Towards Evidence-based
ICT Policy and Regulation

ICT Household Survey Methodology & Fieldwork

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by Christoph Stork and Matthias Stork

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Research ICT Africa

Research ICT Africa fills a strategic gap in the development of a sustainable information society and network knowledge economy by building the ICT policy and regulatory research capacity needed to inform effective ICT governance in Africa. The network was launched with seed funding from the IDRC and seeks to extend its activities through national, regional and continental partnerships. The establishment of the Research ICT Africa (RIA) network emanates from the growing demand for data and analysis necessary for the appropriate and visionary policy required to catapult the continent into the information age. Through network development RIA seeks to build an African knowledge base in support of ICT policy and regulatory design processes, and to monitor and review policy and regulatory developments on the continent. The research arising from a public interest agenda is made available in the public domain, and individuals and entities from the public and private sector and civil society are encouraged to use it for teaching, further research or to enable them to participate more effectively in national, regional and global ICT policy formulation and governance. This research is made possible by the significant funding received from the International Development Research Centre (IDRC) Ottawa, Canada. The network members express their gratitude to the IDRC for its support. The network is under the directorship of Alison Gillwald.

This policy paper draws on a rich data set arising from the household and individual access and usage survey conducted across 17 African countries under the project leadership of Dr Christoph Stork and, at the country level: Dr. Augustin Chabossou (Benin), Dr. Sebusang Sebusang (Botswana), Dr. Pam Zahonogo (Burkina Faso), Dr. Olivier Nana Nzèpa (Cameroon), Prof. Dr. Arsene Kouadio (Cote d'Ivoire), Dr. Lishan Adam (Ethiopia), Dr. Godfred Frempong (Ghana), Dr. Tim Waema (Kenya), Francisco Mabila (Mozambique), Dr. Christoph Stork (Namibia and South Africa), Prof. Dr. Ike Mowete (Nigeria), Albert Nsengiyumva (Rwanda), Prof. Dr Abdoulaye Diagne (Senegal), Dr. Ray Mfungahema (Tanzania), Dr. F. F. Tusubira and Dr. Nora Mulira (Uganda), Sikaaba Mulavu (Zambia).

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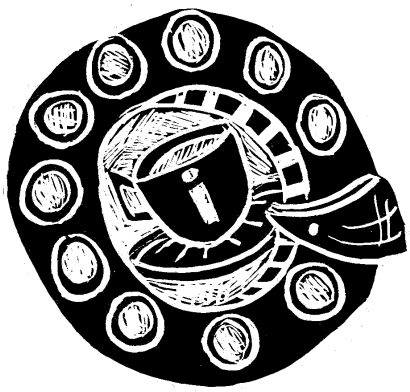

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Introduction

RIA seeks to build an African evidence and knowledge base in support of ICT policy and regulatory processes, and to monitor and review policy and regulatory developments on the continent. Part of this effort is the generation of decision relevant information for policy makers and regulators. To this end RIA conducts both supply-side and demand-side studies of the market building indicators based on operator information on the one hand and from users on the other. RIA e-Access & Usage Survey contributes to demand-side data from the household and individual perspective. This policy brief details the methodology used and provides an example on how to conduct stand-alone ICT surveys. The data generated by such surveys can be used to supply data for ITU's indicators database and monitor the impact of policies and regulatory interventions.

Survey Summary

The original survey methodology was designed by Aki Stavrou[1] for the 2004/5 RIA e-Access & Usage Survey and was modified for this survey. The data is nationally[2] representative on a household and individual level for individuals 16 years of age or older.

Table 1: Survey characteristics

	Survey Charateristics
Target Population	All households excluding institutional households such as army barracks, prisons and hospitals. All individuals 16 years or older.
Domains	1 = national level
Tabulation groups	Major Urban, Other Urban , Rural
Oversampling	Major Urban 40% Other Urban 30% Rural 30%
Clustering	Enumerator Areas (EA) from national Census
None Response	Random substitution
Sample Frame	Census sample from from NSO
Confidence Level	95%
Design Factor	2
Absolute precision (margin of relative error)	5%
P	0.5, for maximum sample size
Minimum Sample Size	768

The RIA questionnaire was divided into three sections. The first part, the household roster, collected information about all household members. The second part collected household-related information. The head of the household or someone that manages the household answered part one and two. The third part, the individual section, was answered by a randomly selected individual 16 years of age or older that slept in the house the night of the interview and included household members and visitors. The full questionnaire can be found in the appendix.

Pilot surveys were conducted in Rwanda, Namibia and South Africa to test the questionnaire in rural and urban communities. The draft questionnaire was then workshopped and tested again in urban communities in South Africa, Uganda and Ghana at regional training workshops.

The survey was administered face to face using PDAs with GPS. Field teams synchronised the PDAs daily with a laptop, which in turn was backed-up daily to a USB stick. The key challenge in conducting surveys digitally is to protect the data, since hardware might fail or get stolen and databases corrupted.

The electronic questionnaire was available in English, French, Kiswahili and Portuguese. Enumerators were trained to conduct interviews in local languages. This is not ideal, since the quality of translation depends on the language skill of the enumerator. However, cost and complexity considerations made that step unavoidable. Translating the

[1] An international development consultant of 25 years experience with a particular specialization in research and evaluation design, implementation and analysis working at the Nordic Irish Development, aki@nid.ie.

[2] The data for Zambia and Nigeria are national extrapolations but not nationally representative. In Zambia the selection probabilities had to be estimated since enumerator ID information was not unique. In Nigeria the sample was drawn only from 6 of 36 provinces.

questionnaire into local languages for all 17 countries with up to 200 local languages per country would have been impossible.

Table 2: Survey Definitions

	Definitions
Household	Constitutes a person or group of persons, irrespective of whether related or not, who normally live together in the same housing unit or group of housing units and have common cooking arrangements.
Head of household	A head of a household is a person who economically supports or manages the household or, for reasons of age or respect, is considered as head by members of the household, or declares himself as head of a household. The head of a household could be male or female.
Member of a household	Person constituting a household is called member of the household. The following are considered as members of a household: • All persons who lived and ate with the household for at least six months including those who were not within the household at the time of the survey and were expected to be absent from the household for less than six months. • All guests and visitors who ate and stayed with the household for six months and more. • Housemaids, guards, baby-sitters, etc. who lived and ate with the household even for less than six months.

Each survey team consisted of 5 people; one field manager and four enumerators. The enumerators were equipped with a PDA and each field manager with a laptop. Several handheld devices and software solutions were tested. Asus Mypal A636N and A639N and a HP iPAQ rx5710 Travel Companion were deployed. The ASUS PDA had a 50% failure rate, mostly software related. None of the HP PDAs caused problems during the field work. The PDAs had spare batteries. In rural areas, car batteries were used to charge the PDAs, either using car charges or separate batteries with converters. Enumerators had to check battery status and take GPS readings before entering the respondent's house. The wireless and bluetooth were switched-off and the LCD display dimmed to save battery power. A battery lasted for up to six one-hour interviews. That meant that batteries had to be changed or the PDAs recharged during lunch break. Field-managers were obliged to do a daily data back up in the evenings. Field-managers took all PDAs to their rooms after the daily fieldwork to charge batteries and synchronise data with the database server on the laptop, and to backup the data from the laptop to a USB stick.

Epihandy, an open source software solution for administering surveys, was deployed for the survey. Several other commercial solutions were tested and evaluated but were either found wanting or too expensive. Epihandy was used in the deployed beta version Microsoft SQL CE server (free for handhelds). The beta version had still several bugs. However the technical support received from Epihandy programmers in Norway and Kampala was outstanding and the bugs were fixed on the fly while in the field.

RIA nodal partners were the project leaders and responsible for planning and execution of the household survey. Project leaders appointed field managers for the survey and hired enumerators. The field managers supervised enumerators and accompanied them each time. The field managers were responsible for the operational side of the survey, with the following tasks:

- Driving enumerators to the enumerator areas (EA);
- Conducting the mapping and listing of EAs;
- Conducting the random sampling within the EAs;
- Assigning enumerators to randomly selected households;
- Checking the quality and completion of responses while in the field;
- Backing-up data, charging PDAs and laptops; and
- Handling per diem payments and petrol and accommodation expenses.

Table 3: Survey Schedule

Steps	Description	Date
Questionnaire and methodology development	The questionnaire design included pilot surveys in Rwanda, Namibia and South Africa.	June 2006-March 2007
Regional training workshops	Training workshops were held in Johannesburg, Accra and Kampala. RIA country partners, field managers and representatives from NSO took part in the 5 day training workshops. The questionnaire was finalised during these workshops. NSO staff from Cameroon, Ethiopia, Ghana, Kenya, Rwanda, Tanzania, Uganda and Zambia participated in the regional training workshops.	March -May 2007
Training of field-teams	Enumerators were trained in the use of the PDA and administering of the questionnaire by field managers and the RIA country partner. Enumerators administered the questionnaire in a pilot EA in each country.	June 2007-January 2008
Public announcements of survey before survey start	Public Announcements of Survey: The survey start was marked by press launches at national and local level. Surveying in rural areas was often preceded by announcements on local radio stations. The standard procedure for rural areas was to get in contact with local authorities for each location (community leaders, headmen or elders) prior to conducting interviews. The survey teams were generally accompanied by someone from the community to introduce them to the selected households.	June 2006-May 2007
Fieldwork	The field work was conducted during a period of 9 months. Cameroon and Kenya started early in June 2007, while Tanzania started last, in February 2008. Most countries needed two months for the data collection.	
Enumerator debriefing	After the survey, enumerators and fieldworkers were debriefed in a half-day session by the project leader. This allowed them capture valuable experiences during the fieldwork. This information helped in explaining abnormalities in the data and provided qualitative input to quantitative analysis. The sessions were recorded using audio equipment and partly transcribed.	
Data cleaning and processing	The data cleaning and processing started in March 2008 with seven countries that had completed data collection. The last tranche of data sets was completed in September 2008.	January - September 2008
Data analysis workshop	A six-week data analysis workshop, with participants from Benin, Burkina Faso, Ethiopia, Kenya, Senegal, Germany and Belgium was held in Johannesburg. Three academic papers emanated from that workshop.	February - March 2008
Data analysis	The data analysis is still ongoing. The descriptive data spreadsheet is expanded each time information requests are received from policy makers, academics or industry for data that had not been included at that time.	Ongoing

The household survey was conducted in co-operation with national statistical offices (NSO). For some countries the NSO conducted the survey for RIA (Tanzania). In others countries NSO staff actively participated in the survey (Kenya, Zambia, Ghana, Mozambique). Most RIA members had to pay to access national sample frames and maps. Exceptions were Mozambique, Namibia and Uganda. NSO staff from Cameroon, Ethiopia, Ghana, Kenya, Rwanda, Tanzania, Uganda and Zambia participated in the regional training workshops (Ghana, South Africa and Uganda).

Table 4: NSO involvement

Country	Sample Frame	Maps	Fieldwork
Benin	US$550	US$1,000	Two NSO staff participated in the enumerator training and provided assistance during the fieldwork
Botswana	Free	$100	None (they only gave their blessing)
Burkina Faso	US$1,000		The national statistical office provided listing information for EAs
Cameroon	Free	US$600	NSO performed the sampling and assisted in the selection and training of enumerators
Ethiopia	Free	US$100	NSO staffs were used as field managers and trainers on part time basis. NSO staff also provided advice to the teams conducting household surveys.
Ghana	Free	US$800	NSO staff as field manager and two staff were part of the enumeration team
Cote d'Ivoire	US$2000	US$1,000	Military escort was provided for the survey work in the in the northern part of the country
Kenya	US$1,000	US$1,000	NSO staff accompanying field teams and facilitated the survey work across the country
Mozambique	Free	Free	One senior NSO staff member functioned as a field manager. Local government staff accompanied field teams during the survey work.
Namibia	Free	Free	No
Nigeria	Produced locally using 2006 national census figures	Produce locally using staff of Geography Department	No
Rwanda	Free	US$800	A formal agreement was signed with the NSO to collaborate on ICT-related research. NSO staff reviewed EAs maps and assisted with the sampling.
Senegal	Free	US$700	NSO staff accompanying field team and helped in contacting authorities and sensitisation of the communities
South Africa	Free	US$1,000	No
Tanzania	Free	US$420	NSO staff as consultants, field manager and fieldworkers. Logistical arrangement was made through the NSO.
Uganda	Free		NSO staff in advisory role
Zambia	Free	Free (only paid for reproduction of the maps)	NSO staff as field manager

Sampling

The random sampling was performed in four steps. The survey was stratified into metropolitan (major urban), other urban and rural areas. Enumerator areas (EAs) were sampled for each stratum using probability proportional to size (PPS). Households within EAs were selected using simple random sampling. One individual from each household was randomly selected from all household members and visitors that stayed at the home on the night the household was visited that were 16 years of age or older.

Step 1: Major Urban/ Other Urban/ Rural Enumerator Areas

Sampling frames of the latest census for each country were obtained from national statistical offices. In some countries the NSO would not issue the master sample frame to RIA. In those cases the sampling of EAs (step 1 and 2) was done by statisticians of the NSO according to RIA specifications.

The EAs from the master sample frame were split into three groups: major urban, other urban and rural. Major urban refers to the capital and any other metropolitan areas. Infrastructure access often does not even cover urban areas in Africa. The capital and commercial centres often have better access to ICTs compared with smaller towns. To capture ICT usage features well without blowing the sample size and survey costs up, RIA over-sampled urban areas in general, and major urban areas in particular. Households from urban areas made up 40% of the sample. Other urban and rural areas made up another 30% each. The advantage of this stratification is an increased number of respondents that actually use ICTs, and also reductions to the cost of the survey. A design weight was constructed to compensate for the oversampling of urban areas to generate nationally representative figures. Major urban areas consisted of the following towns:

- Benin — Cotonou / Porto Novo / Parakou
- Botswana — Gaborone / Fransistown /Lobatse / Selebi Phikwe
- Burkina Faso — Ouagadougou / Bobo-Dioulasso
- Cameroon — Duala / Yaounde
- Ethiopia — Addis Abeba
- Ghana — Accra/ Kumasi
- Cote d'Ivoire — Abidjan
- Kenya — Nairobi / Mombassa /Nakuru
- Mozambique — Maputo/ Nampula / Beirra
- Namibia — Windhoek / Walvisbay / Swakopmund
- Nigeria — Lagos / Abuja / Port Harcourt / Kaduna
- Rwanda — Kigali
- Senegal — Dakar
- South Africa — Johannesburg / Pretoria /Cape Town / Durban / Port Elizabeth
- Tanzania — Dar es Salaam / Mwanza / Arusha /Zanzibar
- Uganda — Kampala /Entebbe
- Zambia — Lusaka / Livingston / Ndola

Step 2: PPS Sampling of Enumerator Areas

EAs were separately sampled for major urban, other urban and rural areas using probability proportional to size. EAs with a higher number of households had a proportionally higher probability of being selected compared to those with a lower number of households.[3]

Table 5: Number of Enumerator Areas (EAs)

	Census plus extrapolation to 2007				Sample		
	Total	Rural	Major Urban	Other Urban	Rural	Major Urban	Other Urban
Benin	7,397	4,758	1,115	3,643	14	18	14
Botswana	4,152	2,065	962	1,125	11	15	12
Burkina Faso	14,812	12,203	1,462	1,147	11	14	11
Cameroon	17,114	9,735	2,994	4,385	13	16	11
Cote d'Ivoire	16,028	10,021	2,504	3,503	13	20	16
Ethiopia	82,563	64,950	3,926	13,687	22	47	24
Ghana	26,708	17,050	3,173	6,485	12	16	12
Kenya	53,482	42,291	5,630	5,561	19	17	21
Mozambique	11,878	6,391	1,767	3,720	22	30	24
Namibia	4,073	2,662	758	653	11	13	12
Nigeria	282,501	225,652	22,988	33,861	29	30	35
Rwanda	7,723	6,441	710	572	11	14	11
Senegal	9,780	5,307	2,112	2,361	14	18	13
South Africa (SALs)	56,255	26,802	13,014	16,439	24	36	21
Tanzania	53,698	33,893	8,165	11,640	31	42	26
Uganda	49,274	43,171	3,055	3,048	17	22	18
Zambia	16,717	11,530	1,994	3,193	14	16	12

Step 3: Simple Random Sampling of Households

A household consists of a person or group of persons, irrespective of whether related or not, who normally live together in the same housing unit or group of housing units, have common cooking arrangements and share financial resources. Maids, guards and baby-sitters that stay with a family are part of the household. A head of a household is a person who economically supports or manages the household or, for reasons of age or respect, is considered as head by members of the household, or declares himself or herself to be head of a household.

All households in an EA were listed using an EA questionnaire (see appendix). Households from the listing were randomly selected by defining the sampling interval and a random starting point. The sampling interval was calculated by dividing the number of households in an EA by the target sample. The random starting point was

[3] See Thompson(2002) page 133 for details how to apply pps sampling.

determined by adding all the digits of the date the EA was visited. The 29/05/2007 would have yielded 41, for example.

Figures 1 and 2 show examples of EA maps for Ethiopia. Figure 1 is an urban EA and figure 2 a rural EA.

Figure 1: Urban EA Map example for Ethiopia

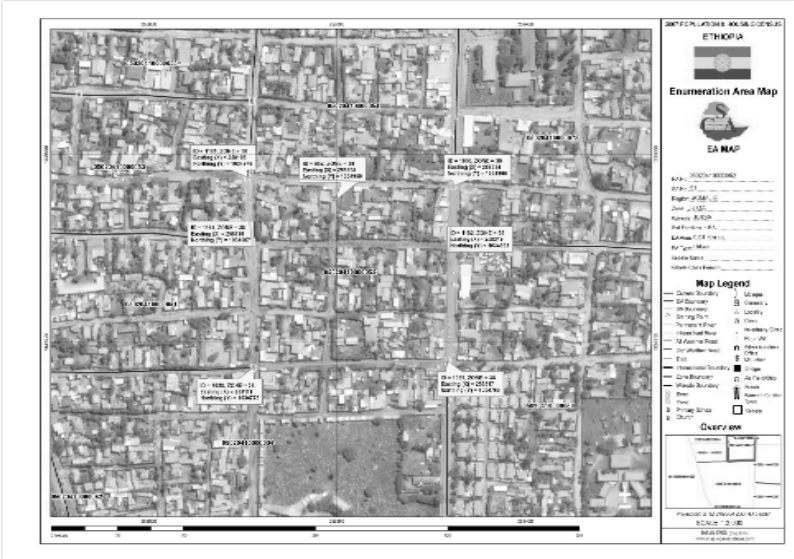
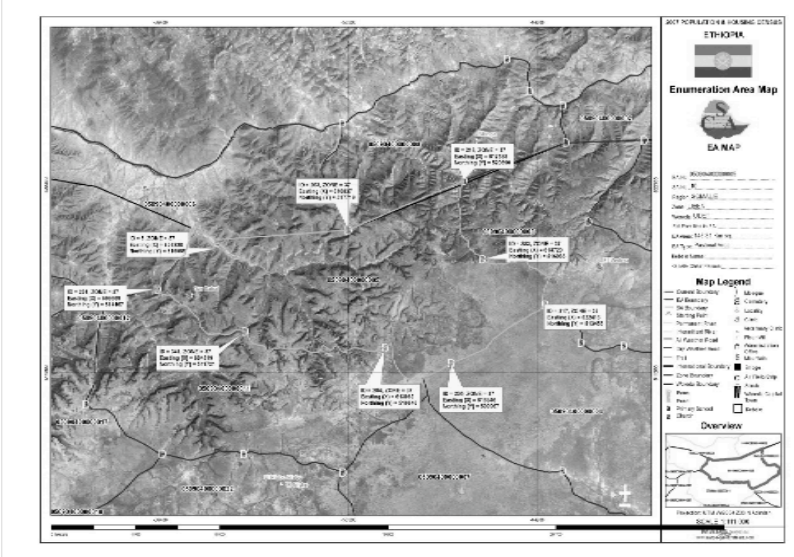


Figure 2 Rural EA Map example for Ethiopia



In exceptional cases the "spinning the bottle" method was used for geographical large or inaccessible rural EAs. The method works as follows:

- Choosing a central point within the EA
- Choosing a direction in which to proceed using the "spin the bottle" technique. Epihandy has a built in Spinning Bottle tool to determine a direction randomly. A random direction was allocated for each of the enumerators.
- Mapping households along a line in the direction chosen from the central point to the edge of the EA.
- Determining the sampling interval for the random walk. If there were 12 households in the path until the edge of the EA and the enumerator had to sample four households, then every third household was selected.
- Randomly choosing a household as the starting point and then selecting according to the sampling interval.

Households refusing to participate in the survey were randomly replaced by continuing with the sample interval described for step 3. Student hostel, prisons, hospitals and embassies are excluded from the household listing.

Step 4: Simple Random Sampling of Household Members

The Epihandy random number generator on the PDA was used to select an individual randomly from a list of household members and visitors 16 years or older.

Sample Size

The desired level of accuracy for the survey was set to a confidence level of 95% and an absolute precision (relative margin of error) of 5%. The population proportion P was set conservatively to 0.5 which yields the largest sample size (Lwanga & Lemeshow, 1991). The minimum sample size was determined by the following equation (Rea & Parker, 1997):

$$n = \left(\frac{Z_a \sqrt{p(1-p)}}{C_p} \right)^2$$

Inserting the parameters for the survey yielded the minimum sample size for simple random sampling:

$$n = \left(\frac{1.96 \sqrt{0.5(1-0.5)}}{0.05} \right)^2 = 384$$

Due to the sampling method chosen for the survey the minimum sample size had to be multiplied by the design effect variable (Lwanga & Lemeshow, 1991). In the absence of empirical data from previous surveys that would have suggested a differed value, the default value of two was chosen for the design effect (UNSD, 2005). This yielded then a minimum sample size of 768 per country. The actual sample size for countries was larger than the minimum requirement, less for statistical reasons than for presenting sample sizes that are convincing for policy makers and regulators.

Table 6: RIA 2007/2008 household survey sample

	Major Urban	Other Urban	Rural	Total
Benin	432	336	333	1,101
Botswana	348	241	229	818
Burkina Faso	416	329	332	1,077
Cameroon	490	347	398	1,235
Cote d'Ivoire	502	312	298	1,112
Ethiopia	1,173	631	551	2,355
Ghana	473	324	295	1,092
Kenya	472	557	432	1,461
Mozambique	562	312	257	1,131
Namibia	311	294	280	885
Nigeria*	895	1,012	844	2,751
Rwanda	415	333	330	1,078
Senegal	432	312	337	1,081
South Africa	779	465	527	1,771
Tanzania	634	393	463	1,490
Uganda	436	347	344	1,127
Zambia*	405	212	264	881
Total	9,175	6,757	6,514	22,446

Weighting

Two weights were constructed, one for households and one for individuals. The weights are based on the inverse selection probabilities[4] of households and individuals respectively and gross up the data to national level when applied.

Household weight: $HH_w = DW \frac{1}{P_{HH} * P_{EA}}$

Individual weight: $IND_w = DW \frac{1}{P_{HH} * P_{EA} * P_I}$

Household Selection Probability: $P_{HH} = \frac{n}{HH_{EA}}$

EA Selection Probability: $P_{EA} = m \frac{HH_{EA}}{HH_{STRATA}}$

Individual selection Probability: $P_I = \frac{1}{HH_{m16+}}$

DW = design weight compensation for over-sampling of major urban and other urban EAs and under-sampling of rural EAs

HH_{EA} = number of households in selected EA based on information of last census or updated listing by field team

HH_{STRATA} =number of households in strata (major urban, other urban, rural)

HH_{m16+} =number of household members or visitors 16 years or older

m = target number of EAs for each strata, (major urban, other urban, rural)

n = target number of households in EA

The target number of households in each EA varied from country to country. Usually 24 households were to be selected from each EA. Some countries, like Tanzania, preferred to reduce it to 15 households in order to increase the spread of EAs across the country.

[4] See UNSD (2005) page 119 for a detailed discussion on sampling weights.

Stated and Revealed Preferences

The RIA household survey collected information from mobile users about their monthly expenditure, but also from non-users about their willingness and ability (WTP) to spend on mobile telephony. The first is known as revealed and the latter as stated preferences. WTP measures are widely used to provide information to policy makers regarding the economic value of non-market, non-pecuniary or environmental goods. For stated preferences, no behavioural changes can be observed; the individuals only state that they intend to behave in that particular fashion (Adamowicz et al, 1994).

The payment ladder method with exponentially distributed amounts was used to infer the willingness and ability to pay for mobile services of non-users. The payment card was first used by Mitchell & Carson (1984). The payment ladder is a kind of payment card which lists WTP values from low to high. Enumerators read the values to the respondent, starting at the top of the list and moving down. They asked until the first three values were answered with no. If the respondents were almost certain about their willingness and ability to pay a monetary value then a tick () was placed in the space next to that amount. If the respondents were not sure about an amount then it was simply left blank. If the respondents were almost certain that an amount was too high then a cross (x) was placed next to the amount. Three crosses (NOs) were required to complete the question to assure that no intransitivities occurred. The highest amount the respondent was willing and able to pay and the lowest amount the respondent was not willing and able to pay was captured. The difference between these two values is the range of uncertainty (Bann, 1999). Having two points increases the chance of eliciting the respondents' actual willingness to pay. The payment ladder avoids starting point bias and reduces the number of outliers (Bateman, 2002). To avoid range and centring biases[5] the payment ladder was based on exponential value increment, as suggested by Row et al (1996). This approach has three mayor advantages.

First, the scale is consistent with the hypothesis of increasing measurement error with increasing value. For instance, a person might value a cup of coffee in a café at $2 plus minus $0.20, but a vacation at $2,000 plus minus $200. Second, according to Row et al (1996) there exists evidence that measurement errors in values obtained in contingent valuation studies have a log-normal distribution and that a logarithmic transformation of the WTP data addresses the increasing measurement error in hypothetical WTP data. Therefore the exponential payment ladder can be seen as consistent with the error distribution of WTP values. The third argument Row et al (1996) put forward refers to the concept of "just noticeable" differences, and they use the example of light sources to explain this. A source of light has a brightness B. The differences between two of such sources is "just noticeable" if the difference can be detected 75% of the time. When bringing these sources in a sequence arranged in order of increasing brightness B1, B2, …, Bn, so that the brightness of each source is "just noticeably" greater than the preceding one, then the relationship to each other is given by Weber's law:

$$B_n - B_{n-1} = k * B_{n-1}$$

where k is a positive constant. Hence the "just noticeable" differences are increasing proportionally to the sequence of sources and can also be written by exponential function:

$$B_n = B_1 * (1 + k)^{n-1}$$

The value of k can be seen as a percentage increase between adjacent scale values. The survey used 28 values, starting with a zero (not interested at all) and ending with an empty cell for amounts higher than listed. Equation (2) was used to compute the 2nd to 27th amounts. K was selected so that (1 + k)n-1 equals the highest value on the list.[6]

[5] See Venkatachalam (2004) and Row et al (1996).

[6] For example with n = 24 cells which have to be computed and $1000 the highest value, the equation would be given by $1000 = (1 + 0{,}35)^{23}$

Willingness to Pay TABLE Payment Ladder South Africa / Namibia (ZAR or N$)					
Starting at the top of the list and moving down. Ask until the first three values are answered with no. If the respondent is almost certain about a monetary value then place a tick (√) in the space next to the amount. If the respondent is not sure about an amount then simply leave it blank. If the respondent is almost certain that the amount is too high then place a cross (x) next to the amount. Enter the highest amount the respondent was willing and able to pay into the PDA Enter the lowest amount the respondent was NOT willing and able to pay into the PDA					
	A	B	C	D	E
Payment Ladder	How much would you be willing and able to spend monthly on a fixed-line phone for calls and any monthly subscription cost?	What would you be willing and able to pay monthly for unlimited (time and MB) broadband Internet access at home?	How much would you be willing and able to spend monthly on a mobile phone for calls and SMS?	What would you be willing /and able to pay for a handset?	What would you be willing /and able to pay for Prepaid SIM Card
0					
35					
44					
54					
68					
85					
106					
133					
166					
208					
260					
325					
406					
507					
634					
792					
990					
1,238					
1,548					
1,935					
2,418					
3,023					
3,778					
4,723					
5,904					
7,380					
9,225					
Ask for amount if highest value still yes:					

ICT Household Surveys and ICT Indicators

The ITU uses several indicators and indices to measure progress towards information societies (ITU, 2009a) and provides guidance on how to conduct ICT standalone surveys (ITU, 2009b). Tables 7 and 8 detail how RIA links to these data collection and interpretation efforts.

Table 7: ICT Development Index (ITU, 2009a)

	ITU Core indicator	Link to RIA data
ICT Access (40%)	Fixed telephone lines per 100 inhabitants	ITU indicator uses supply-side data and divides it by the number of inhabitants of a country. The RIA household survey compiles the number of households with a fixed-line phone. This figure can be extrapolated to the ITU indicator by dividing the RIA indicator by the number of household members. However, there are several factors that can lead to differences. Firstly, RIA only counts residential lines. Secondly, should a household have two lines, RIA will only count it as one household with fixed-line access.
	Mobile cellular telephone subscriptions per 100 inhabitants	ITU indicator sums reported subscriber numbers from mobile operators and divides it by the number of inhabitants of a country. There are a couple of shortcomings with this approach, since it does not really provide a figure for how many inhabitants have a mobile. First, many have more than one SIM card, in particular in countries where interconnection rates and therefore off-net calls are high. Second, ATMs, trucks and other industry applications have built-in SIM cards. The RIA data can estimate this indicator. The RIA data specifies inhabitants 16 years or older with an active SIM card and also the average number of SIM cards people have. It can be extrapolated to the ITU indicator by adding the below-16-year-old population to it. However, the RIA data will underestimate based on the number of individuals below 16 years old with SIM cards.
	International Internet bandwidth (bit/s) per Internet user	ITU indicator is based on an estimate of internet users based on ISP subscribers and extrapolations based on available bandwidth. The RIA data is can deliver a much more precise estimate for internet users. The randomly selected individual was asked questions about the Internet and its use. The survey also collected the number of household members with email address.
	Proportion of households with a computer	ITU indicator is based on household survey data like the RIA data.
	Proportion of households with Internet access at home	ITU indicator is based on household survey data like the RIA data.
ICT use (40%)	Internet users per 100 inhabitants	ITU indicator is based on an estimate of internet users based on ISP subscribers and extrapolations based on available bandwidth. The RIA data delivers a much more precise estimate for internet users. The randomly selected individual was asked questions about the Internet and its use. The survey also collected the number of household members with email addresses.
	Fixed broadband Internet subscribers per 100 inhabitants	ITU indicator measuring fixed broadband subscribers divided by inhabitants of a country. The RIA data can only estimate the residential share of fixed broadband subscribers.
	Mobile broadband subscribers per 100 inhabitants	ITU indicator measuring mobile broadband subscribers divided by inhabitants of a country. The RIA data can only estimate mobile subscribers that use the Internet but cannot distinguish between narrow and broadband.
ICT skills (20%)	Adult literacy rate	ITU indicators are based on data collected by UN. RIA data was used to investigate which indicator would best reflect e-skills (Schmidt & Stork, 2008)
	Secondary gross enrolment ratio	
	Tertiary gross enrolment ratio	

Table 8: ITU Manual (ITU, 2009b)

ITU Core indicator		Covered by RIA?
HH1 Proportion of households with a radio		Yes
HH2 Proportion of households with a TV		Yes
HH3 Proportion of households with telephone	Proportion of households with fixed telephone only	Yes
	Proportion of households with mobile cellular telephone only	Yes
	Proportion of households with both fixed and mobile cellular telephone	Yes
HH4 Proportion of households with a computer		Yes
HH5 Proportion of individuals who used a computer (from any location) in the last 12 months		Yes
HH6 Proportion of households with Internet access at home		Yes
HH7 Proportion of individuals who used the Internet (from any location) in the last 12 months		Yes
HH8 Location of individual use of the Internet in the last 12 months:	Work	Yes
	Place of education	Yes
	Another person's home	Yes
	Community Internet access facility	Only public access with no distinction between community or commercial
	Commercial Internet access facility	
	Any place via a mobile cellular telephone	Yes
	Any place via other mobile access devices	No
HH9 Internet activities undertaken by individuals in the last 12 months (from any location):	Getting information about goods or services	Yes
	Getting information related to health or health services	Yes
	Getting information from general government organisations	Yes
	Interacting with general government organisations	Yes
	Sending or receiving e-mail	Yes
	Telephoning over the Internet/VoIP	Yes
	Posting information or instant messaging	Yes
	Purchasing or ordering goods or services	Yes
	Internet banking	Yes
	Education or learning activities	Yes
	Playing or downloading video games or computer games	Yes
	Downloading movies, images, music, watching TV or video, or listening to radio or music	Yes
	Downloading software	Yes
	Reading or downloading on-line newspapers or magazines, electronic books	Yes
HH10 Proportion of individuals with use of a mobile cellular telephone		Yes
HH11 Proportion of households with access to the Internet by type of access	Narrowband	Only whether subscribers uses the Internet via mobile phone
	Fixed broadband	
	Mobile broadband	
HH12 Frequency of individual use of the Internet in the last 12 months	At least once a day	Yes
	At least once a week but not every day	Yes
	Less than once a week	Yes
HHR1 Proportion of households with electricity		Yes

Survey Impressions and Experiences

Field manager training in Kampala, Uganda

Field manager training in Kampala, Uganda

Field manager training in Kampala, Uganda

Field manager training in Kampala, Uganda

Field manager training in Accra, Ghana

Field manager training in Accra, Ghana

	
Enumerator training in Abidjan, Cote d'Ivoire	Field manager training in Accra, Ghana
	
Survey work in South Africa	Field manager training in Accra, Ghana
	
Enumerator training in Dakar, Senegal	Enumerator training in Dakar, Senegal

	
Survey work in Cote d'Ivoire	Survey work in Cote d'Ivoire
	
Survey work in Cote d'Ivoire	Focus group discussion in the Cape Flats, South Africa
	
Focus group discussion in the Cape Flats, South Africa	Car accident during field work in the north of Mozambique – there were also accidents in Cote d'Ivoire and Namibia

	
Enumerator training in Dar es Salaam, Tanzania	Enumerator training in Senegal
	
Focus group recruitment in the Cape Flats, South Africa	Sampling in Cote d'Ivoire
	
Survey work in Mozambique	Survey work in Mozambique

	
Survey work in Mozambique	Rural life in Mozambique
	
Survey work in Mozambique	Mapping in Cote d'Ivoire
	
Survey work in Mozambique	Survey work in Mozambique

	
Survey work in Cote d'Ivoire	Survey work in Cote d'Ivoire
	
Survey work in Cote d'Ivoire	Survey work in Mozambique
	
Survey work in Cote d'Ivoire	Survey work in Cote d'Ivoire

Example account of field manager

By Rilash Kalaiya

The Team started its first leg of the survey work in Nairobi (Major Urban) on the 4th August 2007.

With seven clusters to cover it was fairly easy as far as travelling was concerned. The main challenges faced in Nairobi were callbacks as most of the HH members were not in or not willing to co-operate due to exhaustion after the many different surveys having taken place in the cluster. Security was also the main concern of the residents.

This resulted in many callbacks, thus slowing the progress.

One cluster, Pumwani-Majengo, was a challenge as the area is a red light, thus male enumerators had to be given more security.

On the 14th of August, we started our second leg of the survey with trips to the upcountry (Rural) clusters. This is where the real survey began. We were received with rain, resulting in our parking the vehicle far from the cluster and having to walk a distance to and from the cluster and also cover a vast area within the cluster. Everyone was extremely tired and exhausted. One such cluster was Makuyu-Kigumo, where we had to park our vehicle some 15 Kilometres from the cluster and walk in rain. Some of us fell on the slippery road and were all dirty even before the survey began. Upon reaching the cluster the team moved to the different HH and then had to walk back to the car. Thereafter we had to drive to Meru for the next day's survey, which was 259 km away, and during the drive not a word was spoken as every one was dead-tired and hungry and wanted to hit the beds.

This second leg in the survey involved a lot of travelling and the team had to cover vast areas over difficult terrain.

On the 23rd of August we travelled to the coast (Mombasa). This was the third leg of the survey. We reached Mombasa at 2am. We got accommodation and slept, with everyone hoping that we did not have a tough cluster the following day. I requested the same from the Statistics office. The officer did actually consider the request and gave us a reasonably "small" cluster.

The interesting experience on the coast was the cluster in Kaloleni –Kaliangombe.

This cluster was vast and I had a stomach bug, and with no sanitation I had a real hard time as I had to use the bush and the leaves. Thereafter we had to drive some 100 km to Mombasa. The interesting observation here was that the men do not work. Only the women and the children work. The men sit and drink palm wine and laze, thus making the enumerators' work difficult as they had to deal with a drunken household head.

On 4th September we started the fourth leg of the survey. This was to cover the Rift Valley, Nyanza and the western provinces. This leg involved a lot of driving and as the rains were here that made the survey work very difficult.

We started the work in Kericho, surrounded by beautiful Tea farms. The terrain was very rough with hills and valleys and the cluster size very large. We proceeded to Kisumu.

The experience in Kisumu was not very good as was in the cybercafé in town. Our vehicle was broken into and a few things stolen. Thereafter the drive to a cluster in Kokelo was a nightmare. It had rained in the night and the road was very muddy with black cotton soil. It reached a point were the car just sank in the mud, and on getting out the depth was above the knee. We struggled to walk through it and I asked the team to proceed as the cluster was some 5 km from the point. I was left looking for the option and was grateful to a neighbour who helped me to get a tractor which was some few kilometres away. Negotiated the price for towing, and was pulled out. This episode took almost 4 hours. I was redirected to the cluster from another route through a farm and connected with my team. I learned never to risk driving in the mud as our vehicle was a two-wheel drive; especially black cotton. Had to get some repair work done in Kisumu as the body work was damaged.

Clusters in Kimilili and Bungoma were fine but had to cope with the wet conditions.

Arrived in Kitale on 14th of September and spent a night in a cluster in Endebbes-Kiabei. It rained the whole night. Drove from Kitale to Endebbes some 30 kilometres on the tar road towards Mt Elgon. On reaching Endebbes the road conditions changed, and after the experience in Kisumu-Same we did not want to risk it. So I opted to hire either a tractor or a Land Rover to drive us to the cluster some 20 kilometres from Endebbes. I met an old man, Mr. Kirui, with a Land Rover and he promised me the vehicle would take us to the cluster and back as the vehicle has 4-wheel drive. I

negotiated the price for hire and we set off. The road was terrible. The team boarded the vehicle and, as the road was rough, team members put their PDAs in their pockets in order to hold the bars on the vehicle. In the process one PDA got broken. On reaching the cluster we were received by a hostile crowd as they did not want anything to do with the government. I explained our mission and also used the local area chief to explain our work. Thereafter the work began. This cluster was large and the team had to do a lot of walking in the rain. After the survey, on our way back, the heavens opened again. This time mercilessly. All the members got wet as the vehicle was not covered. We had to push the vehicle almost all the way and realized that the vehicle did not have 4-wheel drive as promised. It started getting dark and at one point the fuel got finished. We opted to abandon the vehicle and walk in the dark for almost 7 km to our vehicle.

On reaching the vehicle everybody was soaking wet, muddy and tired. Here we lost a camera.

From here we headed back to Kitale for a deserved night's sleep in a cluster in Kwanza. In Kwanza, as it had rained the whole night, the rivers were flooded and we had to wait for hours for them to subside in order to cross.

Next day we headed to Eldoret–Lesos/Nandi and back to Nairobi.

Overall there are a few essential requirements for survey work and these are:

Camera, extra PDAs, waterproof bags, good PR, rain-jackets/umbrellas/wind-breakers, all-weather shoes, some medicine and first aid kit (Remember the Bug), some nibbles/drinking water, fitness is a prerequisite, torch and matches and maybe a leatherman.

Surveying in Cote d'Ivoire

Nationally representative surveying requires covering an entire country regardless of political boundaries. The field teams that covered the north of Cote d'Ivoire required a laisser passer from the commander of the Forces Nouvelle to enter the area controlled by Forces Nouvelles. A payment of 35000 CFA was required for each region controlled by the Forces Nouvelle. The survey teams were accompanied by soldiers of the "Forces Nouvelles" during the field work. Many areas had neither army nor police stationed, and only armed personal could safeguard safety. The field team slept at army barracks on several occasions due to lack of other accommodation or for safety reasons.

Recommendations for NSOs

The information required by the ITU could be collected through stand-alone ICT surveys or by including ICT questions into the survey framework of countries. The following questions could, for example, be included in a national census:

- Has the household a working TV?
- Has the household a working radio?
- Has the household a working computer?
- Has the household a working Internet connection?
- How many household members have a mobile phone?

A census collects information only at a household level. More detailed individual access and usage data can be obtained by adding ICT questions to labour force surveys:

- Do you have a mobile telephone?
- Have you used a computer from any location in the last 12 months?
- Have you used the Internet in the last 12 months?
- If you used the Internet in the last 12 months, where? (multiple response):
    - Home?
    - Another person's home?
    - Work?
    - Place of education (School, university college)
    - Public Internet access facility (library, post office, community centre)
    - Internet Cafe
    - Via a mobile telephone
- How often did you typically use the Internet during the last 12 months?
    - At least once a day
    - At least once a week but not every day
    - Less than once a week
    - Less than once a month
- For which of the following activities did you use the Internet in the last 12 months
    - Getting information about goods or services
    - Getting information related to health or health services
    - Getting information from government organisations
    - Interacting with government organisations
    - Sending or receiving email
    - Telephoning over the Internet/VoIP
    - Posting messages or other information to chat sites, blogs, newsgroups, online discussion forums and social networking sites
    - Purchasing or ordering goods or services
    - Internet / Online banking
    - Education or learning activities (formal)
    - Playing or downloading video games or computer games
    - Downloading movies, images, music, watching TV or video, or listening to radio or music
    - Downloading software
    - Reading or downloading on-line newspapers or magazines, electronic books

Budget or household income and expenditure surveys can be modified to include communication expenditure. Communication has become a major expenditure category in Africa. Figures 3 and 4 display mobile expenditure as share of income and disposable income for individuals 16 years or older, separated into the bottom 75% and top 25% in terms of disposable income and income respectively.

Figure 3: Mobile expenditure as share of disposable income for individuals 16 years or older of the top 25% and bottom 75% in terms of disposable income

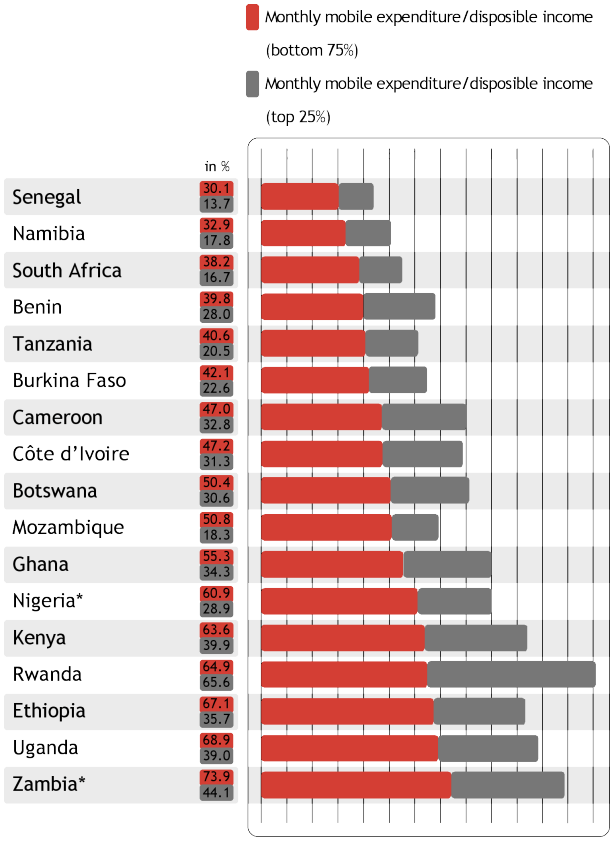
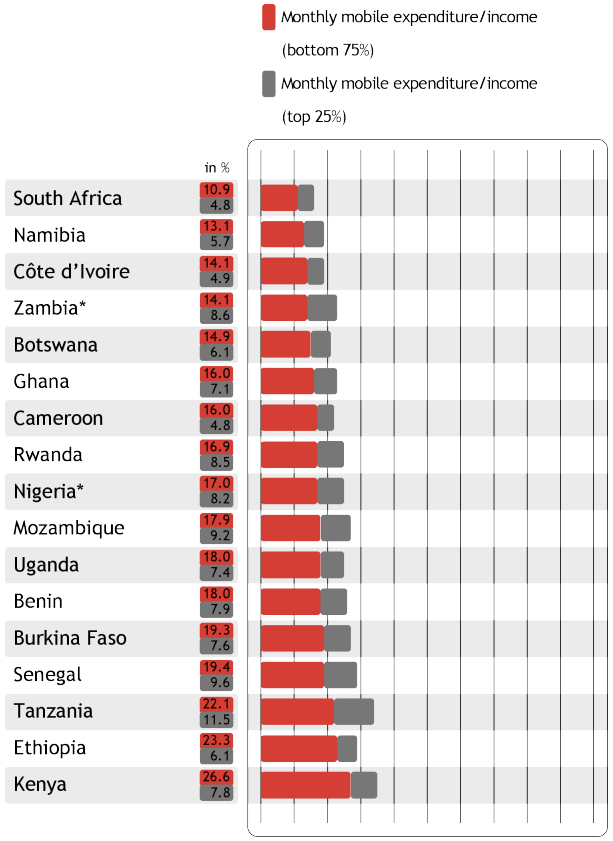


Figure 4: Mobile expenditure as share of income for individuals 16 years or older of the top 25% and bottom 75% in terms of income



Figures 3 and 4 stress the importance of including communication expenditure as separate categories into budget and national household income and expenditure surveys.

- How much does this household usually spend on the fixed-line phone in a month?
- How much do all household members together usually spend on mobile phones usage in a month?
- How much do all household members together usually spend on public phones usage in a month?

The last two questions will be estimates, since the person answering the budget survey, household head or someone managing the household will not necessarily know the exact amounts spend on mobiles and public phones by household members.

Conclusion

The RIA Household and Individual Survey provides data essential to understanding policy outcomes through their impact on end users of communications services and those marginalised from services. In doing so it is able to identify points of policy interventions to optimise ICT access and usage for economic growth, social inclusion and development more broadly.

For this reason such surveys should be conducted by NSOs. Despite the fact that many African countries were signatories to the Geneva Plan of Action arising from the first World Summit on the Information Society, which committed countries to "measuring the digital divide", few of them have indicated serious commitment to conducting the surveys and collecting the data required to do so.

The RIA e-access and usage survey is a relatively inexpensive stand-alone survey on ICT access and usage. RIA will continue to seek the collaboration of national governments, their statistical offices and sector regulators in continuing

to conduct this critical research. It has developed a training programme for national statistical offices with which to conduct such surveys, and its first port of call in conducting the survey is the national statistical office, with the intention of working with statistical officers on the survey, in the absence of their ability to conduct it themselves. The data from the survey is in the public domain and available for use by anyone under a Creative Commons ShareAlike NonCommercial licence.

The ITU has also embarked on regional training initiatives in this area from which NSOs could benefit. Several existing survey frameworks can also be used to collect the data required by the ITU for international comparison, such as censuses, labour force and budget surveys, if a self standing ICT survey is not feasible.

RIA urges governments to utilise these instruments in order to move towards evidence-based communications policy and regulation in Africa.

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Appendix 1: Survey Questionnaire

Admin

1. COUNTRY NAME - [a.1]
    1. [_] - [1] Benin
    2. [_] - [2] Botswana
    3. [_] - [3] Burkina Faso
    4. [_] - [4] Cameroon
    5. [_] - [5] Cote d'Ivoire
    6. [_] - [7] Ethiopia
    7. [_] - [8] Ghana
    8. [_] - [9] Kenya
    9. [_] - [11] Mozambique
    10. [_] - [12] Namibia
    11. [_] - [13] Nigeria
    12. [_] - [14] Rwanda
    13. [_] - [15] Senegal
    14. [_] - [16] South Africa
    15. [_] - [17] Tanzania
    16. [_] - [18] Uganda
    17. [_] - [19] Zambia
2. SURVEY LOCATION - [a.2]
    1. [_] - [1] Major Urban
    2. [_] - [2] Other Urban
    3. [_] - [3] Rural
3. EA NUMBER (SELECTED CLUSTER NUMBER) - [a.3]
4. HOUSEHOLD NUMBER (Listing ID from Map) - [a.4]
5. Interviewer / Enumerator ID - [a.5]
6. OBSERVATION please describe the type of house the respondent lives in. [RECORD OBSERVATION]: - [a.6]
    1. [_] - [1] Permanent formal structure
    2. [_] - [2] Permanent informal structure
    3. [_] - [3] Traditional structure
    4. [_] - [4] Temporary structure
7. OBSERVATION What type of roofing material is used in main house? - [a.7]
    1. [_] - [1] Plastic sheets, or branches and twigs
    2. [_] - [2] Grass

3. [_] - [3] Stone or slate
4. [_] - [4] Iron sheets
5. [_] - [5] Brick tiles
6. [_] - [6] Concrete

8. OBSERVATION. What type of exterior walls does the dwelling have? - [a.8]
1. [_] - [1] Plastic sheets, or branches and twigs
2. [_] - [2] Brick or stone with mud
3. [_] - [3] Brick or stone with cement plaster
4. [_] - [4] Timber
5. [_] - [5] Mud walls
6. [_] - [6] Iron sheets
7. [_] - [7] Sandcrete Blocks

9. OBSERVATION What type of flooring does the dwelling have? - [a.9]
1. [_] - [1] Dirt
2. [_] - [2] Wood
3. [_] - [3] Cement
4. [_] - [4] Cement with additional covering

10. OBSERVATION What is the observed structural condition of main dwelling? - [a.10]
1. [_] - [1] Seriously dilapidated
2. [_] - [2] Need for major repairs
3. [_] - [3] Sound structure

11. Date - [a.11]

12. Time - [a.12]

13. GPS Position - [GPS]

14. Signature of enumerator - [a.13]

HH Rooster (to be completed for each household member)

1. Name - [name]

2. Has ${name}$ lived under this roof for more than 15 days out of the last 12 months? - [d.1]
1. [_] - [1] yes
2. [_] - [2] no

3. Has ${name}$ lived under this roof for more than 15 days out of the last 30 days? - [d.2]
1. [_] - [1] yes
2. [_] - [2] no

4. Is ${name}$ male or female? - [d.3]
1. [_] - [1] Male

2. [_] - [2] Female

5. How old was ${name}$ on his/her last birthday? - [d.4]

6. How is ${name}$ related to the household head? - [d.5]

1. [_] - [1] head of hh
2. [_] - [2] spouse /partner
3. [_] - [3] son or daughter
4. [_] - [4] son or daughter-in-law
5. [_] - [5] grandchild
6. [_] - [6] parent
7. [_] - [7] parent-in-law
8. [_] - [8] brother or sister
9. [_] - [12] bother / sister in law
10. [_] - [9] adopted/foster child
11. [_] - [10] other relative
12. [_] - [11] not related

7. What is the marital status of ${name}$? (only ask if 16 years or older) - [d.6]

1. [_] - [1] currently married
2. [_] - [2] cohabitate
3. [_] - [3] single
4. [_] - [4] widowed
5. [_] - [5] divorced
6. [_] - [6] separated

8. What is the highest level of schooling completed by ${name}$? - [d.7]

1. [_] - [1] none
2. [_] - [8] remedial
3. [_] - [6] traditional
4. [_] - [2] pre-school
5. [_] - [3] primary
6. [_] - [4] secondary
7. [_] - [5] tertiary: BSc/BA
8. [_] - [9] tertiary: Masters
9. [_] - [10] tertiary: PhD
10. [_] - [7] vocational

9. What was ${name}$ main activity during last 6 months? - [d.98]

1. [_] - [1] below school age
2. [_] - [2] full time scholar/ student / pupil

3. [_] - [3] housewife / unpaid work

4. [_] - [4] retired / pensioner

5. [_] - [5] unemployed

6. [_] - [6] disabled cannot work

7. [_] - [7] employed û all year: full time: full time

8. [_] - [8] employed û all year: part-time

9. [_] - [9] employed: occasional/seasonally

10. [_] - [13] self-employed û all year: full time

11. [_] - [14] self-employed û all year: part-time

12. [_] - [15] self-employed û occasional/seasonally

10. WHAT DOES ${name}$ EARN EVERY MONTH IN TERMS OF SALARY OR WAGE? (estimate in local currency, numbers only) - [d.9]

INFO: (home pay, i.e. net pay and add up payments that are made on a daily weekly or biweekly basis)

11. WHAT DOES ${name}$ EARN EVERY MONTH IN TERMS OF SELF EMPLOYMENT INCOME AND PROPERTY INCOME OR INCOME FROM AGRICULTURAL PRODUCE AND FARMING? (estimate in local currency, numbers only) - [d.10]

INFO: Income not turnover or sales!)

12. WHAT DOES ${name}$ EARN EVERY MONTH IN TERMS OF PENSION, TRANSFER INCOME & SCHOLARSHIPS? (estimate in local currency, numbers only) - [d.11]

13. Does ${name}$ have an Email Address? - [d.12]

1. [_] - [1] yes

2. [_] - [2] no

3. [_] - [3] don't know

14. Does ${name}$ have a mobile phone or active SIM card? - [d.13]

1. [_] - [1] yes

2. [_] - [2] no

3. [_] - [3] don't know

Household attributes

1. How much does the household spend on bills in a month? (Rent, water, electricity, food, school fees etc.: estimate in local currency, numbers only) - [w.1]

2. Does this house have ELECTRICITY? (multiple response) - [w.2]

1. [_] - [w.2_1] No

2. [_] - [w.2_2] Main Electricity Grid: Monthly bills

3. [_] - [w.2_3] Main Electricity Grid: Pre-paid

4. [_] - [w.2_4] Generator

5. [_] - [w.2_5] Solar

6. [_] - [w.2_6] Other

3. Does your household have a working...? - [w.3]

1. [_]Yes [_]No REFRIGERATOR
2. [_]Yes [_]No ELECTRIC or Gas COOKER /STOVE
3. [_]Yes [_]No RADIO
4. [_]Yes [_]No TELEVISION SET
5. [_]Yes [_]No VCR/ DVD
6. [_]Yes [_]No COMPUTER (Desktop/Laptop)
7. [_]Yes [_]No PRINTER
8. [_]Yes [_]No SCANNER

4. Does this household have a postal address? - [w.4]
    1. [_] - [w.4_1] No
    2. [_] - [w.4_2] Personal family box
    3. [_] - [w.4_3] Communal box
    4. [_] - [w.4_4] At work place
    5. [_] - [w.4_5] Street address
    6. [_] - [w.4_6] Local shop/school
    7. [_] - [w.4_7] Other

5. Does anybody in this household have a bank account or has access to one in any other way? - [w.5]
    1. [_] - [1] yes, at least one household member has a own bank account
    2. [_] - [2] yes, through work
    3. [_] - [3] yes, through someone else
    4. [_] - [4] no

6. Does this household have a working Internet connection? - [w.6]
    1. [_] - [1] yes
    2. [_] - [2] no

7. What type of internet connection is this - [w.7]
    1. [_] - [1] modem dial-up
    2. [_] - [2] ISDN dial-up
    3. [_] - [3] ADSL
    4. [_] - [4] leased line
    5. [_] - [5] wireless
    6. [_] - [6] using mobile phone
    7. [_] - [7] other

8. Could you tell me how much is spend monthly for the INTERNET (subscription and use)? - [w.8]

9. Do you ever let anybody outside the household use the INTERNET at your home? - [w.9]
    1. [_] - [1] Yes
    2. [_] - [2] No

10. Do you ever charge anybody for the usage of the INTERNET? - [w.10]

    1. [_] - [1] Yes
    2. [_] - [2] No

11. How frequently is this Internet used for work/income generating activities - [w.12]

    1. [_] - [1] Never
    2. [_] - [2] Seldom
    3. [_] - [3] Frequently
    4. [_] - [4] Always

Fixed-line Telephone

1. Do you have a working Fixed-line TELEPHONE at your home? - [h.1]

    1. [_] - [4] Yes
    2. [_] - [3] No

2. In what year did you get the Fixed-line TELEPHONE? - [h.2]
3. What billing type is it? - [h.3]

    1. [_] - [1] Monthly billing
    2. [_] - [2] Pre-paid
    3. [_] - [3] Combination of both

4. Could you tell me how much you spent on your Fixed-line TELEPHONE last month (charges and line rental)? - [h.4]
5. Do you deliberately plan calls during off-peak times to save on the cost of calls? - [h.5]

    1. [_] - [1] yes
    2. [_] - [2] no

6. Do you deliberately avoid calling mobile phones to save on the cost of calls? - [h.6]

    1. [_] - [1] yes
    2. [_] - [2] no

7. Can any family member in the household use the Fixed-line TELEPHONE if they want to? - [h.7]

    1. [_] - [1] yes
    2. [_] - [2] no

8. Who uses the Fixed-line TELEPHONE most? - [h.8]

    1. [_] - [1] head
    2. [_] - [2] wife / husband
    3. [_] - [3] own child or grandchild
    4. [_] - [4] other relative
    5. [_] - [5] other non-relative

9. How frequently is the Fixed-line TELEPHONE being used for work/income generating activities - [h.9]

    1. [_] - [1] Never

2. [_] - [2] Seldom

3. [_] - [3] Frequently

4. [_] - [4] Always

10. Do you charge other people to use the Fixed-line TELEPHONE? - [h.10]

1. [_] - [1] yes

2. [_] - [2] no

11. Is the current cost of local calls to a fixed-line phone during peak time...? - [h.11]

1. [_] - [4] very low

2. [_] - [1] low

3. [_] - [2] ok

4. [_] - [5] high

5. [_] - [3] very high

12. Is the current cost of calls to mobile phones during peak time? - [h.12]

1. [_] - [4] very low

2. [_] - [1] low

3. [_] - [2] ok

4. [_] - [3] high

5. [_] - [5] very high

13. Is the current cost of the monthly line rental of your Fixed-line TELEPHONE (monthly subscription)? - [h.13]

1. [_] - [4] very low

2. [_] - [1] low

3. [_] - [2] ok

4. [_] - [3] high

5. [_] - [5] very high

No Fixed line

1. Have you previously had a Fixed-line TELEPHONE? - [h.14]

1. [_] - [1] yes

2. [_] - [2] no

2. Why are you no longer having that service? - [h.15]

3. Have you ever applied for a Fixed-line TELEPHONE and never received it? - [h.16]

1. [_] - [1] yes

2. [_] - [2] no

4. Which of the costs (fees and charges), would have to decrease for you to consider applying for a Fixed-line TELEPHONE? - [h.16a]

1. [_] - [h.16a_1] CONNECTION FEE

2. [_] - [h.16a_2] MONTHLY RENTAL

3. [_] - [h.16a_3] HANDSET

4. [_] - [h.16a_4] CALLS

5. [_] - [h.16a_5] None

5. What type of billing would you prefer? - [h.17]

1. [_] - [1] Pre-paid (Zero monthly subscription & higher call rates)

2. [_] - [2] Monthly billing (monthly subscription & lower call rates

3. [_] - [3] Don't want household phone

6. Why do you prefer Pre-paid ? (multiple response) - [h.18]

1. [_] - [h.18_1] It is enough for me to be reachable, I would not make any calls anyway

2. [_] - [h.18_2] I hardly make any calls

3. [_] - [h.18_3] I don't want to commit to a monthly subscription since I don't know whether I can afford it in following months

4. [_] - [h.18_4] Having the option to connect to the Internet from home is important to me

5. [_] - [h.18_5] Fixed call rates are cheaper than mobile rates

6. [_] - [h.18_6] Other

7. Why do you prefer Monthly billing? (multiple response) - [h.19]

1. [_] - [h.19_1] I usually call a lot and cheaper call rates are important

2. [_] - [h.19_2] Having the option to connect to the Internet from home is important to me

3. [_] - [h.19_3] Fixed call rates are cheaper than mobile rates

4. [_] - [h.19_4] I don't like to have to recharge my phone account all the time

5. [_] - [h.19_5] Other

8. Why don't you like neither? (multiple response) - [h.20]

1. [_] - [h.20_1] Our household does not need a fixed line phone since we use mobiles

2. [_] - [h.20_2] Fixed phones are not available in our region

3. [_] - [h.20_3] The operator would not provide us with them anyway because we do not have regular income

4. [_] - [h.20_4] Too long wait for a fixed line

5. [_] - [h.20_5] Other

9. Use Payment Ladder A and follow instructions: Highest Yes - [h.21]

10. Use Payment Ladder A and follow instructions: Lowest No - [h.22]

Household Receiving Money

1. Does anyone send money to this household? - [z.1]

1. [_] - [1] yes, monthly

2. [_] - [2] yes, two or three times a year

3. [_] - [4] yes, annually

4. [_] - [5] yes, on special occasions

5. [_] - [3] never

2. Where is that person working? - [z.2]

1. [_] - [1] another village or city
2. [_] - [2] abroad (out the country)
3. [_] - [3] other

3. How much money does the household receive on average? - [z.3]

4. How (what channel) do they normally send money? - [z.4]

1. [_] - [z.4_1] bring it home in person
2. [_] - [z.4_2] by another relative
3. [_] - [z.4_3] by a neighbour
4. [_] - [z.4_4] by bus driver or stranger
5. [_] - [z.4_5] through a merchant
6. [_] - [z.4_6] through a bank account
7. [_] - [z.4_7] through Western Union / Moneygram / Foreign exchange bureau
8. [_] - [z.4_8] through the post office
9. [_] - [z.4_9] other

5. How long does it take for the money to get to you on average? - [z.5]

1. [_] - [1] Immediately (1 day)
2. [_] - [2] In 2-7 days
3. [_] - [3] more than a week
4. [_] - [5] more than a month
5. [_] - [4] never received money

6. How are you being informed when money is sent? - [z.6]

1. [_] - [z.6_1] email
2. [_] - [z.6_2] call from mobile phone
3. [_] - [z.6_3] call from a fixed line phone
4. [_] - [z.6_4] call from a public phone
5. [_] - [z.6_5] I am not being informed in advance
6. [_] - [z.6_6] other

7. Did you use the money for something special or did it just get added to the household expense? - [z.7]

1. [_] - [1] something special
2. [_] - [2] household expenses
3. [_] - [3] I don't know

Household Sending Money

1. Does this household send money to another household? - [y.1]

1. [_] - [1] yes, monthly
2. [_] - [2] yes, two or three times a year
3. [_] - [3] yes, annually
4. [_] - [4] yes, on special occasions
5. [_] - [5] never

2. Where is that household? - [y.2]

1. [_] - [1] another village or city
2. [_] - [2] abroad (out the country)
3. [_] - [3] other

3. How much did you last send? - [y.3]

4. How (what channel) do you normally send money? - [y.4]

1. [_] - [y.4_1] Bring it home in person
2. [_] - [y.4_2] By another relative
3. [_] - [y.4_3] By a neighbour
4. [_] - [y.4_4] By bus driver or stranger
5. [_] - [y.4_5] Through a merchant
6. [_] - [y.4_6] Through a bank account
7. [_] - [y.4_7] Through Western Union / Moneygram / Foreign exchange bureau
8. [_] - [y.4_8] Through the post office
9. [_] - [y.4_9] Other

5. The last time you sent money how long did the money take to get to them? - [y.5]

1. [_] - [1] Immediately (1 day)
2. [_] - [2] In 2-7 days
3. [_] - [3] more than a week
4. [_] - [4] more than a month
5. [_] - [5] never got there

6. How did you inform the receiver about the money sent? - [y.6]

1. [_] - [y.6_1] email
2. [_] - [y.6_2] call from mobile phone
3. [_] - [y.6_3] call from a fixed line phone
4. [_] - [y.6_4] call from a public phone
5. [_] - [y.6_5] I did not inform that person
6. [_] - [y.6_6] other

7. Do you know what the money was used for by the receiver? - [y.9]

1. [_] - [1] it was used for something special
2. [_] - [2] it was added to the household expenses

3. [_] - [3] I don't know

Randomly Selected Individual

1. Please list names of all household members and visitors that will sleep in this dwelling tonight and that are 16 years of age or older? - [CensusDef]

2. Randomly selected person in list - [random]

3. Name of randomly selected individual: - [c.2]

4. Are you a household member or a visitor? - [c.3]

1. [_] - [1] household member

2. [_] - [2] visitor

5. Did you live under this roof for more than 15 days out of the last 12 months? - [c.4

1. [_] - [1] yes

2. [_] - [2] no

6. Did you live under this roof for more than 15 days out of the last 30 days? - [c.5]

1. [_] - [1] yes

2. [_] - [2] no

7. Are you male or female? - [c.6]

1. [_] - [1] Male

2. [_] - [2] Female

8. How old were you on your last birthday? - [c.7]

9. How are you related to the household head? - [c.8]

1. [_] - [1] head of hh

2. [_] - [2] spouse /partner

3. [_] - [3] son or daughter

4. [_] - [4] son or daughter-in-law

5. [_] - [5] grandchild

6. [_] - [6] parent

7. [_] - [7] parent-in-law

8. [_] - [8] brother or sister

9. [_] - [9] adopted/foster child

10. [_] - [10] other relative

11. [_] - [11] not related

10. What is your marital status? - [c.9]

1. [_] - [1] currently married

2. [_] - [2] cohabitate

3. [_] - [3] single

4. [_] - [4] widowed

5. [_] - [5] divorced

6. [_] - [6] separated

11. WHAT IS your HIGHEST LEVEL OF Education - [c.10]

1. [_] - [1] none

2. [_] - [8] remedial

3. [_] - [6] traditional

4. [_] - [2] pre-school

5. [_] - [3] primary

6. [_] - [4] secondary

7. [_] - [5] tertiary: BSc/BA

8. [_] - [9] tertiary: Masters

9. [_] - [10] tertiary: PhD

10. [_] - [7] vocational

12. What was your main activity during last 6 months? - [c.11]

1. [_] - [1] below school age

2. [_] - [2] full time scholar/ student / pupil

3. [_] - [3] housewife / unpaid work

4. [_] - [4] retired / pensioner

5. [_] - [5] unemployed

6. [_] - [6] disabled cannot work

7. [_] - [7] employed all year: full time

8. [_] - [8] employed all year: part-time

9. [_] - [9] employed occasional/seasonally

10. [_] - [13] self-employed û all year: full time

11. [_] - [14] self-employed û all year: part-time

12. [_] - [15] self-employed û occasional/seasonally

13. WHAT DO you EARN EVERY MONTH IN TERMS OF SALARY OR WAGE? (estimate in local currency, numbers only) - [c. 12]

14. WHAT DO you EARN EVERY MONTH IN TERMS OF SELF EMPLOYMENT INCOME AND PROPERTY INCOME OR INCOME FROM AGRICULTURAL PRODUCE AND FARMING? (estimate in local currency, numbers only) - [c.13]

15. WHAT DO you EARN EVERY MONTH IN TERMS OF PENSION, TRANSFER INCOME & SCHOLARSHIPS? (estimate in local currency, numbers only) - [c.14]

Individual Information

1. How much money do you have for your free disposal each month (you can spend without consulting anyone)? - [i. 1]

2. How much do you contribute to household expenses every month? - [i.2]

3. During the last 30 days, for how many days did you not have enough to eat everyday? - [i.3]

4. Can you read a letter or newspaper? - [i.4]

1. [_] - [1] easily
2. [_] - [2] with difficulty
3. [_] - [3] not at all

5. Can You Write a letter? - [i.5]

1. [_] - [1] easily
2. [_] - [2] with difficulty
3. [_] - [3] not at all

6. What is the main household language: - [i.6]

7. Which of the following languages other than the household language do you speak? (multiple response) - [i.7]

1. [_] - [i.7_1] English
2. [_] - [i.7_2] French
3. [_] - [i.7_3] Portuguese
4. [_] - [i.7_4] Arabic
5. [_] - [i.7_5] Swahili
6. [_] - [i.7_6] Afrikaans
7. [_] - [i.7_7] German

8. In which of the following languages other than the household language can you read and write easily? (multiple response) - [i.8]

1. [_] - [i.8_1] English
2. [_] - [i.8_2] French
3. [_] - [i.8_3] Portuguese
4. [_] - [i.8_4] Arabic
5. [_] - [i.8_5] Swahili
6. [_] - [i.8_6] Afrikaans
7. [_] - [i.8_7] German

9. Do you own a portable CD player, MP3 Player or iPod? - [i.9]

1. [_] - [1] no
2. [_] - [2] Portable CD player
3. [_] - [3] iPod or another MP3 player

10. Do you belong to any groups or social networks? (multiple response) - [i.10]

1. [_] - [i.10_1] no
2. [_] - [i.10_2] church / religious
3. [_] - [i.10_3] trade unions
4. [_] - [i.10_4] sport clubs
5. [_] - [i.10_5] savings clubs / micro finance groups
6. [_] - [i.10_6] radio clubs

7. [_] - [i.10_7] lobby groups
8. [_] - [i.10_8] reading clubs
9. [_] - [i.10_9] Internet groups/discussion fora
10. [_] - [i.10_10] co-operatives
11. [_] - [i.10_11] burial clubs
12. [_] - [i.10_12] producer groups (e.g. cotton growers association)
13. [_] - [i.10_13] other

11. Do you participate in decision making at village/city/municipal level? - [i.11]

1. [_] - [1] yes
2. [_] - [2] no

12. Do you have a bank account? - [i.12]

1. [_] - [1] yes
2. [_] - [2] no

13. There are many reasons why people don't have a bank account. Why is it that you don't have one? - [i.16]

1. [_] - [i.16_1] I don't need a bank account
2. [_] - [i.16_2] I don't have regular income
3. [_] - [i.16_3] I earn too little to make it worthwhile
4. [_] - [i.16_4] I don't have an identity document or passport
5. [_] - [i.16_5] I don't qualify to open an account
6. [_] - [i.16_6] I don't know how to open a bank account
7. [_] - [i.16_7] I use someone else's bank account
8. [_] - [i.16_8] I prefer dealing in cash
9. [_] - [i.16_9] The bank is too far from where I live
10. [_] - [i.16_10] It's expensive to have a bank account, I cannot afford to have one

14. How do you store money when you receive cash? - [i.13]

1. [_] - [i.13_1] keep in the bank account
2. [_] - [i.13_2] keep in credit /savings group
3. [_] - [i.13_3] give it as a loan to family and friends
4. [_] - [i.13_4] buy some kind of goods to store money
5. [_] - [i.13_5] invest in the household
6. [_] - [i.13_6] keep in a personal safe place
7. [_] - [i.13_7] other

15. How do you get hold of small amounts of cash when needed ? - [i.14]

1. [_] - [i.14_1] selling something
2. [_] - [i.14_2] borrow from friends
3. [_] - [i.14_3] borrow from family

4. [_] - [i.14_4] withdraw from some kind of formal savings scheme

5. [_] - [i.14_5] withdraw from bank

6. [_] - [i.14_6] borrow from a merchant

7. [_] - [i.14_7] other

16. Which of the following do you worry about when holding cash. - [i.15]

1. [_] - [i.15_1] being robbed

2. [_] - [i.15_2] losing it

3. [_] - [i.15_3] spending it too quickly

4. [_] - [i.15_5] other

17. I am going to read out some statements to you. Please tell me if you agree with them or not (leave blank if don't know): (Optional) - [i.17]

1. [_]Yes [_]No You can easily live your life without having a bank account

2. [_]Yes [_]No Mobile phone banking can be trusted if backed by a mobile phone operator

3. [_]Yes [_]No Mobile phone banking can be trusted if backed by a bank

4. [_]Yes [_]No You would consider having your salary (or your main source of income) paid into mobile phone bank account.

5. [_]Yes [_]No You are prepared to use technology

6. [_]Yes [_]No You often don't fell in control of your finances

7. [_]Yes [_]No Banks take advantage of poor people

8. [_]Yes [_]No Computers frighten me

9. [_]Yes [_]No The Internet is here to stay

10. [_]Yes [_]No You try to avoid technology as much as possible

11. [_]Yes [_]No You do not like to carry cash

12. [_]Yes [_]No Having a bank account makes it easier to get a loan

13. [_]Yes [_]No You are saving for something specific (education, a holiday, appliances, furniture, a car)

TV

1. Do you watch TV? - [t.1]

1. [_] - [1] yes, occasionally

2. [_] - [3] yes, regularly

3. [_] - [2] no

2. How many hours a day do you watch Television on average? - [t.2]

1. [_] - [5] very irregularly

2. [_] - [1] less than 1 hour

3. [_] - [2] between 1 and 2 hours

4. [_] - [3] between 2 and 4 hours

5. [_] - [4] more than 4 hours

3. Where do you watch television mainly? - [t.3]

1. [_] - [1] at home alone
2. [_] - [2] at home with others
3. [_] - [3] at friends, relatives or neighbours home
4. [_] - [4] public places (bars, community halls)
5. [_] - [5] other

4. What programmes do you view most? - [t.4]

1. [_] - [1] entertainment
2. [_] - [2] educational programmes
3. [_] - [3] local news
4. [_] - [4] international news
5. [_] - [5] politics
6. [_] - [6] sports
7. [_] - [7] ANYTHING that is being broadcasted
8. [_] - [8] other

5. Which of your information needs does the TV cover? (multiple response) - [t.5]

1. [_] - [t.5_1] market information
2. [_] - [t.5_2] weather information
3. [_] - [t.5_3] job opportunities
4. [_] - [t.5_4] entertainment
5. [_] - [t.5_5] health information
6. [_] - [t.5_6] agricultural advisory services
7. [_] - [t.5_8] local government information
8. [_] - [t.5_7] other educational information

6. Do you talk to other people about what you see on TV? - [t.6]

1. [_] - [1] yes
2. [_] - [2] no

7. Does Watching TV help you to find jobs? - [t.7]

1. [_] - [1] yes
2. [_] - [2] no

8. Have you ever paid someone to be able to watch TV - [t.8]

1. [_] - [1] yes
2. [_] - [2] no

9. Have you ever charged someone to watch TV - [t.9]

1. [_] - [1] yes
2. [_] - [2] no

10. If you don't watch TV, why not? - [t.10]

1. [_] - [t.10_1] not interested
2. [_] - [t.10_2] house has no electricity
3. [_] - [t.10_3] cannot afford a TV set
4. [_] - [t.10_4] cannot afford TV licence
5. [_] - [t.10_5] other

Radio

1. Do you listen to radio? - [r.1]

1. [_] - [1] no
2. [_] - [2] yes, occasionally
3. [_] - [3] yes, regularly

2. Do you own a personal radio which you can use at any time? - [r.2]

1. [_] - [1] yes
2. [_] - [2] no

3. How many hours a day do you listen to RADIO on average? - [r.3]

4. Where do you listen to radio mainly - [r.4]

1. [_] - [1] at home alone
2. [_] - [2] at home with others
3. [_] - [3] Radio club
4. [_] - [4] work
5. [_] - [5] at friends, relatives or neighbours home
6. [_] - [6] public places (bars, community halls etc.)
7. [_] - [7] while travelling (own car or public transport)
8. [_] - [8] other

5. What programmes do you listen to most? - [r.5]

1. [_] - [1] music
2. [_] - [2] politics
3. [_] - [3] educational programmes
4. [_] - [4] programmes on local issues
5. [_] - [5] sports
6. [_] - [6] news
7. [_] - [7] business purposes
8. [_] - [8] ANYTHING that is being broadcasted
9. [_] - [9] other

6. Which of your information needs does the radio cover? (multiple response) - [r.6]

1. [_] - [r.6_1] Market Information
2. [_] - [r.6_2] Weather Information
3. [_] - [r.6_3] Job opportunities
4. [_] - [r.6_4] Entertainment
5. [_] - [r.6_8] local government information
6. [_] - [r.6_5] Health information
7. [_] - [r.6_6] Agricultural advisory services
8. [_] - [r.6_7] Other educational information

7. Do you talk to other people about what you listed to on the Radio? - [r.7]

1. [_] - [1] yes
2. [_] - [2] no

8. Does listening to the Radio help you to find jobs? - [r.8]

1. [_] - [1] yes
2. [_] - [2] no

9. What type of radio stations are you listening to most? - [r.10]

1. [_] - [1] public radio station
2. [_] - [2] private radio station
3. [_] - [3] community radio station
4. [_] - [4] international radio station
5. [_] - [5] religious radio station

10. If you do not listen to radio, why not? (multiple response) - [r.9]

1. [_] - [r.9_1] I don't like listing to the radio
2. [_] - [r.9_2] I cannot afford one and no one I know has one
3. [_] - [r.9_3] other

Public phone

1. Have you used any PUBLIC PHONES during the past three months? - [pp.1]

1. [_] - [1] No
2. [_] - [2] Yes

2. How often do you use a public phone? - [pp.6]

1. [_] - [1] Once a day
2. [_] - [2] More than once a day
3. [_] - [3] Once a week
4. [_] - [4] More than once a week
5. [_] - [5] Once a month

3. On average how much do you spend monthly on using PUBLIC PHONES - [pp.2]

4. What means of transport do you use to reach the nearest working PUBLIC PHONE from your house? (enter the most frequently used) - [pp.3]

1. [_] - [1] Walk
2. [_] - [4] Horse
3. [_] - [2] Bicycle
4. [_] - [3] Motor bike / car/ taxi/ / bus

5. What are your main reasons for using public phones? (multiple response) - [pp.4]

1. [_] - [pp.4_1] do not have a fixed line phone at home
2. [_] - [pp.4_2] do not have a mobile phone
3. [_] - [pp.4_3] use it because it is cheaper
4. [_] - [pp.4_4] easier than having to recharge mobile
5. [_] - [pp.4_5] other

6. What do you usually use a community / public pay phone for? (multiple response) - [pp.7]

1. [_] - [pp.7_1] Calling fixed line phones
2. [_] - [pp.7_2] Calling mobile phones
3. [_] - [pp.7_3] International calls

7. What makes you choose a particular community / public pay-phone to use? - [pp.8]

1. [_] - [pp.8_1] Price of calls
2. [_] - [pp.8_2] Convenience (e.g. close to my house/work/shop)
3. [_] - [pp.8_3] Security while using
4. [_] - [pp.8_4] Other

8. If you were given your own personal number so that when you called from a community / public pay-phone people could call your personal number and leave you private voice messages, how much more would you use Public Pay - [pp.9]

1. [_] - [pp.9_1] The same as you do now
2. [_] - [pp.9_2] Only a very little more (up to 10% increase a month)
3. [_] - [pp.9_3] Quite a bit more (11-30% increase a month)
4. [_] - [pp.9_4] A lot more than you now (31 - 50% increase a month)
5. [_] - [pp.9_5] Very much more that you do now û it would change how I use the phone (51+% increase a month)

9. Why are you not using public phones? (multiple response) - [pp.5]

1. [_] - [pp.5_1] too inconvenient to use
2. [_] - [pp.5_2] not safe to use at night
3. [_] - [pp.5_3] too expensive
4. [_] - [pp.5_4] I prefer to use my phone at home
5. [_] - [pp.5_5] I prefer to use the fixed-line phone at work or at school
6. [_] - [pp.5_6] I prefer to use my mobile

7. [_] - [pp.5_7] other

Work Phone

1. Do you have access to a telephone at work, on which you can receive calls? - [wp.1]
    1. [_] - [1] yes
    2. [_] - [2] no
2. Can you use this telephone for personal use, to make calls to fixed line phones? - [wp.2]
    1. [_] - [1] yes
    2. [_] - [2] no
3. Can you use this telephone for personal use, to make calls to mobile phones? - [wp3]
    1. [_] - [1] yes
    2. [_] - [2] no
4. Do you save up on personal calls, so that you can make them from the WORK PHONE? - [wp.4]
    1. [_] - [1] yes
    2. [_] - [2] no
5. On average, how many personal calls did you make last week from the WORK PHONE? - [wp.5]

Internet

1. Do you know what the Internet is? - [iu.1]
    1. [_] - [1] yes
    2. [_] - [2] no
2. Do you ever use the Internet? - [iu.2]
    1. [_] - [1] yes
    2. [_] - [2] no
3. Do you have an email address? - [iu.3]
    1. [_] - [1] Personal Subscription
    2. [_] - [2] Personal Free Account (e.g. hotmail, yahoo)
    3. [_] - [3] Work Subscription
    4. [_] - [4] Combination
    5. [_] - [5] No email
4. What are you using email for (multiple response)? - [iu.4]
    1. [_] - [iu.4_1] socially communicate with friends &family
    2. [_] - [iu.4_2] communicate with colleagues for work purposes
    3. [_] - [iu.4_3] communicate with fellow students for study purposes
    4. [_] - [iu.4_4] interacting with local government
    5. [_] - [iu.4_5] business purposes
    6. [_] - [iu.4_6] other

5. Where do you use the internet (multiple response) à - [iu.4a]

1. [_] - [iu.4a_1] at home
2. [_] - [iu.4a_2] at another persons HOME
3. [_] - [iu.4a_3] at an educational institution (school, university, etc.)
4. [_] - [iu.4a_4] CYBER Cafe/Internet,Cafe
5. [_] - [iu.4a_5] at work
6. [_] - [iu.4a_6] using a mobile phone
7. [_] - [iu.4a_7] library
8. [_] - [iu.4a_8] not at all

6. How often on average have you used the internet in the last 6 months? - [iu.5]

1. [_] - [1] Every day or almost every day
2. [_] - [2] At least once a week
3. [_] - [3] At least once a month
4. [_] - [4] Less than once a month

7. Would you say that compared to 6 MONTHS AGO, the number of HOURS A WEEK has - [iu.6]

1. [_] - [2] Stayed same
2. [_] - [3] Decreased
3. [_] - [1] Increased

8. On average, how much money do you spend PER WEEK on using the Internet? (in local currency) - [iu.7]

9. What limits the usefulness of the Internet to you? - [iu.8]

1. [_] - [iu.8_1] there is no interesting content for me
2. [_] - [iu.8_8] lack of local language content
3. [_] - [iu.8_3] I do not know much about how to use the Internet
4. [_] - [iu.8_2] I do not always have access to a computer with Internet connection
5. [_] - [iu.8_4] the Internet is very slow
6. [_] - [iu.8_5] cost of access
7. [_] - [iu.8_6] lack of time
8. [_] - [iu.8_7] other

10. Which of these have you used the Internet for during the last 6 months? (multiple response) - [iu.9]

1. [_] - [iu.9_1] accessing the news
2. [_] - [iu.9_2] sending and receiving emails
3. [_] - [iu.9_3] playing online games
4. [_] - [iu.9_4] finding information I am interested in
5. [_] - [iu.9_5] downloading / listening to music
6. [_] - [iu.9_6] making Internet phone calls (VoIP)
7. [_] - [iu.9_7] education, as part of a course I was registered in

8. [_] - [iu.9_8] education in general

9. [_] - [iu.9_13] researching as part of a training course or your education

10. [_] - [iu.9_10] chatting & exchanging messages

11. [_] - [iu.9_9] online banking

12. [_] - [iu.9_11] paying bills online using credit cards

13. [_] - [iu.9_17] accessing local government services online

14. [_] - [iu.9_18] Getting information for a friend or family member

INFO: Internet telephony refers to the science or technology of integrating telephone services into computer networks. In essence, Internet telephony converts analogue voice signals into digital signals, transmits them, then converts them back again. Voice over IP (VoIP) is a common Internet telephony service.

11. If Internet is used for business purposes please explain how: - [iu.10]

12. How confident would you feel if you had to carry out the following tasks. Please tell me on a scale from 1 to 5 where 1 means "I am not at all confident" and 5 means "I am very confident". - [iu.11]

1 2 3 4 5 (Select 1 - ONE in each row)

1. [_] [_] [_] [_] [_] using a search engine to find information on the Internet

2. [_] [_] [_] [_] [_] using e-mail to communicate with others)

3. [_] [_] [_] [_] [_] downloading and installing software onto a computer

4. [_] [_] [_] [_] [_] identifying the cause for computer problems

5. [_] [_] [_] [_] [_] understanding text written in English

6. [_] [_] [_] [_] [_] typing a letter or CV on the computer

7. [_] [_] [_] [_] [_] participate in an online discussion forum on a topic of your interest

8. [_] [_] [_] [_] [_] making a call over the Internet

13. How easy would it be for you, for instance in your household or circle of friends, to find people who would be able and have the time to help you use computers or the Internet? Would it be - [iu.12]

1. [_] - [1] very easy

2. [_] - [2] quite easy

3. [_] - [3] not very easy

4. [_] - [4] not at all easy

5. [_] - [5] no answer

14. Could you imagine taking a training course online over the Internet? This means that a significant part of the learning content is being received via the Internet. - [iu.13]

1. [_] - [iu.13_1] yes, if it helps me in my job or for my studies

2. [_] - [iu.13_2] no

3. [_] - [iu.13_3] only if I get a certificate for it

15. Do you know what broadband Internet access is? - [iu.14]

1. [_] - [1] yes

2. [_] - [2] no

16. Use Payment Ladder B and follow instructions. Highest Yes - [iu.15]

17. Use Payment Ladder B and follow instructions. Lowest No - [var_989]

No Internet

18. What are the reasons that you do not use the Internet? (Multiple Choice) - [iu.16]
    1. [_] - [iu.16_1] I do not have access to a computer
    2. [_] - [iu.16_2] I do not know how to use computers
    3. [_] - [iu.16_3] I do not want to use the INTERNET
    4. [_] - [iu.16_4] I have no one to email to
    5. [_] - [iu.16_7] I do not have access to any Internet facilities
    6. [_] - [iu.16_5] cannot read/write
    7. [_] - [iu.16_8] I can not afford to use the Internet
    8. [_] - [iu.16_6] other

Mobile

1. Do you own mobile phone or active SIM card? - [m.1]
    1. [_] - [1] I have a mobile phone
    2. [_] - [3] I have an active SIM card but no mobile phone
    3. [_] - [6] I neither have an active SIM card nor a mobile Phone
2. When did YOU get your first MOBILE PHONE? (Year) - [m.2]
3. How many ACTIVE local MOBILE PHONE numbers (SIM cards) do you have? - [m.3]
4. If you have multiple active SIMS how often do you change them? - [m.3b]
    1. [_] - [1] Several times a day
    2. [_] - [2] Once a day
    3. [_] - [3] Several times a week
    4. [_] - [4] Once a week
    5. [_] - [5] Several times a month
    6. [_] - [6] Once a month
    7. [_] - [8] Several times a year
    8. [_] - [7] Once a year
    9. [_] - [9] Never
    10. [_] - [10] not applicable
5. Is it a prepaid or postpaid (contract) phone? - [m.4]
    1. [_] - [1] prepaid
    2. [_] - [2] postpaid (contract)
    3. [_] - [3] both (have multiple)
6. What do you use your mobile phone for? - [m.5]
    1. [_]Yes [_]No Making phone calls

2. [_]Yes [_]No Receiving phone calls
3. [_]Yes [_]No Sending SMS
4. [_]Yes [_]No Receiving SMS
5. [_]Yes [_]No Taking photos
6. [_]Yes [_]No Taking video clips
7. [_]Yes [_]No Sending MMS
8. [_]Yes [_]No Receiving MMS
9. [_]Yes [_]No I use it as a diary
10. [_]Yes [_]No To send emails
11. [_]Yes [_]No To receive emails
12. [_]Yes [_]No I use it to keep time instead of a watch
13. [_]Yes [_]No To conduct my banking
14. [_]Yes [_]No To play games
15. [_]Yes [_]No To send faxes
16. [_]Yes [_]No To download music
17. [_]Yes [_]No To listen to music
18. [_]Yes [_]No Sending BEEPs, FLASHs, BUZZs, MISSED CALLs or a PLEASE CALL MEs
19. [_]Yes [_]No Receiving BEEPs, FLASHs, BUZZs, MISSED CALLs or a PLEASE CALL MEs

7. How did you get your current (latest) mobile phone - [m.6]
    1. [_] - [1] I got a new mobile when I signed a contract
    2. [_] - [2] I bought a new phone
    3. [_] - [3] I bought a second-hand phone
    4. [_] - [4] I got a new phone from family or friends
    5. [_] - [5] I got a second-hand phone from family or friends
8. What is the name of your current service provider (main provider if multiple SIM cards)? - [m.7]
9. What are the main reasons for you to select your mobile provider? (multiple response) - [m.8]
    1. [_] - [m.8_13] Most of my friends and family members are on the same network
    2. [_] - [m.8_11] A hand set being offered (free) with the connection
    3. [_] - [m.8_1] I was interested in a particular package
    4. [_] - [m.8_2] Wider coverage (or the coverage I needed)
    5. [_] - [m.8_3] Range of services offered
    6. [_] - [m.8_4] Low connection charges
    7. [_] - [m.8_5] Better voice clarity/quality
    8. [_] - [m.8_6] Better customer service
    9. [_] - [m.8_7] Cheapest rates in general
    10. [_] - [m.8_8] No other available options

11. [_] - [m.8_9] I got connected fast and conveniently

12. [_] - [m.8_10] Reputation of the company

13. [_] - [m.8_12] other

10. Could you tell me how much you spent last MONTH for mobile phone usage (monthly subscription if any, calling and sending SMS)? - [m.9]

11. Is this expenditure more or less than usual, or the same? - [m.11]

1. [_] - [1] More

2. [_] - [2] On average

3. [_] - [3] Less

12. Who pays your mobile expenses or bill? - [m.10]

1. [_] - [1] Self

2. [_] - [2] Partner / Spouse

3. [_] - [3] Parents

4. [_] - [4] Other Family Members

5. [_] - [5] Work

6. [_] - [6] Others

13. How much are you currently paying for a one minute call to a mobile phone from the same network during peak time? (0=do not know) - [m.12]

14. How much are you currently paying for sending a SMS? (0=do not know) - [m.13]

15. Is the current cost of calls - [m.14]

1. [_] - [4] very low

2. [_] - [1] low

3. [_] - [2] ok

4. [_] - [3] high

5. [_] - [5] very high

16. What prevents you from making more phone calls, from the mobile phone? - [m.15]

1. [_] - [m.15_1] Nothing û currently on optimum use

2. [_] - [m.15_2] People I want to call have no phones

3. [_] - [m.15_3] Cost of calls

4. [_] - [m.15_4] Coverage

5. [_] - [m.15_5] Do not own a handset

6. [_] - [m.15_6] other

17. If calls were cheaper would you: - [m.16]

1. [_] - [1] make more calls

2. [_] - [2] make the same amount of calls and use the saved money for something else

3. [_] - [3] both

4. [_] - [4] do not know

18. Suppose the cost of using your phone came down by half. Which of these statements best describes how you would change your phone usage? - [m.17]

1. [_] - [1] I would not change my phone usage
2. [_] - [2] I would increase my phone usage by some amount, but not double my usage
3. [_] - [3] I would double my phone usage
4. [_] - [4] I would more than double my phone usage

19. Suppose the cost of using your phone doubled. Which one of these statements best describe how you would change your phone usage? - [m.18]

1. [_] - [1] I would not change my phone usage?
2. [_] - [2] I would reduce my phone usage by some amount, but not by half
3. [_] - [3] would reduce my phone usage by half
4. [_] - [4] I would reduce my phone usage by more than half

20. Would you consider changing your service provider if you could keep your number (Number portability)? - [m.19]

1. [_] - [1] yes
2. [_] - [2] no

21. Have you ever ported your number to another network or switched providers? - [m.20]

1. [_] - [1] yes, switched provider
2. [_] - [2] yes, switched provider and ported number
3. [_] - [3] never switched provider or ported number
4. [_] - [4] Not available in country

22. What has stopped you from switching providers / porting your number? - [m.21]

1. [_] - [1] Happy with existing provider
2. [_] - [2] Cost of terminating service contract
3. [_] - [3] Admin processes too complicated
4. [_] - [6] It takes too long to port a number
5. [_] - [7] I could not port my number
6. [_] - [4] other

23. How often do you send a BEEP, FLASH, BUZZ, MISSED CALL or a PLEASE CALL MEö to someone in a week? - [m.23]

24. How often are you receiving a BEEP, FLASH, BUZZ, MISSED CALL or a PLEASE CALL MEö in a week? - [m.24]

25. Do other people use your mobile REGULARLY? (multiple choice) - [m.25]

1. [_] - [m.25_1] no
2. [_] - [m.25_2] yes, family members
3. [_] - [m.25_3] yes, friends
4. [_] - [m.25_4] yes, neighbours
5. [_] - [m.25_5] yes, work colleagues or fellow students

26. Could you calculate on average how many SMS you send daily? - [m.26]

27. Could you calculate on average how many SMS you receive daily? - [m.27]

28. Do you ever let others use your mobile phone to send SMS? - [m.28]

1. [_] - [1] yes
2. [_] - [2] no

29. To whom do you send SMSs to most? - [m.29]

1. [_] - [1] family members
2. [_] - [2] friends
3. [_] - [3] business contacts (client, supplier)
4. [_] - [4] spouse / partner

30. From whom are you receiving SMSs most? - [m.30]

1. [_] - [1] family member
2. [_] - [2] friend
3. [_] - [3] business contact (client, supplier)
4. [_] - [4] spouse / partner

31. I am going to read out some statements to you. Please tell me if you agree or not with each statement (don't know = leave blank) - [m.31]

1. [_]Yes [_]No Using a mobile phone make my life easier
2. [_]Yes [_]No Using a Mobile Phone saves me TRAVELLING time & costs?
3. [_]Yes [_]No Using a Mobile Phone helps me to stay informed about the latest news
4. [_]Yes [_]No Using a Mobile Phone helps me to socialise
5. [_]Yes [_]No Using a Mobile Phone helps me to find jobs
6. [_]Yes [_]No Using a Mobile Phone provides me with a sense of security for the case of emergencies
7. [_]Yes [_]No Using a Mobile Phone helps me to run my business
8. [_]Yes [_]No Using a Mobile Phone is fashionable

32. Who calls you most? - [m.38]

1. [_] - [1] family members
2. [_] - [2] friends
3. [_] - [3] business clients
4. [_] - [4] business suppliers
5. [_] - [5] financial service providers (bank)
6. [_] - [6] information services
7. [_] - [7] employees
8. [_] - [8] employer

33. Whom are you calling most? - [m.39]

1. [_] - [1] family members
2. [_] - [2] friends
3. [_] - [3] business clients
4. [_] - [4] business suppliers

5. [_] - [5] financial service providers (bank)
6. [_] - [6] information services
7. [_] - [7] employees
8. [_] - [8] employer

34. What was the main purpose of the last 10 calls that you received? - [m.40]

1. [_] - [1] social calls(friends and family)
2. [_] - [2] someone wanted information from you
3. [_] - [3] someone needed your help in an emergency
4. [_] - [4] some one wanted to buy something from you
5. [_] - [5] someone wanted to sell you something
6. [_] - [6] your employer called you on a work related issue

35. What was the main purpose of the last 10 calls that you made? - [m.41]

1. [_] - [1] social call (friends and family)
2. [_] - [2] to get information from someone
3. [_] - [3] to get help in an emergency
4. [_] - [4] to make a purchases/orders
5. [_] - [5] to sell something
6. [_] - [6] to talk to employees regarding work related issues

Airtime Transfer

1. Have you ever transferred airtime (credit or units) to someone else's mobile phone? - [m.42]

1. [_] - [1] yes
2. [_] - [2] no

2. How often a week are you transferring airtime to someone else's mobile phone? - [m.43]

3. Please state the main reasons for sending airtime: (multiple choices allowed) - [m.44]

1. [_] - [m.44_1] selling airtime to someone
2. [_] - [m.44_2] paying for goods or services
3. [_] - [m.44_3] as a favour to a friend or family member
4. [_] - [m.44_4] other

4. What factors would make you prefer sending airtime rather than paying cash or transferring money via banks? - [m.45]

1. [_] - [m.45_1] zero transaction costs
2. [_] - [m.45_2] no loss if mobile phone gets stolen
3. [_] - [m.45_3] safe transaction with feedback on transfer
4. [_] - [m.45_4] wide acceptance of airtime as a means of payment
5. [_] - [m.45_5] other

5. Have you ever received airtime from someone else's mobile phone? - [m.46]

1. [_] - [1] yes

2. [_] - [2] no

6. How often a week do you receive airtime on your mobile phone from someone else? - [m.47]

7. Please state the main reasons for receiving airtime: (multiple choices allowed) - [m.48]

1. [_] - [m.48_1] buying airtime from someone

2. [_] - [m.48_2] being paid for goods or services

3. [_] - [m.48_3] as a favour from a friend or family member

4. [_] - [m.48_4] other

8. What factors would make you prefer receiving airtime rather than cash? - [m.49]

1. [_] - [m.49_1] zero transaction costs

2. [_] - [m.49_2] no loss if mobile phone gets stolen

3. [_] - [m.49_3] safe transaction with feedback on transfer

4. [_] - [m.49_4] wide acceptance of airtime as a means of payment

5. [_] - [m.49_5] other

No Mobile

1. If you were given a phone at a rate which you can very much afford (this would include the initial cost as well as monthly call rates), will you be interested in buying one? - [m.50]

1. [_] - [1] yes

2. [_] - [2] no

2. Why don't you have a own active SIM card? (Optional) - [m.61]

1. [_] - [m.61_1] Cost of buying a SIM card

2. [_] - [m.61_2] Cost of calls

3. [_] - [m.61_3] No access to a handset to use the SIM card in

4. [_] - [m.61_4] There is no mobile coverage where I live

5. [_] - [m.61_5] I don't have anyone to call

6. [_] - [m.61_6] I use a fixed line phone

7. [_] - [m.61_7] I use a community / public pay-phone

8. [_] - [m.61_8] other

3. Why don't you have a mobile phone (handset) (Optional) - [m.62]

1. [_] - [m.62_1] I cannot afford my own handset (mobile phone)

2. [_] - [m.62_2] There is no coverage where I live and when I am in somewhere where there is coverage then I can borrow someone else's.

3. [_] - [m.62_3] We do not have electricity at home to charge the mobile phone

4. [_] - [m.62_4] other

4. Use payment ladder C and follow instructions: Highest Yes - [m.51]

5. Use payment ladder C and follow instructions: Lowest No - [m.52]

6. Use payment ladder D and follow instructions: Highest Yes - [m.53]

7. Use payment ladder D and follow instructions: Lowest No - [m.54]

8. Use payment ladder E and follow instructions: Highest Yes - [m.70]

9. Use payment ladder E and follow instructions: Lowest No - [m.71]

10. If you were to buy a new phone, how much would you expect it to cost you? This is inclusive of the hand set and the connection? - [m.55]

11. If you were to buy a new phone how much would you expect the monthly call charges to be ? - [m.56]

12. Do you plan to get a mobile phone for your own use in the future? - [m.57]

1. [_] - [1] yes
2. [_] - [2] no

13. When do you expect to make this purchase ? - [m.58]

1. [_] - [1] Within the next 3 months
2. [_] - [2] Within the next 6 months
3. [_] - [3] Within the next year
4. [_] - [4] Within the next 2 years

14. You said you plan to buy your own phone? What type of phone would it be? - [m.59]

1. [_] - [1] Mobile - Contract
2. [_] - [2] Mobile - Pre-paid
3. [_] - [3] Fixed Wireless

Appendix 2: EA Questionnaire

MODULE 1: Questionnaire -IDENTIFICATION and INTERVIEWER VISITS		
EA.1 Country Name		
EA.2 Country Research Organisation		
EA.3 Survey Location	1 = Major Towns 2 = Other Urban 3 = Rural	
EA.4 EA ID Number (selected cluster number)		
EA.5 Field Manager ID		
Date of completion: dd mm yy		
Signature FIELD MANAGER		
MODULE 2: EA ATTRIBUTES		
EA.6 How far Away is it to the next major urban area?		Skip if EA.3 =1
EA.7 What is the quality of the main roads serving the area?	1=dirt road 2=gravel road 3=tar road	
EA.8 Are there pavements in the EA?	0 = No 1 = Yes 2 = partly	
EA.9 Does the EA have piped public water?	0 = No 1 = Yes	
EA.10 Is the EA connected to the electricity Grid?	0 = No 1 = Yes	
EA.11 Does the EA have a Sewage system?	0 = No 1 = Yes	
EA.12 What ETHNIC and religious groups are located in the EA?		
EA.13 What is the climate?	1=arid, 2=semi arid, 3=humid	
EA.14 If rural, what agricultural crops are grown in the area and what is the current season?		
EA.15 Where is the next post office (km)?		1=in the EA 2=less than 1km 3=1-5 km 4=6-10km 5=11-25 km 6=26-50km 7=+50km
EA.16 Where is the next Bank (km)?		
EA.17 Where is the next ATM (km)?		
EA.18 Where is the next Hospital or Clinic (km)?		
EA.19 Where is the next Primary school (km)?		
EA.20 Where is the next Public Phone or telephone Kiosk (km)?		
EA 21: Is there cellphone reception in the EA?	0 = No 1 = Yes	
EA 22: Is the fixed-line connectivity in the EA?	0 = No 1 = Yes	

MODULE 3: Landmark GPS reading			
Name of Landmark	Landmark Symbol on Map (A, B, C..)	Longitude	Latitude

MODULE 4: Sampling Interval and Random Starting Point				
Total Number of HH in EA (from listing)	Sampling target for EA	Sampling Interval (Total number of hh in EA / sampling target for EA)	Time: hh:mm	Random Starting Point (add 4 digits of time field)

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