calculator:

Sample Size

$$SS = \frac{Z^2 * (p) * (1-p)}{c^2}$$

Where:

Z = Z value (e.g. 1.96 for 95% confidence level)
 p = percentage picking a choice, expressed as decimal (.5 used for sample size needed)
 c = confidence interval, expressed as decimal (e.g., .04 = ±4)

3.4 Description of Data Collection Instruments

Questionnaires were used to collect information on the income level, mobile phone ownership and subscribers earnings. The information was then used to formulate interview guiding questions in manner superfluous information that would not lead

me into either asking leading questions or those questions that would generate.

Although informal interviews were encouraged, there were guiding questions aimed at giving information about: Income level per subscriber, with sub – questions such as the amount of earnings per day or per month depending on the type of work. The second issue was on mobile phone ownership and usage, with the intention of knowing whether one owned a mobile phone or not. In guiding question number three, the idea was to find out how the respondents maintain their phones. Maintenance is defined as battery charging costs, mobile phone repair and airtime recharge costs. Finally, the guiding question was the mobile phone Subscribers' opinion on mobile phone related spending.

3.5 Validity of Research Instruments

Editing, also referred to as raw data verification, plays a vital role in the process of carrying out data processing. According to Kothari [56], it involves careful scrutiny of completed questionnaires to assure that Data collected is accurate and consistent with the facts gathered and have been properly arranged to assure accurate coding and tabulation.

3.6. Reliability of Research Instruments

3.6.1 Validity of the Instruments

According to [52], validity is the accuracy and meaningfulness of inferences based on research results. It is the ability of the instrument to measure well what it purports to measure. To test for content and external validity, a pilot study of the questionnaires was conducted among 10 respondents. The selection of the sample for piloting was based on assertion that about 10 respondents which represented the target population in all the major respects to be used.

3.6.2 Reliability of the Instruments

[52] Define reliability as a measure of the degree to which a research yields consistent results after repeated trials. [56] Observe that for research data to be reliable it must have the ability to consistently field the same results when repeated measurements are taken under the same conditions to test reliability of the instruments.

Correction and modifications was done on the questionnaires to capture information that could have been left out. This ensured that the instruments were comprehensive and detailed enough to collect the relevant information. The questions were specific, varied, and concise and completed by respondents in a comfortable and familiar environment and there were limited variations in responses. These efforts contributed to the reliability of this study.

3.7. Data Collection Procedure

The main procedures used for the collection of data for the study were questionnaires and interview guides. The questionnaires were administered among randomly selected Kiabuya Village Residents.

4. RESULTS

4.1 Introduction

This section focuses on presentation and analysis of data from respondents. It also interprets findings of the study. The results of this study are derived from the questionnaire data using both quantitative and qualitative methods. Almost all questions were answered. The data obtained from the respondents was analyzed as presented below.

4.2 Demographic Information of the participants/Subjects

Respondents' Personal Information

Table 1: Respondents' Personal information

| Age | Frequency | Percentage |
|-------------------|-----------|------------|
| 21-25 | 10 | 15 |
| 26-30 | 22 | 32 |
| 31-35 | 8 | 12 |
| 36-40 | 10 | 15 |
| 41-45 | 10 | 15 |
| 46-50 | 4 | 6 |
| 50 and above | 4 | 6 |
| Total | 68 | 100 |
| Gender | Frequency | Percentage |
| Male | 48 | 71 |
| Female | 20 | 29 |
| Total | 68 | 100 |
| Marital Status | Frequency | Percentage |
| Single | 14 | 21 |
| Married | 52 | 76 |
| Separated | 0 | 0 |
| Widowed | 2 | 3 |
| Total | 68 | 100 |
| Employment Status | Frequency | Percentage |
| Employed | 20 | 29 |
| Unemployed | 24 | 35 |



| | | |
|--------------------------|------------------|-------------------|
| Self Employed | 24 | 35 |
| Total | 68 | 100 |
| Educational Level | Frequency | Percentage |
| Primary | 22 | 32 |
| O Level | 20 | 29 |
| Certificate | 14 | 21 |
| Diploma | 8 | 12 |
| Degree | 4 | 6 |
| Masters | 0 | 0 |
| Total | 68 | 100 |

Table 1 shows total of sixty eight (68) respondents who were surveyed during data collection process. It also shows that all the selected respondents were successfully surveyed. In the sample, the largest age of mobile phone owners was the cohort of 26-30(32%) years old, followed by the cohort of 21-25(15%), 36-40(15%), 41-45(15%), 31-35(12%), 46-50(6%) and finally above 50(6%) years old. The trend in the table suggests that mobile phone owners / users cut across the board. This result is, however, not conclusive as several kinds of sample error can affect this result and many demographic and cultural explanations can be offered to this phenomenon. For example, many of the respondents were married (about 76%) and may have more family obligations than the single.

Although the study aimed at having an equal number of genders among respondents, it was noted that fewer females were sampled who own/use mobile phones than males who own/use mobile phones. From the findings 71% males owned/used mobile phones while female were 29%. Of the respondents, 21% were single, 76% were married, 0% was separated, and 3% were widowed.

Majority of the respondents 35% were unemployed, 29% were employed, and 35% were self employed.

The education level seems to be down with primary level leading with 32%, O level 29%, Certificate 21%, while Diploma and Degree at 12% and 6% respectively, reducing as the level advances. This may be an explanation of the high unemployment rate of 35% and self employment of 35%, although it should be noted that the research was scheduled when students were in school, and were thus completely excluded, which is evident from the range of the ages in the questionnaire.

4.3. Findings on Cost of Buying Mobile Phones

Table 2: Cost to of Buying Mobile Phones

| Cost to of Buying Mobile Phones | | |
|---------------------------------|--------|------------|
| Amount | Number | Percentage |
| Kshs. 1000 | 8 | 12 |

| | | |
|------------------|----|----|
| Kshs. 1500 | 4 | 6 |
| Kshs. 2000 | 14 | 21 |
| Kshs. 2500 | 0 | 0 |
| Kshs. 3000 | 18 | 26 |
| Kshs. 3500 | 12 | 18 |
| Kshs. 4000 | 2 | 3 |
| Kshs. 4500 | 4 | 6 |
| Kshs. 5000 | 4 | 6 |
| Above Kshs. 5000 | 2 | 3 |

As evident from Table 2 above, the cost of mobile phone seem to be high with majority of the phones bought at Kshs. 3000(26%), followed by Kshs. 2000(21%), Kshs. 3500(18%), Kshs. 1000(12%), Kshs. 4500(6%), Kshs. 5000(6%), Kshs. 1500(6%), Above Kshs.5000 (3%), Kshs. 4000(3%), and Kshs. 2500(0%). If compared to the approximate monthly income of the respondents, this exceeds what they earn. It is thus worth noting that the inhabitants of this village as represented by the above respondents, strain so much to acquire the owned mobile phones.

Mobile Phone Battery Charging Cost

The study revealed that 50 % of the respondents (Mobile Phone Owners) spend Kshs 10 on mobile phone charging.41% of the respondents spend Kshs 20 on mobile phone charging,3% of the respondents said they use Kshs 5, Kshs 15 on phone charging and home charging.

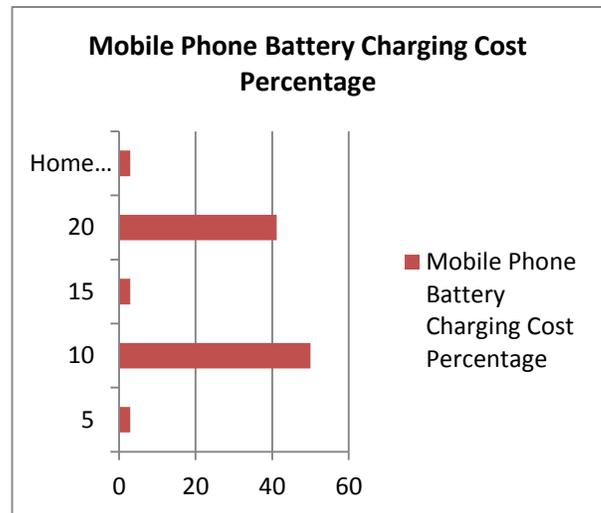


Figure 2: Mobile Phone battery charging cost

Frequency of Mobile Phone Battery Charging

50% of the respondents said they charge their phones twice a week.24% of the respondents' charge their phones once per week,

20% of the respondents said they charge their phones thrice per week, 3% of the respondents said they charge their phones four times per week and every day. 0% of the respondents said they do not charge their phones any other time.

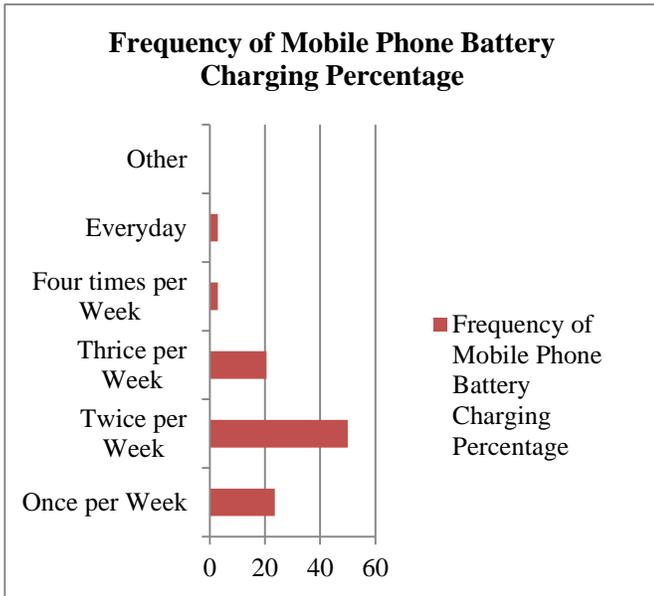


Figure 3: Frequency of Mobile Phone Battery Charging

Have the Owned Mobile Phones Been Repaired?

62% of the respondents said they have repaired their phones.38 % said their phones have not been repaired. This indicates that most of the community members repair their owned mobile phones.

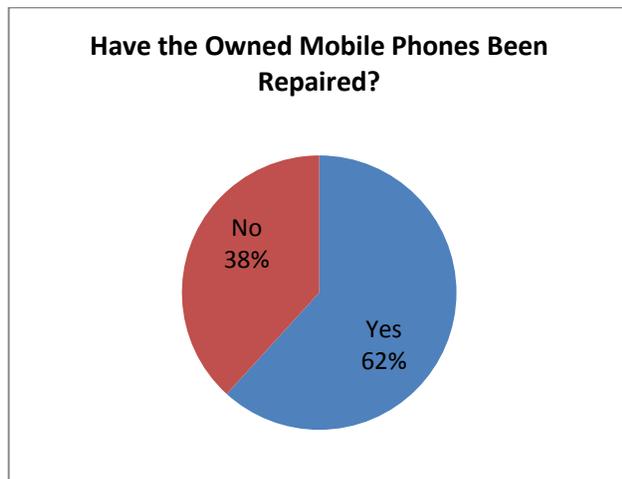


Figure 4: Mobile Phones Repaired?

The Cost of Mobile Phone Repair

The findings indicate that 76% of the respondents spend Ksh.200 to repair their phones. This is followed by 14% who spend above Ksh.200.5% of the respondents use Ksh.100 and Ksh.150 to repair their phones. No respondents spend Ksh.50 to repair their phones. This implies that the community members averagely spend Ksh.200 from their little income to repair their phones to meet their communication needs.

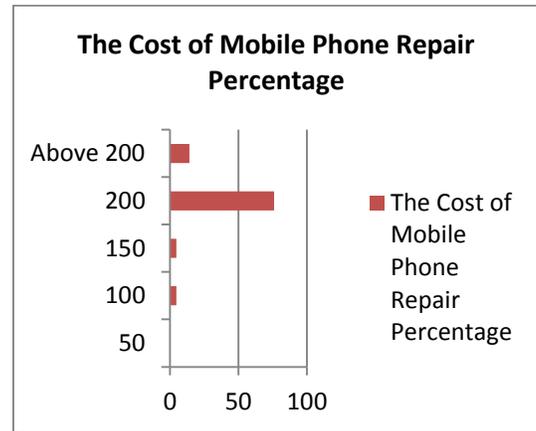


Figure 5: The Cost of Mobile Phone Repair

Frequency of Mobile Phone Repair

The results suggest that 62% of the respondents repair their mobile phone once in a year,33% of the respondents twice per annum,4% of the respondents above five times per year and 0% of the respondents thrice and four times per annum.

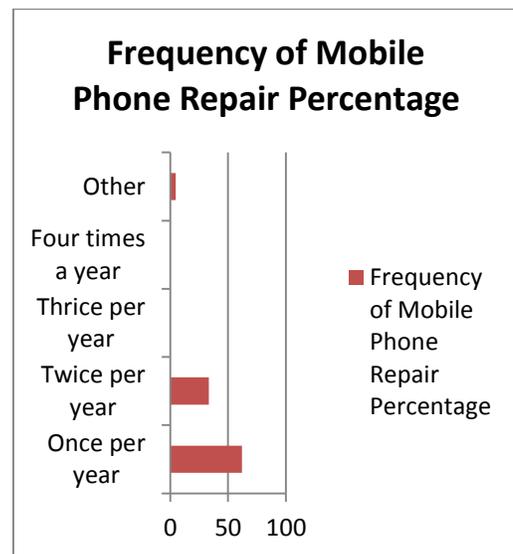


Figure 6: Frequency of Mobile Phone Repair

Approximate Monthly Income

The findings above show that 32% of the respondents earn Kshs. 1500, 26% earn above Kshs. 6000, 9% earn below Kshs. 1500, Kshs. 2000 and Kshs. 4000. 6% earn Kshs. 6000, 3% have a monthly income of Kshs. 2500, Kshs. 3000, Kshs. 3500 and 0% of the respondents earn Kshs. 4500, Kshs. 5000 and Kshs. 5500.

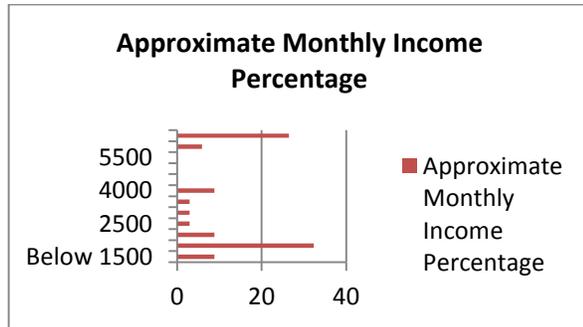


Figure 7: Approximate Monthly Income Percentage

Airtime Top Up Per Day

41% of the respondents top up airtime of Kshs 20 daily. This is followed by 38% who spend Kshs 20 on airtime.11% of the respondents spend Kshs 10 on airtime, 5% spend Kshs 100 on airtime and 2% of the respondents spend above Kshs 100 on airtime. This indicates that most of the community members spend Kshs 20 on airtime to communicate with their business acquaintances and friends.

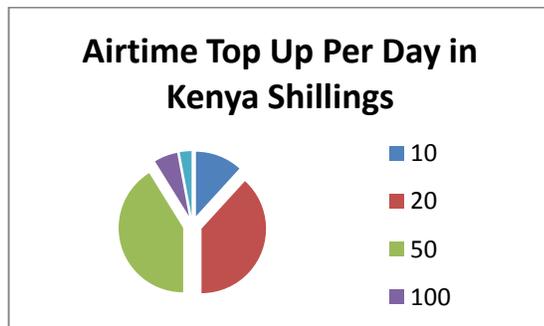


Figure 8: Airtime Top Up Per Day

Airtime Top up Frequency

The findings indicate that 64% of the respondents top up airtime once per day.21% of the respondents twice per day,6% of the respondents four times a day,3% of the respondents top up airtime thrice per day, more than four times a day and once per week.

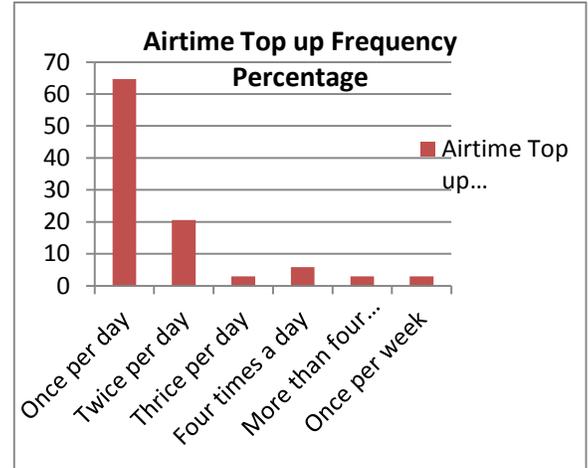


Figure 9: Airtime Top up Frequency Percentage

Tariffs Offered by Mobile Phone Operators

The results indicate that 59% of the participants' uses tariff of Kshs 4 per minute.21% of the respondents use tariff of Kshs 3 per minute, 15% said they use tariff of Kshs2 per minute and 5% use the tariff of Kshs 1 per minute. This implies that most of the community members use the mobile phone operator with a tariff of Kshs 4 per minute.

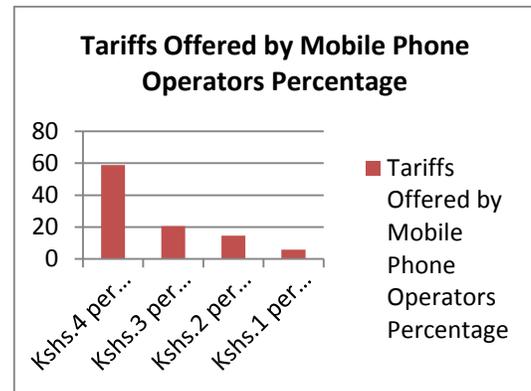


Figure 10: Tariffs Offered by Mobile Phone Operators

Approximate Weekly Airtime Top up

The results from the table above indicate that 38% of the respondents said they use Kshs 200 weekly airtime, 18% of the respondents use Kshs 20 on airtime weekly, 15% of the respondents spend Kshs 100 weekly on airtime, 12% of the respondents spend Kshs 80 on airtime weekly,9% of the respondents use above Kshs 200 on airtime weekly,5% of the respondents use Kshs 40 on airtime weekly and 3% of the respondents spend Kshs 60 on airtime weekly.

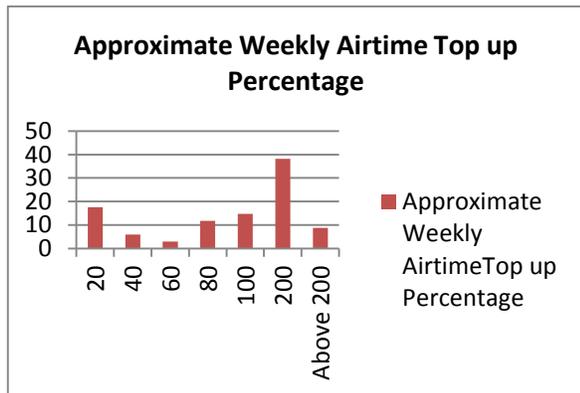


Figure 11: Approximate Weekly Airtime Top up

Forgone Basic Needs at the expense of Mobile Phone Related Spending

71% of the respondents said they forgo basic needs at the expense of mobile phone related spending 29% said they do not forgo basic needs at the expense of mobile phone related spending. This indicates that most of the community members prioritize their communication needs at the expense of their basic needs.

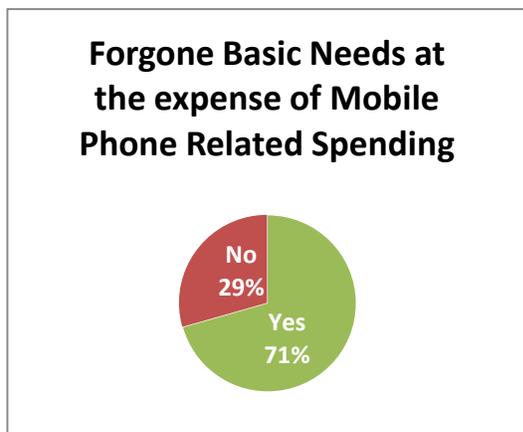


Figure 12: Forgone Basic Needs at the expense of Mobile Phone Related Spending

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study was done to find out how rural community in Suba district from Kenya copes with high cost of maintaining their mobile phones. It was found out that Mobile phone Service Providers charges are high and mobile phones related spending outweigh basic needs. Mobile phones maintenance is high and can be used for other more profiting expenses like paying school fees since it was noted that it is even higher than the school tuition/fees of one student in a day school.

The owned mobile phones averagely cost Kshs. 3000 and are recharged twice a week costing Kshs.10 per charge. A higher number of the mobile phones owned have been repaired costing Ksh.200 per repair and they are usually repaired once per year. The residents of Kiabuya Village averagely earn Kshs. 1500 per month. Kiabuya village residents’ mobile phone owners averagely spend Ksh.50 per day at a frequency of once per day, spending Kshs. 200 per week and as a result of the mobile phone related spending, 71% of the total population of Kiabuya Village residents who owns mobile phone foregone basic needs at some specific time.

5.3 Conclusions

The results showed that although mobile phone uptake by the rural community is higher than expected, their acquisition and maintenance involve sacrifice, which sometimes requires foregoing the very basic needs.

Although still study does not provide the specific reasons that drive mobile phone related expenditure, it provides very interesting background or baseline study on how the rural community in Kenya uses and spends on ICTs.

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