

REPUBLIC OF RWANDA



NATIONAL INSTITUTE OF STATISTICS OF RWANDA

# EICV<sub>3</sub> THEMATIC REPORT

## Utilities and amenities

### – Water and Sanitation

### – Energy

### – Housing

### – Transport

### – ICT

August 2012

## Foreword

The 2010/11 Integrated Household Living Conditions Survey, EICV3 (Enquête Intégrale sur les Conditions de Vie des Ménages), is the third in the series of surveys which started in 2000/01 and is designed to monitor poverty and living conditions. The survey fieldwork commenced in November 2010 and continued for one full year. In 2010/11, for the first time the achieved sample size of 14,308 households in the EICV3 was sufficient to provide estimates which are reliable at the level of the district.

To date, two publications have been issued by the National Institute of Statistics of Rwanda (NISR) using EICV3 data: a report with an overview of main indicators and a poverty profile. The present report is one of a series of 10 further documents that each explores in depth a theme from the Economic Development and Poverty Reduction Strategy (EDPRS) using data from EICV3 and a limited number of other sources. The objective is to provide analysis that will contribute to the understanding of the sector and to support the elaboration of Rwanda's Second EDPRS.

The 10 thematic reports in this series are: (i) Economic Activity; (ii) Utilities and Amenities (water/sanitation/energy/housing/transport/ICT); (iii) Social Protection; (iv) Environment and Natural Resources; (v) Consumption; (vi) Gender; (vii) Youth; (viii) Education; (ix) Agriculture; and (x) Income.

This report also draws on information contained in the Labour Market and Economic Trends in Rwanda report from August 2007, which reported on the EICV2 survey, and the Establishment Census of 2011. The report also includes some text from the Main Indicators Report of the EICV3 and makes some revisions to the data published there as a result of deeper analysis of the data.



**Yusuf MURANGWA**

Director General

National Institute of Statistics of Rwanda



## Acknowledgements

This report has been prepared with participation of a large number of individuals and organizations. We would like to express our gratitude to all of them.

We would like to express our sincere appreciation to the partner Ministries, Institutions, agencies and development partners for their respective great support and inputs throughout the process of writing and publishing this report.

We also express our profound gratitude to the team of Oxford Policy Management (OPM), and in particular to Mary Strode and her colleagues. Their technical assistance contributed to the success of this report.

We also thank the technical staff from National Institute of Statistics of Rwanda (NISR) for their unfailing participation in all activities of the survey data analysis, which was coordinated by HABIMANA Dominique and his assistants, APPEL Derek and KARANGWA John.

We appreciate the valuable support provided by administrative and financial departments of the NISR. Their interventions allowed this survey data analysis to be carried out smoothly and under good conditions.

---

## Methodological notes for readers

### Urban and rural classification in the EICV3 data

Although the sampling frame for the EICV3 was based on an updated frame of villages, the urban and rural classification of the villages in the EICV3 data is based on the corresponding geographic designations from the 2002 Rwanda Census of Population and Housing. Since the EICV2 sample design was based on the sampling frame from the 2002 census, this urban/rural classification in the EICV3 data makes it possible to directly compare the urban and rural results from the EICV2 and EICV3 data. However, the urban/rural codes in the EICV3 data do not represent the current status of these villages, so it is important that users understand how to interpret the urban and rural results from the data. For example, since the urban classification was mapped directly from the 2002 geographic structure of Rwanda, the estimated total urban population from the survey data will not represent the expected urban expansion of the population. It is even possible that the estimate of the percentage of the population that is urban from the EICV3 data is slightly less than that from the EICV2 data because of sampling variability.

The initial urban/rural classification of the villages in the EICV3 sampling frame was determined at the level of the old sectors. In the 2002 Rwanda Census frame, 1,545 sectors were defined for Rwanda. Under the new geographic structure these were reconfigured into 416 new sectors. Each of the 2002 sectors was classified as either urban or rural, and all the zones de dénombrement within the sector were given the corresponding urban/rural code. A spreadsheet was compiled showing the geographic correspondence between the 2002 sectors and the current sectors. When all the old sectors corresponding to a new sector were either urban or rural, the corresponding classification was assigned to all the villages in this sector. However, in the case of new sectors that are composed of both urban and rural old sectors, the villages were assigned a code of 3 for 'mixed'. The EICV3 sampling frame of villages for each district was ordered by urban, mixed and rural classifications in order to provide implicit stratification and a proportional allocation of the sample to each of these groups. For EICV3, there were 106 sample villages in new sectors classified as mixed, for which it was necessary to have a special cartographic operation to determine the urban/rural classification. The file with the GPS coordinates of each EICV3 sample village was used to pinpoint the exact old sector where the village was located. In this way it was possible to obtain the 2002 urban/rural classification for all the villages in the EICV3 sample.

The NISR is currently updating the urban and rural classification of all villages in preparation for the 2012 Rwanda census. Once these urban/rural codes have been finalised, it will be possible to merge these codes into the EICV3 data file so that the sample can be post-stratified and tabulated by the current urban and rural classification. This will not affect the weights in the survey data, which are based on the probabilities of selection. It is important to tabulate the urban and rural results using the new codes in order to represent the current distribution of the population and their characteristics (for the reference period of EICV3). However, the 2002 urban/rural codes should also be kept in the EICV3 data file for comparing the results to EICV2.

## Confidence intervals at the provincial urban/rural level

Readers should be aware that the urban component of the rural provinces is very small, as is the rural component of Kigali province. Estimates presented for these urban and rural domains are consequentially affected by large sampling errors.

Readers are recommended to check carefully the sampling errors presented in the annexes.

The tables below show the unweighted sample sizes at provincial level for urban and rural domains.

EICV3	Urban/rural 2002		Total
	Urban	Rural	
Kigali City	11,77	171	1,348
Southern Province	492	3,348	3,840
Western Province	204	3,156	3,360
Northern Province	132	2,268	2,400
Eastern Province	144	3,216	3,360
Total	2,149	12,159	14,308

EICV2	Urban/rural 2002		Total
	Urban	Rural	
Kigali City	954	72	1,026
Southern Province	279	1,428	1,707
Western Province	153	1,500	1,653
Northern Province	135	924	1,059
Eastern Province	99	1,356	1,455
Total	1,620	5,280	6,900

## Quintiles and poverty classifications

The results are presented by quintile. Quintiles are developed by sorting the sample of households by annual consumption values, and dividing the population into five equal shares. The 20% of individuals with the highest annual consumption are allocated to quintile 5, and the 20% of individuals with the lowest levels of annual consumption are allocated to quintile 1. The poorest households and their members are found in quintile 1 and the richest are found in quintile 5. Those around the poverty line are found in quintile 3.

Consumption is used as a proxy for income, as is usual when estimating poverty. The reader should refer to the report on the Evolution of Poverty in Rwanda From 2000 to 2011 for further information on this topic.

## Executive summary

On 7 February 2012, the President of Rwanda officially launched the design phase of the EDPRS2. A key input into the development of the EDPRS2 is the evidence collected through the EICV3, fieldwork for which was carried out by the NISR between October 2010 and November 2011. The NISR will release a series of 10 reports that explore in depth 10 different topics that are of high importance to the elaboration of EDPRS2.

This report is one of these 10 thematic reports that seek to inform and support the development of the EDPRS2 with data from the EICV3. It focuses on the sectors of water and sanitation, energy, housing, transport and ICT, providing detailed insights into the living conditions of the Rwandan population with regard to these themes.

This report explores a wealth of evidence collected through the EICV3 and complements it with further data sources (e.g. EICV2 and sector documents) in order to put this new evidence into a meaningful context. It also makes use of the fact that the EICV in its third round achieved for the first time a sample size that is sufficient to provide estimates that are reliable at the level of the district.

### Water and sanitation

According to EICV3, 74% of households in Rwanda use an improved drinking water source, a four percentage point increase from the national average five years earlier. Urban households are more likely to use an improved drinking water source than rural households (86% and 72% respectively), but improvements in urban and rural areas over time are by a similar amount. Eastern Province saw the largest relative increase in the percentage of households using an improved drinking water source (rising from 58 to 67%) but still has the lowest rates in the country overall.

On a national level, 25% of households have to travel 0–200 metres to get to an improved drinking water source. 45% of households are within 0–500 metres of an improved water source. The EICV3 collects data not only on geographical distance to the main water source, but also on time to get there. This information is particularly useful in the Rwandan context, where terrain can be steep or inaccessible. The data suggest that 16% of households on a national level are within 0–4 minutes of an improved drinking water source and that 45% of households are within 0–14 minutes (one-way trip). This is an improvement on the situation five years ago, when only 8.5% of households were within four minutes and 37% within 14 minutes of an improved water source.

Over all areas, the percentage of households which do not pay for water has declined and the mean household expenditure on water has risen.

In 2010/11, 75% of households in Rwanda had access to an improved sanitation facility. This is an increase of 16 percentage points compared to five years earlier, with the largest increase seen in the Eastern Province. Total improved sanitation has increased by a larger extent for rural households (55 to 73%) relative to urban (75 to 83%), and the poorest households in quintiles 1 and 2 have seen the strongest improvement relative to the richer quintiles.

### Energy

11% of households in Rwanda use electricity as their main source of lighting, more than double the percentage five years ago and the equivalent to approximately 243,000 households being connected to the electricity in 2010/11. Electricity access is particularly high in urban Kigali. In rural areas outside Kigali, it is highest in the Western Province and lowest in the Southern Province.



Electricity use is heavily skewed towards the richest quintile. Among households that spend money on electricity, the mean annual amount spent in 2010/11 was approximately RWF 50,000.

When it comes to fuels used for cooking, firewood is still by far the most widely used fuel in rural areas (93%). In the cities, charcoal is used by 51% of households, followed by firewood (45%). While rural households have not changed the fuels they use for cooking in the last five years, a slow trend can be observed in the cities away from firewood and towards charcoal.

## Housing

Traditionally, rural habitat in Rwanda has been made up of scattered and isolated dwellings. However, the data show a clear trend away from the traditional isolated habitat towards *imidugudu* or clustered forms of habitat, which is in line with national policy. Close to all rural households live in single-household dwellings (96%). The average number of people per bedroom in both urban and rural areas is only slightly above two. Only 10% of households in Rwanda sleep on average four or more people per bedroom.

The EICV also allows insights into construction materials used for roofs, walls and floors in households across Rwanda. Half of rural households use metal sheets for their roofs and almost all of the remaining half use clay tiles. In urban households, metal sheets are even more predominant (80%). Metal sheets are also the first choice of the richer parts of the population; use of such roofing increases strictly with wealth, as compared to all other options which are used more by those in the poorer consumption quintiles. The main materials used for constructing walls in rural areas are mud bricks (39%) and tree trunks with mud (38%), followed by mud bricks covered with cement (15%). This is a significant improvement compared to 2005/06, where more than half of households used tree trunks with mud. The most commonly used material for constructing floors is beaten earth, with cement coming second. Half of urban households have cement flooring, but only 11% in the countryside. Nevertheless, this is an improvement compared to five years earlier, where only 7% of rural households had cement floors.

The data show that rubbish collection services in urban areas now reach more households than before, rising from 23 to 30% in the period between the two surveys.

Most rural households remain relatively far away from basic services, with 50 to 64 minutes on average to reach markets, health centres and secondary schools. Half of all rural households require an hour or longer to reach the nearest food market/shop. Provision of primary schools compares favourably to the other estimates, with more than half of households being able to reach a primary school in less than 30 minutes.

The EICV survey also provides information on relocation of households. 72% of households state they have lived in a different dwelling prior to moving to the one they currently occupy and most of them did so during the last five or 10 years. 47% of households that relocated have spent less than five years in their current dwelling, and this very high degree of mobility is in part due to the sector's recent activities of promoting improved and clustered settlements.

The vast majority of households in Rwanda live in homes they own. However, there is also a growing number of households that rent their accommodation. This is especially true in the cities, but the trend towards tenancy arrangements in the past five years can be seen in both urban areas and rural areas. Among households that own their dwelling, the house is owned by the head of the household alone in approximately half of the cases. In the other half, it is owned jointly by the head and his/her spouse. Concepts of joint ownership are most frequently observed in the Northern Province. Overall, joint ownership is more common in rural areas than in urban. Turning from households that own their dwelling to those that rent it, the majority of tenants can be found in

the richest quintile, and they tend to have smaller household sizes. Households renting their accommodation have heads heavily clustered around the age group 20–39.

The proportion of households that spent money on construction of housing during the past 12 months (i.e. building a new house or an extension) is 23% in rural and 16% in urban areas. The construction boom experienced in Rwanda in recent years is thereby reflected in the data from private households. The proportion of households engaging in construction has increased significantly since 2005/06 across the country. In addition to investment in construction, 26% of households invested in repairs of their dwelling. Repairs were made in similar proportions in urban and rural areas. The percentage of households investing in repairs increases strongly with quintile, suggesting that poorer households were less able or willing to invest in repairs. This is quite a contrast to the data on investment in construction of housing, where the quintile patterns were much less pronounced. This could suggest that poorer households are able to invest in additional dwelling space for their families, but are less able or willing to maintain and repair these dwellings.

## **Transport**

The EICV survey is a household survey and therefore cannot produce any project-level information on infrastructure services (e.g. kilometres of roads constructed, quality of transport infrastructure, etc.). However, the EICV does allow for the production of useful information on households' perceptions of transport infrastructure. From this survey we can learn how far Rwandan households are away from transport infrastructure, whether they use it or not (and why so) and what they think of it. In addition, it provides data on household ownership of vehicles and the labour generated by the transport sector.

93% of households access all-weather roads regularly or often. This has increased slightly from 89% in EICV2. The lowest usage rates can be found in the Western Province. The low usage rates in the Western Province can partly be explained by distance. The majority of households in Rwanda can access an all-weather road in less than 20 minutes by foot. However, in the Western Province this is lowest. Across all provinces, the provision of roads has improved strongly since 2005/06, so the achievements in extension of the national road network are mirrored in the household-level data from the EICV. User satisfaction levels with all-weather roads are generally high. Perceptions of changes in quality of the road network are positive or neutral throughout. 59% of respondent households feel that the quality of all-weather roads has remained the same over the past 12 months, whereas 35% think it has improved. Only 6% say the quality has declined.

The EICV collected data not only for all-weather roads but also for public transport stages. Usage of public transport stages in rural areas is lowest in the Western Province and highest in the Eastern Province. Overall, more than half of all rural households need to walk more than one hour to get to the nearest public transport stage. However, distance is not the only reason why households decide not to use public transport stages. Whereas 20% of rural households that do not use public transport state they do so because the service is too far away, 49% say they do not require it and 26% say they cannot afford it. User satisfaction levels among users of public transport are high. 92% of urban and 74% of rural dwellers using public transport say they are satisfied with the services. This is an improvement compared to 2005/06, especially in urban areas. The lowest satisfaction levels are found in the rural areas of the Southern and Western provinces. Across all provinces there is a feeling that the quality of public transport has either remained constant or improved during the last 12 months.

The EICV also provides information on ownership of vehicles. In rural areas, 15% of households own a bicycle, and this is by far the highest in the Eastern Province. Private motorcycles are not very common in Rwanda. Cars are owned by 7% of households in urban Kigali. Motorcycles and cars are owned exclusively by the richest quintile. Comparison with 2005/06 shows that vehicle



ownership has not changed much in most regions, or even decreased slightly. An interesting anomaly is urban Kigali. Here, car ownership increased (from 5 to 7%) but bicycle and motorcycle ownership decreased. This could suggest that households which owned a bicycle or motorcycle in 2005/06 replaced this with a car, and cars are now the most common private-owned vehicle in urban Kigali. However, it is clear that overall ownership of motorised vehicles is still very low in Rwanda.

In addition to private use of vehicles and infrastructure, the transport sector also constitutes a source of employment for parts of the Rwandan population. In urban Kigali and urban Western Province, 6% of working individuals are employed in the transport industry, and these people tend to be relatively well-off. However, the road construction industry employs only around 0.2% of working individuals.

## **ICT**

This report investigates access to ICT services among Rwandan households. It discusses first the ICT devices and services owned by Rwandan households. It then analyses perceptions of ICT services available in public such as internet cafes and public phones.

The vast majority of households in Rwanda now own at least one type of ICT device. 45% of households own at least one mobile phone. Most households in Rwanda also own radios (60%). Ownership rates are similar in urban and rural areas, and the differences between quintiles are less pronounced than in the case of phones (43% of the poorest quintile own radios and 66% of the richest). Radio thereby seems to be a medium of communication that has the potential to reach the broadest parts of the population. Regardless of the ICT device in question, ownership rates have increased substantially between 2005/06 and 2010/11. This is especially true for phones, which increased from 6 to 45% in only five years. 16% of urban households now have access to the internet at home. Most internet access is via mobile phones.

94% of the Rwandan population have never used a computer. Only 4% have used a computer before and feel confident to use one again. Among the urban population, 14% can be classified as computer literate, but only 2% of the rural population.

People that do not own an ICT device may still use ICT services that are publicly available, such as internet service facilities as well as public phones. 16% of urban households use internet service facilities regularly or often. The existence of internet service facilities is widely known in the cities. In rural areas, however, 83% of households do not know of the existence of internet service facilities, and only very few use them on a frequent or infrequent basis. Turning from internet facilities to public telephones, 55% of urban households use a public phone sometimes or more often. Even in rural areas, 39% of households use public phones. Among those households that use public phones, satisfaction levels are high. The majority of urban households could reach a public phone in less than 20 minutes, but only 25% of urban households could. Coverage of public phones in urban areas seems to be best in Eastern Province. Among the households not using public phones, the most common reason is that households do not require them. There is, however, also a noteworthy proportion of non-users that say public phones are too expensive (15%).

## Table of contents

Foreword	<b>Error! Bookmark not defined.</b>
Acknowledgements	1
Methodological notes for readers	i
Executive summary	iii
Table of contents	vii
List of tables and figures	viii
Abbreviations	xiii
1 Introduction	1
2 Water and sanitation	2
2.1 Drinking water	2
2.2 Sanitation	16
3 Energy	19
3.1 Fuel use	19
3.2 Expenditure on electricity	23
4 Housing	25
4.1 Dwelling characteristics	27
4.2 Distance to basic services	41
4.3 Relocation	43
4.4 Dwelling ownership and rent arrangements	45
4.5 Construction and repairs	52
5 Transport	56
5.1 Household perceptions of transport infrastructure	57
5.2 Ownership of vehicles	66
5.3 Economic dimension of the transport sector	68
6 ICT	69
6.1 Ownership of ICT devices and internet access	70
6.2 Computer literacy	74
6.3 Public ICT facilities	75
References	80
Annex A District disaggregation tables for selected indicators from EICV3	81
Annex B Confidence Intervals for selected indicators, EICV3	119
Annex C Confidence Intervals for selected indicators, EICV2	138

## List of tables and figures

Table 2.1	Water supply infrastructure development	2
Table 2.2	Main drinking water source/ access to improved drinking water, by province, urban/rural, quintile, habitat, and disability status	5
Table 2.3	% of the population with improved drinking water source, by province, urban/rural, quintile, habitat, and disability status	7
Table 2.4	Distance to improved water source, by province, urban/rural, quintile, habitat, and disability status	8
Table 2.5	Time to improved water source, by province, urban/rural, quintile, habitat, and disability status	10
Table 2.6	User satisfaction with main drinking water source and perceptions of changes in quality over last 12 months, by province, urban/rural, quintile, habitat, and disability status	12
Table 2.7	HH expenditure on water, by province, urban/rural, quintile and habitat	14
Table 2.8	Sanitation type used/access to improved sanitation, by province, urban/rural, quintile, habitat, and disability status	17
Table 2.9	% of the population with access to improved sanitation, by province, urban/rural, quintile, habitat, and disability status	18
Table 3.1	Energy sector achievements towards EDPRS targets	19
Table 3.2	Primary fuel used for lighting, by province, urban/rural, quintile, habitat and disability status	20
Table 3.3	Primary fuel used for cooking, by province, urban/rural, quintile, habitat and disability status	22
Table 3.4	Annual HH expenditure on electricity, by province, urban/rural, quintile and habitat	23
Table 4.1	Habitat sector major completed projects (November 2011)	26
Table 4.2	Types of habitat, by province, urban/rural and quintile	28
Table 4.3	Types of dwelling, by province, urban/rural, quintile and habitat	29
Table 4.4	Number of persons per bedroom, by province, urban/rural, quintile and habitat	30
Table 4.5	Floor area, by province, urban/rural, quintile and habitat	32
Table 4.6	Roofing material of the dwelling, by province, urban/rural, quintile and habitat	34
Table 4.7	Wall material of the dwelling, by province, urban/rural, quintile and habitat	36
Table 4.8	Floor material of the dwelling, by province, urban/rural, quintile and habitat	38
Table 4.9	Waste management facilities, by province, urban/rural, quintile and habitat	40
Table 4.10	Walking distance to basic services (market/shop, public transport stage, primary schools, secondary schools, health centre)	42
Table 4.11	% of HH that lived in other dwelling before occupying current dwelling and time spent in current dwelling, by province, urban/rural, quintile and habitat	43
Table 4.12	Occupancy status, by province, urban/rural, quintile and habitat	45
Table 4.13	For those owning dwelling: owner of dwelling, by province, urban/rural, quintile and habitat	47
Table 4.14	For those renting dwelling: rent paid (cash, in kind and by others), by province, urban/rural, quintile, habitat and HH size	48
Table 4.15	Demographic and income characteristics comparison of HH renting versus HH owning dwelling	50

Table 4.16	% of HH spending money on house construction during past 12 months (building a new house or an extension) and average amount spent, by province, urban/rural, quintile and habitat	53
Table 4.17	% of HH spending money on repairs and painting of house during past 12 months and average amount spent, by province, urban/rural, quintile and habitat	54
Table 5.1	Transport sector achievements against sector EDPRS targets	56
Table 5.2	Usage rates for all-weather road, by province, urban/rural and quintile	58
Table 5.3	Walking distance to nearest all-weather road, by province, urban/rural and quintile	59
Table 5.4	Reasons for not using all-weather road, by urban/rural and quintile	60
Table 5.5	User satisfaction with all-weather roads and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile	61
Table 5.6	Usage rates for public transport stage, by province, urban/rural and quintile	62
Table 5.7	Walking distance to nearest public transport stage, by province, urban/rural and quintile	63
Table 5.8	Reasons for not using public transport stage, by province, urban/rural and quintile	64
Table 5.9	User satisfaction with public transport stage and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile	65
Table 5.10	Ownership of vehicles (bicycle, motorcycle, car), by province, urban/rural and quintile	67
Table 5.11	% of working individuals (16+) engaged in transport and road construction sectors, by province and urban/rural, gender, age group, and quintile	68
Table 6.1	ICT sector achievements towards EDPRS targets	69
Table 6.2	Ownership of ICT devices (mobile phone, landline phone, computer, radio, TV set, Video/DVD player), by province, urban/rural and quintile	72
Table 6.3	% of HH with internet access at home, and types of internet connection, by province, urban/rural and quintile	73
Table 6.4	Computer literacy: % of population(6+) that have used a computer and that would feel confident about using a computer again, by province,urban/rural, gender, age group and quintile	75
Table 6.5	Usage rates for internet service facility, by province, urban/rural and quintile	76
Table 6.6	Reasons for not using internet service facility, by province, urban/rural and quintile	76
Table 6.7	Walking distance to nearest internet service facility, by province, urban/rural and quintile	77
Table 6.8	User satisfaction with internet service facility and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile	77
Table 6.9	Usage rates for public telephone, by province, urban/rural and quintile	78
Table 6.10	Reasons for not using public telephone, by province, urban/rural and quintile	78
Table 6.11	Walking distance to nearest public telephone, by province, urban/rural and quintile	79
Table 6.12	User satisfaction with public telephone and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile	79
Table A.1	Main drinking water source/ access to improved drinking water, by district	81
Table A.2	Time to improved water source, by district	82

Table A.3	User satisfaction with main drinking water source and perceptions of changes in quality over last 12 months, by district	83
Table A.4	HH expenditure on water, by district	84
Table A.5	Sanitation type used/access to improved sanitation, by district	85
Table A.6	Primary fuel used for lighting, by district	86
Table A.7	Primary fuel used for cooking, by district	87
Table A.8	Types of habitat ( <i>Imidugudu</i> , etc.), by district	88
Table A.9	Types of dwelling, by district	89
Table A.10	Number of persons per bedroom, by district	90
Table A.11	Floor area, by district	91
Table A.12	Roofing material of the dwelling, by district	92
Table A.13	Wall material of the dwelling, by district	93
Table A.14	Floor material of the dwelling, by district	94
Table A.15	Waste management facilities, by district	95
Table A.16	Occupancy status, by district	96
Table A.17	For those owning dwelling: owner of dwelling, by district	97
Table A.18	For those renting dwelling: rent paid (cash, in kind and by others), by district	98
Table A.19	% of HH spending money on house construction during past 12 months (building a new house or an extension) and average amount spent, by district	99
Table A.20	% of HHs spending money on repairs and painting of house during past 12 months and average amount spent, by district	100
Table A.21	Usage rates for all-weather roads, by district	101
Table A.22	Walking distance to nearest all-weather road, by district	102
Table A.23	User satisfaction with all-weather road and perceptions of changes in quality over last 12 months, by district	103
Table A.24	Usage rates for public transport stage, by district	104
Table A.25	Walking distance to nearest public transport stage, by district	105
Table A.26	User satisfaction with public transport stage and perceptions of changes in quality over last 12 months, by district	106
Table A.27	Reasons for not using public transport stage, by district	107
Table A.28	Ownership of vehicles (bicycle, motorcycle, car), by district	108
Table A.29	% of working individuals (16+) engaged in transport and road construction sectors, by district	109
Table A.30	Ownership of ICT devices (mobile phone, landline phone, computer, radio, TV set, Video/DVD player), by district	110
Table A.31	Computer literacy: % of population (6+) that have used a computer and that would feel confident about using a computer again, by district	111
Table A.32	Usage rates for internet service facility, by district	112
Table A.33	Walking distance to nearest internet service facility, by district	113
Table A.34	Reasons for not using internet service facility, by district	114
Table A.35	Usage rates for public telephone, by district	115
Table A.36	Walking distance to nearest public telephone, by district	116
Table A.37	User satisfaction with public telephone and perceptions of changes in quality over last 12 months, by district	117

Table A.38	Reasons for not using public telephone, by district	118
Table B.1	% of HH whose main water source is improved	119
Table B.2	% of population whose main water source is improved	120
Table B.3	Mean distance (meters) to nearest improved drinking water source	121
Table B.4	Mean time (minutes) to improved water source	122
Table B.5	% of HH with improved sanitation	123
Table B.6	% of population with improved sanitation	124
Table B.7	% of HH using electricity distributor as primary source of lighting	125
Table B.8	% of HH using firewood as primary source of cooking fuel	126
Table B.9	% of HH using charcoal as primary source of cooking fuel	127
Table B.10	% of HH residing in <i>Imidugudu</i>	128
Table B.11	% of HH with thatch roof	129
Table B.12	% of HH owning bicycle	130
Table B.13	% of HH owning motorcycle (for private use only)	131
Table B.14	% of HH owning car (for private use only)	132
Table B.15	% of HH owning mobile phone	133
Table B.16	% of HH owning landline phone	134
Table B.17	% of HH owning computer	135
Table B.18	% of HH owning radio	136
Table B.19	% of HH owning TV set	137
Table C.1	% of HH whose main water source is improved	138
Table C.2	% of population whose main water source is improved	138
Table C.3	Mean time (minutes) to improved main water source	139
Table C.4	% of HH with improved sanitation	139
Table C.5	% of population with improved sanitation	140
Table C.6	% of HH using electricity distributor as main source of lighting	140
Table C.7	% of HH using firewood as primary cooking fuel	141
Table C.8	% of HH using charcoal as primary source of cooking fuel	141
Table C.9	% of HH residing in <i>Imidugudu</i>	142
Table C.10	% of HH with thatch roof	142
Table C.11	% of HH owning bicycle	143
Table C.12	% of HH owning motorcycles (for private use only)	143
Table C.13	% of HH owning cars (for private use only)	144
Table C.14	% of HH owning phone (mobile or landline)	144
Table C.15	% of HH owning computer	145
Table C.16	% of HH owning radio	145
Table C.17	% of HH owning TV set	146
Figure 2.1	Change in households with improved drinking water source (%)	3
Figure 2.2	% of HHs using an improved water source that is close-by	9
Figure 2.3	% of HHs that walk less than 15 minutes to an improved water source	10
Figure 2.4	Changes in access to improved sanitation (%), by urban/rural and quintile	16



Figure 3.1	Changes in household access to electricity (%)	20
Figure 4.1	Change in specific habitat types	27
Figure 4.2	Changes in roofing material	33
Figure 4.3	Changes in wall material used in rural dwellings	35
Figure 4.4	Changes in % of HHs with cement flooring	37
Figure 4.5	Change in walking distance to basic services (in minutes)	41
Figure 4.6	Changes in occupancy status	46
Figure 4.7	% of HH spending money on house construction during past 12 months	52
Figure 4.8	% of HHs spending money on construction and repairs, by quintile (EICV3)	55
Figure 5.1	Usage rates for all-weather roads in rural areas, EICV3	57
Figure 5.2	% of rural HHs that can walk to an all-weather road in less than 20 minutes	59
Figure 5.3	Usage rates for public transport stages in rural areas, EICV3	62
Figure 5.4	Changes in ownership of vehicles in urban Kigali	66
Figure 6.1	% of HHs with a mobile phone, EICV3	70
Figure 6.2	Changes in ownership of ICT devices	71
Figure 6.3	% of HHs with internet access at home	73
Figure 6.4	% of population (6+) that have never used a computer, by age group (EICV3)	74

## Abbreviations

CPAF	Common Performance Assessment Framework
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Integrated Household Living Conditions Survey (Enquête Intégrale sur les Conditions de Vie des Ménages)
HH	Household
ICT	Information and Communications Technology
JSR	Joint Sector Review
MININFRA	Ministry of Infrastructure
NISR	National Institute of Statistics of Rwanda
OPM	Oxford Policy Management
RDHS	Rwanda Demographic and Health Survey
RWF	Rwandan Franc

# 1 Introduction

On 7 February 2012, the President of Rwanda officially launched the design phase of the EDPRS2. At the same time, the first EDPRS entered its final year of implementation 2012/13.

A key input into the elaboration of the EDPRS2 is the evidence collected through the EICV3, fieldwork for which was carried out by the NISR between October 2010 and November 2011. Two reports based on EICV3 data were released by the NISR in early 2011: a main indicators report and a report on poverty evolution in Rwanda. Following on from these initial publications, the NISR will release a series of 10 further reports that explore indepth 10 different topics that are of high importance to the elaboration of EDPRS2.

This report is one of these 10 thematic reports that seek to inform and support the development of the EDPRS2 with data from the EICV3. It focuses on the sectors of water and sanitation, energy, housing, transport and ICT, providing detailed insights into the living conditions of the Rwandan population with regard to these themes.

The Vision 2020, Rwanda's vision of its future development, identified the utilities and amenities discussed in this report (water and sanitation, energy, housing, transport and ICT) as all being crucial requirements for Rwanda's social and economic development. They are also important indicators of the standard of living achieved to date.

This report explores a wealth of evidence collected through the EICV3 and complements it with further data sources (e.g. EICV2 and sector documents) in order to put this new evidence into a meaningful context. It also makes use of the fact that the EICV in its third round achieved for the first time a sample size that is sufficient to provide estimates that are reliable at the level of the district.<sup>1</sup>

---

<sup>1</sup> Sample size of EICV3: 14,308 households. District-level estimates for most indicators discussed in this report can be found in Annex A.

## 2 Water and sanitation

In its Vision 2020, Rwanda has committed itself to attaining full coverage of adequate water and sanitation among the population by 2020.<sup>2</sup> Adequate water and sanitation supply are key components of social and economic development, and public health.

The main achievement targets set by the EDPRS for the sector are:<sup>3</sup>

- Access to drinking water to increase to 85% by 2012.
- Access to adequate sanitation to increase to 65% by 2012.

In addition, the sector plans to increase the proportion of the rural population living within 500metres of an improved water source to 85%, and to raise the proportion of the urban population residing within 200metres of an improved water source to 100%.<sup>4</sup>

In order to achieve these targets, the sector reported (among other achievements) the construction or rehabilitation of water supply schemes as summarised in the table below.

**Table 2.1 Water supply infrastructure development**

Water supply	2008	2009	2009/2010	2010/2011	Total
New schemes	424.5	651	577	440	2,093
Rehabilitation	-	-	278	353.9	632
Springs	-	-	250	425	675

Source: WATSAN sector EDPRS Self-Assessment Report, December 2011.

This chapter uses EICV data to provide detailed insights into water and sanitation access across the population of Rwanda. It also assesses changes between 2005/06 and 2010/11.

### 2.1 Drinking water

Table 2.2 presents the percentage of households using an improved drinking water source as their main source. Improved drinking water sources, as defined by the World Health Organisation/UNICEF Joint Monitoring Programme,<sup>5</sup> include protected springs, public standpipes, water piped into dwelling/yard, boreholes, protected wells and rain water collection. According to EICV3, 74% of households in Rwanda use an improved source, a four percentage point increase from the national average in EICV2 (70%).<sup>6</sup> This is consistent with the findings from the Rwanda

<sup>2</sup> WATSAN Sector Performance Report for the backward-looking Joint Sector Review FY 2009/10, MININFRA, September 2010.

<sup>3</sup> WATSAN Sector EDPRS Self-Assessment Report, MININFRA, December 2011.

<sup>4</sup> Ibid.

<sup>5</sup> <http://www.wssinfo.org/definitions-methods/watsan-categories/>

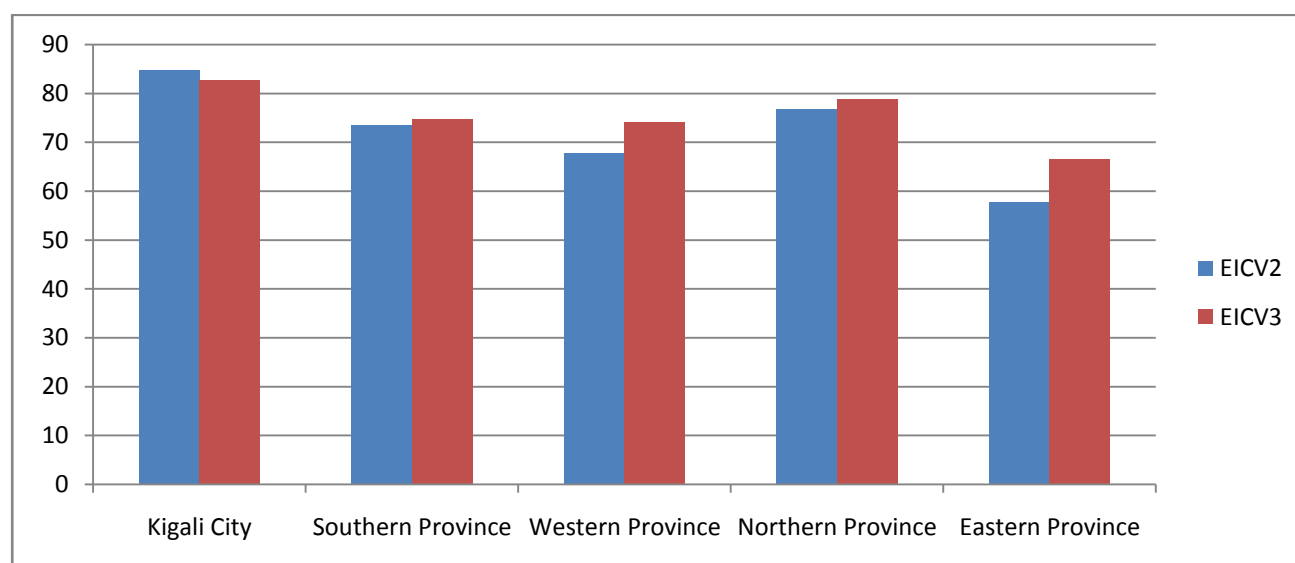
<sup>6</sup> It is important to note that in the 2007 report EICV Poverty Analysis for Rwanda's Economic Development and Poverty Reduction Strategy, based on EICV2 data, the proportion of households with safe drinking water

2010 Demographic and Health Survey (RDHS) which also estimated that 74% of households have access to an improved drinking water source. There is some distance to go to reach the EDPRS target of 85% by 2012.

Kigali City has the largest percentage of households using an improved drinking water source (83%) with 35% of households using a public standpipe and 33% having water piped into their dwelling/yard. Eastern Province has the lowest percentage of households using an improved source of drinking water (67%) and a high percentage of households using (unsafe) surface water relative to other provinces (22%). However, Eastern Province experienced the greatest increase from EICV2 to EICV3 in the percentage of households using an improved drinking water source; it saw an increase of nine percentage points, while the percentage for Kigali City remained at a similar level.

Urban households are more likely to use an improved drinking water source than rural households<sup>7</sup> in both surveys (in EICV3 86% and 72% respectively).

**Figure 2.1 Change in households with improved drinking water source (%)**



was reported as 64% – this was due to categorising all types of wells as ‘unsafe’. However, following the WHO/UNICEF definition (developed in 2008), boreholes/drilled wells should be classified as ‘improved’, which results in the EICV2 estimate of 70% in this report.

<sup>7</sup> The 2010 RDHS also estimates that urban households are more likely to use improved water sources, with 90% and 71% respectively.

As would be expected, wealthier households are more likely to use an improved drinking water source, at 84% in the highest quintile compared to 68% in the lowest. Poorer households rely more on protected springs while wealthier households are more likely to have water piped into their dwelling/yard and have greater access to public standpipes. The access to protected springs in all quintiles but the wealthiest has doubled from EICV2 to EICV3.<sup>8</sup>

Households residing in *Imidugudus* were less likely than all other types of habitat in EICV2 to use an improved source of drinking water (63%); this has risen to 74% over time. This has changed and those living in isolated rural communities now have the poorest access to improved water sources (71%). In EICV2, 26% of households residing in *Imidugudus* used surface water as their main source of drinking water and 23% used a public water fountain. This is in contrast to EICV3 where 15% of households use surface water, 34% use a protected spring and 32% use a public standpipe.

There appears to be only a very small difference between households with no disabled members and households with at least one disabled member in both surveys.

District-level estimates can be found in the annex of this report.

---

<sup>8</sup> The EDPRS Sector Self-Assessment Report (December 2012) reports that 675 springs have been rehabilitated and protected.



**Table 2.2 Main drinking water source/ access to improved drinking water, by province, urban/rural, quintile, habitat, and disability status**

EICV3	Total improved water source	Improved water sources						Surface water (river or lake)	Unprotected spring	Unprotected well	Tanker truck	Other	Total number of HHs (000s)
		Protected spring	Public standpipe	Piped into dwelling/ yard	Borehole	Protected well	Rain water						
All Rwanda	74.2	38.1	25.7	5.9	1.8	2.3	0.4	11.6	10.6	2.3	0.0	1.3	2,253
Kigali City	82.7	10.0	35.0	32.6	2.1	3.0	0.1	4.4	3.7	0.9	0.0	8.3	223
Southern Province	74.8	54.6	13.2	2.1	0.1	4.7	0.0	11.1	11.0	3.0	0.0	0.1	549
Western Province	74.2	41.0	25.7	3.6	1.1	1.7	1.1	5.8	18.2	1.4	0.0	0.5	528
Northern Province	78.9	46.6	26.6	4.1	0.1	1.0	0.5	9.7	10.2	1.0	0.0	0.2	411
Eastern Province	66.6	23.9	33.9	2.1	5.4	1.2	0.1	22.3	5.8	4.0	0.1	1.3	542
Urban	86.4	21.4	33.0	27.8	1.5	2.4	0.2	4.8	2.1	0.9	0.0	5.8	331
Rural	72.1	41.0	24.4	2.1	1.9	2.3	0.4	12.8	12.0	2.5	0.0	0.5	1,922
Q1	68.4	46.5	17.3	0.0	1.6	2.8	0.2	13.3	15.3	2.4	0.0	0.5	381
Q2	71.4	45.4	21.6	0.2	1.6	2.2	0.3	13.3	12.5	2.5	0.0	0.3	415
Q3	71.5	42.4	24.2	0.7	1.8	2.1	0.2	13.8	11.0	2.8	0.0	0.9	448
Q4	73.2	38.0	28.4	1.4	2.1	2.8	0.4	12.8	10.2	2.4	0.0	1.5	490
Q5	84.0	22.7	33.9	23.1	1.8	1.8	0.7	6.1	5.4	1.5	0.1	2.9	519
<i>Imidugudu</i>	73.5	33.5	32.4	2.9	2.6	1.8	0.5	14.9	8.1	2.7	0.0	0.7	844
Unplanned clustered rural housing	74.9	41.6	25.7	1.6	2.4	3.3	0.3	11.4	9.9	3.2	0.0	0.7	249
Isolated rural housing	71.0	51.1	15.5	0.4	1.0	2.8	0.2	10.8	16.0	2.1	0.0	0.1	838
Agglomeration	79.0	28.8	38.1	6.5	0.8	2.4	2.3	11.8	6.8	0.6	0.0	1.8	107
Unplanned urban housing	87.0	5.9	35.4	43.1	1.0	1.6	0.0	1.0	2.1	0.7	0.0	9.2	189
Modern planned area	95.2	3.2	8.2	82.8	0.0	1.1	0.0	1.1	0.8	0.0	0.0	2.9	14
Other	63.6	21.1	22.9	3.2	16.5	0.0	0.0	23.0	0.0	1.4	0.0	11.9	12
No disability	74.5	37.5	26.2	6.3	1.8	2.3	0.4	11.5	10.4	2.2	0.0	1.3	1,839
With disability	72.7	40.8	23.7	3.7	1.8	2.3	0.3	12.4	11.4	2.4	0.0	1.2	414

Source: EICV3.

EICV2	Total improved water source	Improved water sources									Total no. of HHs (000s)
		Public water fountain	Protected spring	Purchased tap water	Borehole/drilled well	Public utility (Electrogaz)	Surface water (river or lake)	Unprotected spring	Ordinary well (hand dug)	Other	
All Rwanda	70.3	27.7	20.5	13.6	6.1	2.3	17.8	9.3	1.5	1.1	1,892
Kigali City	84.8	7.5	7.9	50.2	5.1	14.0	8.1	5.4	0.4	1.4	177
Southern Province	73.4	29.1	32.8	2.6	7.5	1.3	16.5	8.3	1.5	0.3	499
Western Province	67.8	23.8	22.1	12.8	8.1	0.9	15.2	14.5	1.0	1.6	448
Northern Province	76.7	46.9	14.8	9.5	4.6	1.0	12.8	9.4	0.3	0.7	347
Eastern Province	57.7	22.8	14.1	15.5	4.1	1.2	30.6	6.6	3.4	1.7	421
Urban	83.9	16.7	9.1	38.2	6.7	13.2	9.7	4.6	0.8	1.0	311
Rural	67.6	29.9	22.7	8.8	6.0	0.2	19.4	10.2	1.6	1.1	1,581
Q1	66.6	29.8	22.5	6.7	7.5	0.1	18.5	11.6	2.3	1.1	329
Q2	66.7	29.1	24.6	6.9	6.1	0.0	19.4	11.5	1.6	0.8	353
Q3	67.2	31.9	21.2	8.2	5.9	0.0	19.9	10.2	1.4	1.2	368
Q4	68.9	29.3	20.2	13.6	5.6	0.1	19.9	8.6	1.8	0.7	398
Q5	79.6	20.1	15.3	28.6	5.8	9.7	12.5	5.7	0.5	1.7	444
Imidugudu	62.6	23.4	17.4	17.0	4.3	0.6	25.5	8.8	1.8	1.2	334
Old regrouping (resettlement)	76.9	27.4	13.0	27.5	6.6	2.4	11.2	8.4	0.7	2.6	120
Isolated community	69.3	30.5	24.2	7.1	6.8	0.7	18.0	10.5	1.5	0.8	1,269
Neighbourhood lot	96.8	5.2	1.9	33.1	2.7	53.9	1.6	0.0	0.0	1.6	17
Unplanned community	88.1	7.4	4.4	55.1	5.2	15.9	6.2	3.1	1.0	1.7	128
Other	83.8	69.8	4.1	9.6	0.0	0.4	9.0	0.0	0.0	7.2	24
No disability	70.9	28.0	20.3	14.1	6.0	2.5	17.5	9.1	1.4	1.1	1,590
With disability	66.9	26.2	21.2	11.3	6.7	1.5	19.8	10.5	1.7	1.2	302

Source: EICV2.

It should be noted that the above table presented data on the percentage of households with access to improved drinking water. Depending on the definition of target indicators, it can sometimes be useful to calculate improved water access by percentage of the population rather than households. Differences are of course minor.

The data reveal similar trends on a population level; 75% of the population use an improved drinking water source, an increase over time of four percentage points (71% in EICV2). The RDHS 2010 reports that 74% of the population have access to an improved source of drinking water.

**Table 2.3 % of the population with improved drinking water source, by province, urban/rural, quintile, habitat, and disability status**

	EICV3		EICV2	
	Total improved water source	Total pop. (000s)	Total improved water source	Total pop. (000s)
All Rwanda	74.7	10,762	70.7	9,491
Kigali City	84.3	1,059	86.0	913
Southern Province	74.4	2,527	74.0	2,420
Western Province	75.1	2,586	68.7	2,287
Northern Province	79.6	1,981	76.3	1,751
Eastern Province	66.8	2,609	57.8	2,120
Urban	87.8	1,595	85.1	1,571
Rural	72.4	9,167	67.8	7,920
Q1	68.6	2,123	66.3	1,843
Q2	72.1	2,122	68.3	1,853
Q3	72.2	2,124	67.5	1,856
Q4	73.6	2,133	69.4	1,881
Q5	85.9	2,260	80.8	2,059
No disability	74.7	10,284	70.8	9,137
With disability	72.7	479	67.0	354

Source: EICV3 and EICV2.

Table 2.4 presents the mean distance to the *nearest* main water source where the water source is improved.<sup>9</sup> On a national level, 25% of households are within 0–200 metres of their main improved source; this includes households where water is piped into their dwelling/yard. 45% of households are within 0–500 metres of an improved water source.

Rural households have to travel further to an improved drinking water source, with 20% of households living within 200 metres and 41% living within 500 metres. This is in contrast to urban households where 53% are within 200 metres and 68% within 500 metres. In Kigali, 54% of households have an improved water source within 200 metres, which coincides with it having the highest percentage of households with water piped into their dwelling/yard.

As discussed in the introduction to this chapter, one sector target is to have 85% of the rural population living within 500 metres of an improved water source, and to have 100% of the urban population within 200 metres of an improved water source. This is an ambitious target because it

<sup>9</sup>It is important to note that these distance estimates might be biased downward due to the way the question was asked in the EICV questionnaire, i.e. households only reported a distance for their main source of drinking water if it was their nearest source. The further away a main drinking water source is, the more likely there is to be another water source closer by.

requires that households use an improved source and this source is close by. Figure 2.2 presents the current estimates under these combined requirements for the sector targets.

As expected, the wealthiest households are more likely to be 200metres or closer to an improved water source, at 46% of households in contrast to 16% of households in the poorest quintile. The percentage of households within 200metres of an improved water source is similar for quintiles 1 to 4, ranging from 16% to 22%. Similarly, 22% of households in *Imidugudu* are within 200 metres of an improved water source.

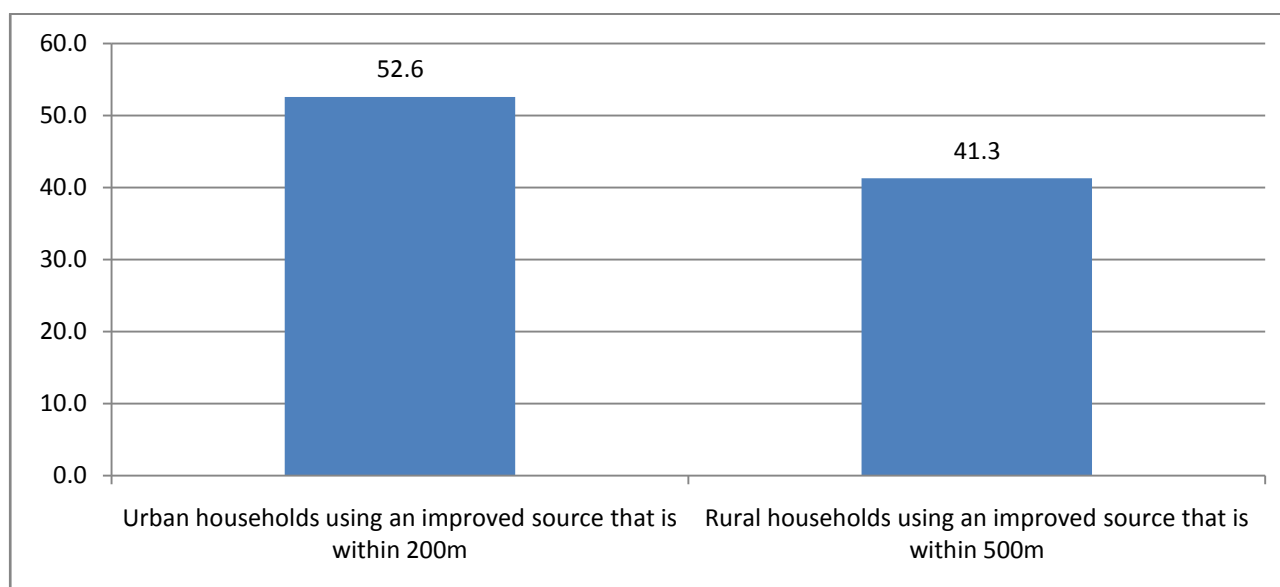
There appears to be only a very small difference between households with and without disabled members.

**Table 2.4 Distance to improved water source, by province, urban/rural, quintile, habitat, and disability status**

EICV3	Mean distance to nearest main improved water source (metres)	Distance to nearest main improved water source (metres)						Using un-improved source	Missing info <sup>10</sup>	Total	Total no. of HHs (000s)
		Water piped into dwelling /yard	0–200 m	201–500 m	501–1,000 m	1001–2,000 m	2001+ m				
All Rwanda	506.2	5.9	18.9	20.4	14.5	6.6	0.5	25.8	7.5	100	2,253
Kigali City	213.0	32.6	21.5	11.4	6.6	2.3	0.1	17.3	8.4	100	223
Southern Province	590.7	2.1	14.6	23.1	20.6	7.8	0.2	25.2	6.4	100	549
Western Province	443.1	3.6	22.7	23.0	12.5	4.2	0.4	25.8	7.7	100	528
Northern Province	560.7	4.1	20.6	23.5	15.7	9.0	1.0	21.1	5.0	100	411
Eastern Province	579.5	2.1	17.3	16.4	12.6	7.8	0.5	33.4	9.8	100	542
Urban	264.0	27.8	24.8	15.0	9.3	3.2	0.0	13.6	6.3	100	331
Rural	558.1	2.1	17.9	21.3	15.4	7.2	0.5	27.9	7.7	100	1,922
Q1	581.4	0.0	15.9	21.2	16.4	7.1	0.4	31.6	7.4	100	381
Q2	574.9	0.2	18.1	21.0	16.1	7.3	0.3	28.6	8.4	100	415
Q3	590.0	0.7	16.8	22.6	15.0	8.4	0.4	28.5	7.6	100	448
Q4	528.7	1.5	20.2	22.2	14.9	6.0	0.8	26.8	7.5	100	490
Q5	339.9	23.1	22.4	15.6	11.0	4.9	0.3	16.0	6.7	100	519
<i>Imidugudu</i>	562.8	2.9	19.0	19.2	14.3	8.1	0.6	26.5	9.4	100	844
Unplanned clustered rural housing	564.9	1.6	19.7	21.5	16.8	7.2	0.7	25.1	7.4	100	249
Isolated rural housing	558.2	0.4	17.1	24.2	16.7	6.6	0.4	29.0	5.6	100	838
Agglomeration	474.7	6.5	22.0	19.6	13.4	6.1	0.4	21.0	10.9	100	107
Unplanned urban housing	124.6	43.1	24.5	9.5	4.4	0.5	0.0	13.0	5.0	100	189
Modern planned area	20.1	82.8	7.4	2.5	0.7	0.0	0.0	4.8	1.9	100	14
Other	278.5	3.2	23.2	15.6	8.1	0.0	0.0	36.4	13.6	100	12
No disability	500.9	6.3	19.1	20.3	14.3	6.6	0.5	25.5	7.4	100	1,839
With disability	530.3	3.7	18.2	20.6	15.4	6.8	0.3	27.3	7.6	100	414

Source: EICV3. Note: Mean distance calculated for HHs where their main water source is their nearest and improved. No comparable data available for EICV2.

<sup>10</sup> Since households only reported a distance if the main source was the nearest, the 'missing information' column captures households where the main source of drinking water was improved but *not* the nearest

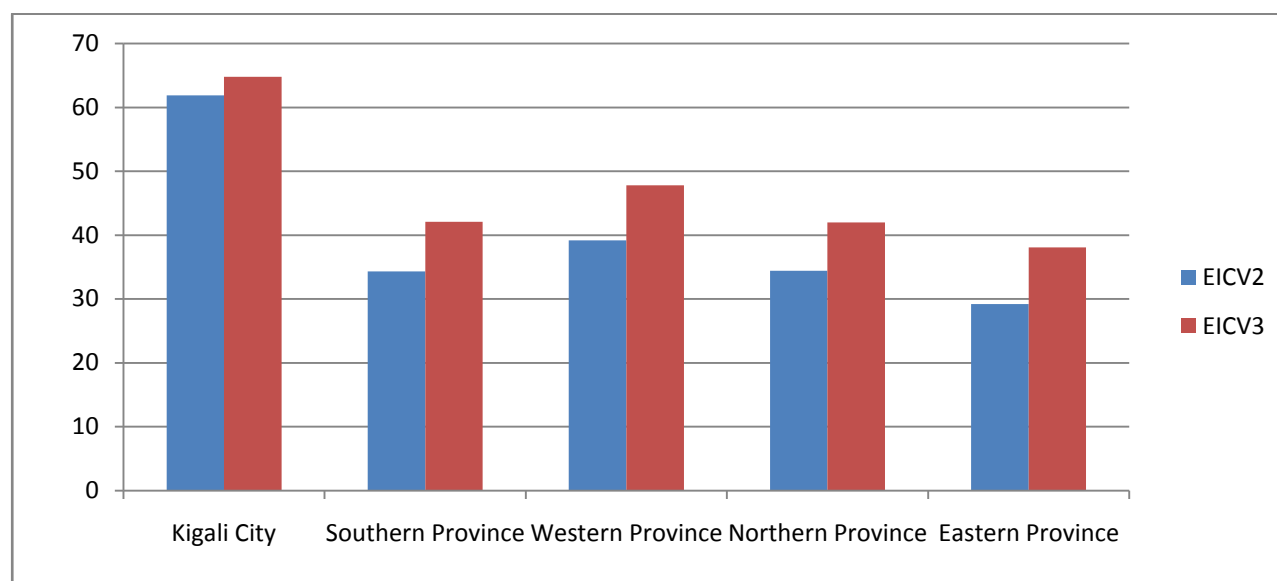
**Figure 2.2 % of HHs using an improved water source that is close-by**

The EICV3 collects data not only on geographical distance to the main water source, but also on time to get there (which is usually more reliable). This information is particularly useful in the Rwandan context, where terrain can be steep or inaccessible. The data suggest that 16% of households on a national level are within 0–4 minutes of an improved drinking water source and that 45% of households are within 0–14 minutes (one-way trip).<sup>11</sup>

41% of urban households are within 0–4 minutes of an improved water source compared to 12% for rural households. Figure 2.3 shows that in all provinces there has been an increase in the proportion of households that can get to an improved water source quickly.

The wealthiest households are more likely to be nearer to an improved water source in terms of time taken to arrive (36% are within 0–4 minutes); this was also the case in EICV2, estimated at 20% for the wealthiest quintile. The percentage of households in quintiles 1 to 4 within 0–4 minutes of an improved water source has risen between 4–7 percentage points over time.

<sup>11</sup> The 2010 RDHS calculates time taken to obtain water on the basis of a round trip; it estimates that 47% of households (including those with water piped into their dwelling) spend less than 30 minutes on a round trip. It also estimates that 5.4% of households nationally have water on their premises, comparable to 5.9% with water piped into their dwelling in EICV3.

**Figure 2.3 % of HHs that walk less than 15 minutes to an improved water source****Table 2.5 Time to improved water source, by province, urban/rural, quintile, habitat, and disability status**

EICV3	Mean time to improved water source (minutes)	Time to improved water source (minutes)						No improved source	Total	Total no. of HHs (000s)
		Water piped into dwelling/yard	0–4 min	5–14 min	15–29 min	30–59 min	60+ min			
All Rwanda	14.4	5.9	10.2	28.7	16.7	10.3	2.5	25.8	100.0	2,253
Kigali City	9.1	32.6	11.5	20.7	7.9	7.8	2.2	17.3	100.0	223
Southern Province	14.9	2.1	8.5	31.5	19.9	11.0	1.8	25.2	100.0	549
Western Province	13.1	3.6	11.0	33.2	16.7	7.7	1.9	25.9	100.0	528
Northern Province	16.2	4.1	9.4	28.5	20.1	14.4	2.6	21.0	100.0	411
Eastern Province	16.5	2.1	11.1	24.9	14.6	10.2	3.7	33.4	100.0	542
Urban	8.8	27.7	13.7	25.0	10.7	7.9	1.4	13.6	100.0	331
Rural	15.6	2.0	9.5	29.3	17.8	10.7	2.6	27.9	100.0	1,922
Q1	16.7	0.0	7.6	30.0	16.0	12.2	2.5	31.6	100.0	381
Q2	16.1	0.2	8.1	31.1	18.7	10.5	2.8	28.6	100.0	415
Q3	15.9	0.7	9.4	28.9	19.1	11.1	2.3	28.5	100.0	448
Q4	15.2	1.5	11.4	29.9	17.1	10.3	2.9	26.8	100.0	490
Q5	10.3	23.1	13.2	24.4	13.4	8.1	1.8	16.1	100.0	519
<i>Imidugudu</i>	15.9	2.9	10.5	28.4	17.2	11.3	3.2	26.5	100.0	844
Unplanned clustered rural housing	15.8	1.6	10.7	30.2	17.6	12.2	2.6	25.0	100.0	249
Isolated rural housing	15.7	0.4	7.2	31.6	19.3	10.4	2.1	29.0	100.0	838
Agglomeration	14.0	6.5	17.4	25.1	15.2	12.2	2.6	21.0	100.0	107
Unplanned urban housing	4.4	43.0	16.7	19.0	5.0	2.7	0.5	13.1	100.0	189
Modern planned area	1.2	82.8	7.5	3.9	0.0	0.0	1.1	4.8	100.0	14
Other	11.0	3.2	17.8	25.9	8.3	8.4	0.0	36.4	100.0	12
No disability	14.2	6.3	10.4	28.7	16.6	10.1	2.4	25.5	100.0	1,839
With disability	15.4	3.7	9.0	28.8	17.3	11.3	2.6	27.3	100.0	414

Source: EICV3.



EICV2	Mean time to improved water source (minutes)	Time to improved water source (minutes)						No improved source	Total	Total no. of HHs (000s)
		Public utility (Electrogaz)	0–4 min	5–14 min	15–29 min	30–59 min	60+ min			
All Rwanda	17.3	2.3	6.2	28.4	17.3	11.8	4.2	29.7	100.0	1,892
Kigali City	10.9	13.9	12.3	35.7	11.4	8.4	2.9	15.3	100.0	177
Southern Province	18.1	1.3	3.5	29.5	21.5	14.2	3.5	26.6	100.0	499
Western Province	15.8	0.9	7.3	31.0	16.1	9.2	3.2	32.2	100.0	448
Northern Province	19.1	1.0	5.7	27.7	22.0	15.2	5.2	23.3	100.0	347
Eastern Province	20.0	1.2	6.2	21.8	12.2	10.4	6.0	42.3	100.0	421
Urban	11.2	13.2	11.8	35.3	12.7	8.1	2.7	16.1	100.0	311
Rural	18.8	0.2	5.1	27.0	18.2	12.5	4.5	32.4	100.0	1,581
Q1	19.1	0.1	4.2	27.1	17.5	13.4	4.4	33.4	100.0	329
Q2	19.6	0.0	4.6	25.8	19.1	12.2	5.0	33.3	100.0	353
Q3	17.6	0.0	4.8	28.7	18.4	11.5	3.9	32.8	100.0	368
Q4	17.8	0.1	5.8	29.1	17.3	12.3	4.2	31.1	100.0	398
Q5	14.0	9.7	10.6	30.4	14.9	10.2	3.8	20.4	100.0	444
<i>Imidugudu</i>	20.7	0.6	6.4	24.3	13.2	10.5	7.6	37.4	100.0	334
Old regrouping (resettlement)	21.5	2.4	7.3	26.9	18.1	12.8	9.4	23.1	100.0	120
Isolated community	17.7	0.7	4.3	28.4	19.5	13.0	3.3	30.7	100.0	1,269
Neighbourhood lot	4.4	53.9	12.2	20.8	6.4	2.6	0.9	3.2	100.0	17
Unplanned community	7.9	15.8	17.8	38.9	9.8	4.7	0.9	12.0	100.0	128
Other	7.4	0.4	34.7	39.3	4.6	4.8	0.0	16.2	100.0	24
No disability	17.3	2.5	6.3	28.5	17.4	11.8	4.3	29.1	100.0	1,590
With disability	17.5	1.5	5.6	27.6	16.6	11.8	3.8	33.2	100.0	302

Source: EICV2.

Table 2.6 presents the levels of user satisfaction with the main water source used by the households; on a provincial level, Kigali City has the highest level of satisfaction (64% are satisfied) compared to the lowest level in Eastern Province (51%). Kigali City has experienced the largest change in satisfaction over time, increasing from 50% in EICV2 where it had a similar level to all other provinces. This is despite the access to improved water remaining at a similar level over time, but could be explained by the large increase in the percentage of households with water piped into their dwelling/yard.

In fact, satisfaction levels in EICV2 were also similar across urban/rural areas and across all quintiles (around 50%) and the most notable increases in satisfaction over time have occurred in urban areas and for the richest households. As expected, in EICV3 the satisfaction level is highest for households where water is piped into their dwellings (80%).

In every area, the majority of households report that the quality of water services remained 'the same' over the last 12 months. There appears to be no increase in any percentage reporting that service is declining.

**Table 2.6 User satisfaction with main drinking water source and perceptions of changes in quality over last 12 months, by province, urban/rural, quintile, habitat, and disability status**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs (000s)
	Satis- fied	Not satisfied	Don't know/NA		Decli- ning	Same	Improving	Don't Know		
All Rwanda	53.9	44.2	1.9	100.0	8.3	67.5	21.8	2.3	100.0	2,253
Kigali City	64.1	30.4	5.5	100.0	4.7	69.2	19.4	6.7	100.0	223
Southern Province	52.1	46.6	1.3	100.0	10.4	62.7	25.2	1.6	100.0	549
Western Province	53.5	44.4	2.1	100.0	9.4	67.0	21.0	2.5	100.0	528
Northern Province	54.6	44.9	0.4	100.0	8.3	71.6	19.5	0.5	100.0	411
Eastern Province	51.3	46.7	1.8	100.0	6.7	69.2	21.7	2.3	100.0	542
Urban	65.6	29.8	4.6	100.0	5.2	69.0	20.4	5.4	100.0	331
Rural	51.8	46.7	1.4	100.0	8.9	67.3	22.0	1.7	100.0	1,922
Q1	50.6	47.7	1.6	100.0	8.7	68.1	21.4	1.8	100.0	381
Q2	51.6	47.3	1.0	100.0	9.2	68.8	20.5	1.6	100.0	415
Q3	52.2	46.3	1.4	100.0	9.0	65.9	23.4	1.7	100.0	448
Q4	53.2	45.3	1.5	100.0	8.6	67.9	21.6	1.8	100.0	490
Q5	60.2	36.2	3.5	100.0	6.6	67.2	21.9	4.2	100.0	519
<i>Imidugudu</i>	52.3	46.3	1.4	100.0	7.8	66.9	23.3	1.9	100.0	844
Unplanned clustered rural housing	57.8	40.5	1.7	100.0	8.9	63.5	25.2	2.3	100.0	249
Isolated rural housing	50.1	48.3	1.5	100.0	9.9	68.8	19.5	1.7	100.0	838
Agglomeration	56.1	41.8	2.0	100.0	8.4	65.2	24.4	2.0	100.0	107
Unplanned urban housing	69.6	24.8	5.5	100.0	3.6	71.7	18.1	6.5	100.0	189
Modern planned area	78.7	14.1	7.2	100.0	2.3	59.1	29.0	9.5	100.0	14
Other	54.1	44.6	1.3	100.0	3.6	74.3	20.9	1.3	100.0	12
No disability	54.0	44.1	1.8	100.0	8.2	67.8	21.7	2.2	100.0	1,839
With disability	53.3	44.5	2.1	100.0	8.9	66.4	22.1	2.5	100.0	414
Piped into dwelling	80.2	6.9	11.7	100.0	2.3	68.1	16.5	11.9	100.0	12
Piped into yard	72.4	15.5	11.9	100.0	3.2	58.4	25.0	13.1	100.0	119
Public standpipe	74.5	25.3	0.1	100.0	6.0	59.4	33.8	0.8	100.0	579
Borehole	69.5	30.5	0.0	100.0	4.5	61.4	33.7	0.4	100.0	41
Protected well	52.0	46.3	1.7	100.0	14.7	63.4	19.8	2.2	100.0	52
Unprotected well	22.4	74.3	2.7	100.0	9.2	80.1	7.4	2.7	100.0	51
Protected spring	58.5	41.2	0.3	100.0	9.9	67.3	22.3	0.5	100.0	859
Unprotected spring	13.5	84.0	2.4	100.0	12.7	79.0	5.7	2.4	100.0	238
Rain water	47.2	49.5	3.3	100.0	1.6	76.9	16.5	4.9	100.0	9
Tanker truck	-	-	-	-	-	-	-	-	-	-
Surface water (river or lake)	24.3	70.4	5.1	100.0	6.7	77.7	9.6	5.7	100.0	262
Other	55.0	40.6	4.5	100.0	5.9	79.9	9.3	4.8	100.0	30

Source: EICV3. Missing cells are due to insufficient sample size.

EICV2	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs (000s)
	Satis-fied	Not satisfied	Don't know/NA		Decli-ning	Same	Impro-ving	Don't Know		
All Rwanda	49.2	48.6	2.2	100.0	16.5	65.2	15.3	3.0	100.0	1,892
Kigali City	49.2	46.4	4.3	100.0	14.4	61.2	16.5	7.9	100.0	177
Southern Province	50.1	47.8	2.1	100.0	14.7	64.1	18.3	2.9	100.0	499
Western Province	51.0	46.7	2.3	100.0	16.3	67.3	13.6	2.7	100.0	448
Northern Province	51.7	46.7	1.6	100.0	16.9	67.8	13.7	1.5	100.0	347
Eastern Province	44.0	54.0	2.1	100.0	19.4	63.8	14.2	2.6	100.0	421
Urban	50.3	46.3	3.4	100.0	14.9	63.5	15.4	6.2	100.0	311
Rural	48.9	49.0	2.0	100.0	16.8	65.5	15.2	2.4	100.0	1,581
Q1	49.6	48.1	2.3	100.0	16.8	64.9	15.2	3.1	100.0	329
Q2	47.3	51.0	1.7	100.0	17.4	67.5	13.0	2.1	100.0	353
Q3	48.1	49.5	2.4	100.0	16.8	65.1	15.6	2.5	100.0	368
Q4	49.3	48.7	2.1	100.0	16.9	63.9	16.6	2.6	100.0	398
Q5	51.2	46.1	2.6	100.0	15.0	64.9	15.7	4.4	100.0	444
<i>Imidugudu</i>	44.2	54.3	1.5	100.0	19.0	64.5	14.4	2.1	100.0	334
Old regrouping (resettlement)	51.3	47.3	1.4	100.0	17.9	62.5	17.8	1.8	100.0	120
Isolated community	49.3	48.4	2.3	100.0	16.4	65.2	15.6	2.8	100.0	1,269
Neighbourhood lot	56.8	42.2	1.1	100.0	11.3	65.0	20.7	3.0	100.0	17
Unplanned community	52.6	41.9	5.3	100.0	12.3	66.2	12.3	9.1	100.0	128
Other	78.4	21.6	0.0	100.0	8.7	83.4	7.9	0.0	100.0	24
No disability	49.5	48.4	2.2	100.0	16.1	66.0	15.0	3.0	100.0	1,590
With disability	47.6	49.7	2.7	100.0	18.8	61.2	16.9	3.0	100.0	302
Public utility (Electrogaz)	62.5	30.3	6.9	100.0	9.9	61.0	20.6	8.2	100.0	44
Ordinary well (hand dug)	21.0	74.8	4.2	100.0	26.9	62.6	6.2	4.2	100.0	28
Drilled well	66.1	32.9	1.0	100.0	10.9	66.2	21.3	1.6	100.0	116
Stream, river, lake (surface water)	18.8	77.0	4.2	100.0	23.9	65.3	5.6	5.2	100.0	337
Protected spring	56.2	42.6	1.3	100.0	15.6	65.8	17.3	1.3	100.0	388
Unprotected spring	18.3	75.7	6.0	100.0	23.4	64.0	5.9	6.7	100.0	176
Purchase tap water	62.3	36.1	1.5	100.0	10.9	64.8	20.3	4.1	100.0	258
Public water fountain	64.5	35.3	0.2	100.0	13.8	66.5	19.2	0.5	100.0	524
Other	38.5	49.6	11.9	100.0	23.9	45.1	18.0	13.0	100.0	21

Source: EICV2.

Over all areas, the percentage of households which do not pay for water has declined and the mean household expenditure on water has risen. Eastern Province has seen the largest increase in the percentage of households paying for water (rising from 21% to 47%). For further discussion of water operations and the maintenance costs being born by users, see the WATSAN Sector Performance Report, September 2010.

On a quintile level, the changes over time have not been too severe for the poorest households relative to the richest. Moreover, although the percentage of households paying nothing has dropped more in rural areas than urban, mean expenditure on water has increased the most in urban areas.

**Table 2.7 HH expenditure on water, by province, urban/rural, quintile and habitat**

EICV3	Mean HH expenditure on water as % of total expenditure	Mean annual HH expenditure on water	HH expenditure on water (RWF)				Total	Total no. of HHs (000s)
			Pay nothing	1–19,999	20,000–39,999	40,000+		
All Rwanda	0.4	6,870	68.9	21.5	5.7	3.9	100.0	2,253
Kigali City	1.0	27,868	27.7	31.1	21.8	19.4	100.0	223
Southern Province	0.2	2,155	85.2	11.9	1.9	1.0	100.0	549
Western Province	0.3	3,004	79.2	16.9	2.8	1.1	100.0	528
Northern Province	0.3	4,362	76.8	17.6	3.2	2.4	100.0	411
Eastern Province	0.7	8,655	53.5	34.7	7.5	4.3	100.0	542
Urban	0.9	22,952	34.9	31.4	18.4	15.4	100.0	331
Rural	0.4	4,098	74.8	19.8	3.5	2.0	100.0	1,922
Q1	0.2	1,027	86.8	12.4	0.7	0.0	100.0	381
Q2	0.3	1,921	79.8	18.3	1.6	0.3	100.0	415
Q3	0.4	2,984	75.5	21.0	2.7	0.8	100.0	448
Q4	0.5	5,414	68.6	24.2	5.2	2.0	100.0	490
Q5	0.7	19,842	41.6	28.7	15.5	14.2	100.0	519
<i>Imidugudu</i>	0.5	6,719	62.8	28.5	5.3	3.3	100.0	844
Unplanned clustered rural housing	0.4	3,634	74.0	21.2	3.5	1.3	100.0	249
Isolated rural housing	0.2	1,373	88.8	9.4	1.4	0.4	100.0	838
Agglomeration	0.6	8,562	54.0	36.5	6.0	3.5	100.0	107
Unplanned urban housing	1.2	31,043	15.6	35.2	27.2	22.1	100.0	189
Modern planned area	0.9	58,026	15.5	13.5	17.1	53.9	100.0	14
Other	1.2	14,380	37.1	36.7	15.9	10.4	100.0	12

Source: EICV3. Note: Calculation of average expenditure includes those spending RWF 0. All values presented in prices at the time of the survey (undeflated).

EICV2	Mean HH expenditure on water as % of total expenditure	Mean annual HH expenditure on water	HH expenditure on water (RWF)				Total	Total no. of HHs (000s)
			Pay nothing	1–19,999	20,000–39,999	40,000+		
All Rwanda	0.3	3,918	81.0	13.7	3.2	2.1	100.0	1,892
Kigali City	1.4	24,987	28.3	37.1	19.2	15.4	100.0	177
Southern Province	0.1	932	94.3	4.4	0.8	0.4	100.0	499
Western Province	0.3	1,567	84.4	13.9	1.3	0.4	100.0	448
Northern Province	0.2	1,105	87.2	11.6	1.1	0.1	100.0	347
Eastern Province	0.4	3,411	78.6	16.6	2.9	1.9	100.0	421
Urban	1.1	17,155	41.7	34.0	14.2	10.1	100.0	311
Rural	0.2	1,313	88.7	9.8	1.0	0.5	100.0	1,581
Q1	0.2	444	92.8	7.1	0.2	0.0	100.0	329
Q2	0.2	648	90.5	9.0	0.4	0.1	100.0	353

Q3	0.2	943	89.9	9.2	0.8	0.2	100.0	368
Q4	0.3	2,153	83.2	14.3	2.0	0.5	100.0	398
Q5	0.7	13,140	55.4	25.7	10.6	8.3	100.0	444
<i>Imidugudu</i>	0.5	3,436	77.1	18.7	2.5	1.7	100.0	334
Old regrouping (resettlement)	0.7	3,976	64.7	32.1	1.6	1.7	100.0	120
Isolated community	0.2	1,470	90.7	7.5	1.0	0.8	100.0	1,269
Neighbourhood lot	1.4	80,621	8.4	20.0	20.9	50.7	100.0	17
Unplanned community	1.4	19,340	19.2	46.3	24.4	10.1	100.0	128
Other	0.3	2,447	86.0	6.9	6.3	0.8	100.0	24

Source: EICV2. Note: Calculation of average expenditure includes those spending RWF 0. All values presented in prices at the time of the survey (undeflated).

## 2.2 Sanitation

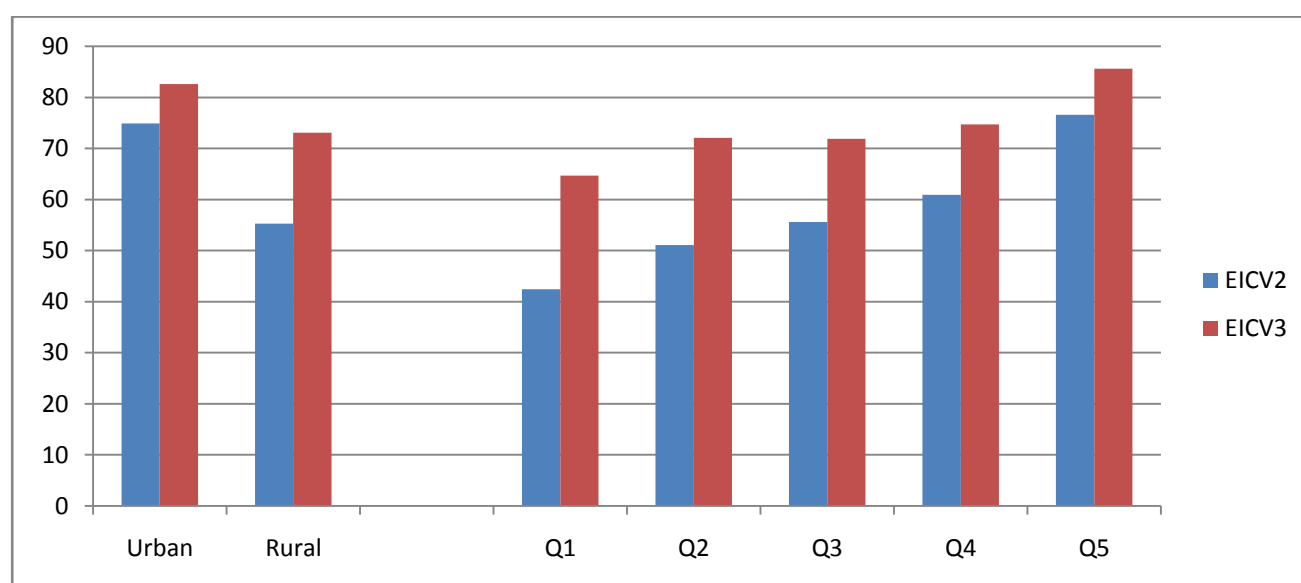
In 2010/11, 75% of households in Rwanda had access to an improved sanitation facility, as defined by the World Health Organisation/UNICEF Joint Monitoring Programme.<sup>12</sup> Sanitation types considered 'improved' are flush toilets and pit latrines with a floor slab. This is an increase of 16 percentage points compared to five years earlier, with the largest increase seen in the Eastern Province.

Total improved sanitation has increased by a larger extent for rural households (55 to 73%) relative to urban (75 to 83%), and the poorest households in quintiles 1 and 2 have seen the strongest improvement relative to the richer quintiles. This finding seems in line with the pro-poor growth observed in general between the two surveys, and is illustrated in Figure 2.4.

The finding on sanitation is perfectly consistent with the findings from the RDHS 2010, which reports that 74.4% of households have access to improved sanitation facilities (shared or non-shared).<sup>13</sup>

The EDPRS target on sanitation is to have 65% of the population with hygienic sanitation by 2012. When considering both shared and non-shared facilities, this target has been achieved and surpassed by a good margin.

**Figure 2.4 Changes in access to improved sanitation (%), by urban/rural and quintile**



<sup>12</sup> <http://www.wssinfo.org/definitions-methods/watsan-categories/>

<sup>13</sup> In contrast to the RDHS data, the EICV does not allow further disaggregation into shared or non-shared facilities because no such information was collected.

**Table 2.8 Sanitation type used/access to improved sanitation, by province, urban/rural, quintile, habitat, and disability status**

EICV3	Total improved sanitation	Improved sanitation		Pit latrine without slab	Other	No toilet facilities	Total no. of HHs (000s)
		Flush toilet	Pit latrine with solid slab				
All Rwanda	74.5	1.7	72.8	19.4	0.0	6.1	2,253
Kigali City	83.3	8.1	75.2	15.2	0.1	1.5	223
Southern Province	66.2	0.6	65.6	27.9	0.0	5.9	549
Western Province	79.2	1.1	78.1	12.5	0.1	8.2	528
Northern Province	74.2	2.0	72.2	18.8	0.0	6.9	411
Eastern Province	74.9	0.6	74.3	19.5	0.0	5.6	542
Urban	82.6	7.5	75.1	14.1	0.0	3.3	331
Rural	73.1	0.7	72.4	20.3	0.0	6.6	1,922
Q1	64.7	0.0	64.7	25.2	0.0	10.1	381
Q2	72.1	0.2	71.9	21.5	0.0	6.3	415
Q3	71.9	0.2	71.7	22.2	0.1	5.9	448
Q4	74.7	0.4	74.3	20.2	0.0	5.1	490
Q5	85.6	6.7	78.9	10.3	0.0	4.1	519
<i>Imidugudu</i>	75.2	1.1	74.1	18.4	0.0	6.4	844
Unplanned clustered rural housing	65.6	0.3	65.3	26.5	0.0	7.9	249
Isolated rural housing	71.6	0.2	71.4	22.1	0.1	6.3	838
Agglomeration	78.6	1.7	76.9	13.4	0.1	7.9	107
Unplanned urban housing	90.8	9.2	81.6	8.0	0.0	1.3	189
Modern planned area	98.3	43.6	54.7	0.3	0.0	1.4	14
Other	87.5	13.8	73.7	11.1	0.0	1.4	12
No disability	75.2	1.8	73.4	19.0	0.0	5.7	1,839
With disability	71.3	1.4	69.8	20.9	0.0	7.8	414

Source: EICV3.

EICV2	Total improved sanitation	Improved sanitation		Unprotected latrines	Other	No toilet facilities	Total no. of HHs (000s)
		Flush toilet	Protected latrines				
All Rwanda	58.5	0.8	57.7	34.8	0.3	6.4	1,892
Kigali City	78.5	4.6	73.9	18.4	0.0	3.0	177
Southern Province	56.2	0.6	55.6	36.1	0.2	7.6	499
Western Province	57.9	0.4	57.5	34.1	0.6	7.5	448
Northern Province	64.6	0.3	64.3	30.2	0.0	5.2	347
Eastern Province	48.5	0.4	48.2	44.7	0.3	6.4	421
Urban	74.9	4.2	70.6	20.2	0.1	4.9	311
Rural	55.3	0.2	55.1	37.7	0.3	6.7	1,581
Q1	42.4	0.2	42.2	45.7	0.1	11.8	329
Q2	51.1	0.0	51.1	40.6	0.5	7.8	353
Q3	55.6	0.0	55.6	39.0	0.3	5.1	368
Q4	60.9	0.2	60.7	33.1	0.3	5.7	398
Q5	76.6	3.1	73.5	20.2	0.1	3.0	444
<i>Imidugudu</i>	53.1	0.4	52.7	40.5	0.1	6.3	334
Old regrouping (resettlement)	62.7	1.1	61.6	29.0	0.3	8.0	120
Isolated community	55.8	0.3	55.5	37.2	0.3	6.7	1,269
Neighbourhood lot	92.5	29.6	62.9	3.9	0.4	3.2	17
Unplanned community	87.0	2.3	84.7	9.7	0.2	3.2	128
Other	83.0	4.3	78.7	12.8	0.0	4.2	24
No disability	58.5	0.8	57.7	34.8	0.2	6.5	1,590
With disability	58.4	0.7	57.7	35.1	0.4	6.1	302

Source: EICV2.



Ashas already been done above for improved water access, it can sometimes be useful to calculate improved sanitation access not only on the basis of households but also on the basis of individuals in the population. Estimates are very similar but for completeness the below table complements the estimates at the household level with those at the individual level.

**Table 2.9 % of the population with access to improved sanitation, by province, urban/rural, quintile, habitat, and disability status**

	EICV3		EICV2	
	Total improved sanitation	Total pop.(000s)	Total improved sanitation	Total pop.(000s)
All Rwanda	77.0	10,762	61.5	9,491
Kigali City	85.1	1,059	81.4	913
Southern Province	68.5	2,527	59.3	2,420
Western Province	81.5	2,586	61.2	2,287
Northern Province	78.3	1,981	67.0	1,751
Eastern Province	76.5	2,609	51.1	2,120
Urban	85.0	1,595	76.7	1,571
Rural	75.6	9,167	58.5	7,920
Q1	67.1	2,123	44.9	1,843
Q2	73.9	2,122	55.6	1,853
Q3	74.7	2,124	59.3	1,856
Q4	77.9	2,133	64.0	1,881
Q5	90.6	2,260	81.4	2,059
No disability	77.3	10,284	61.6	9,137
With disability	71.7	479	59.2	354

Source: EICV3 and EICV2.

### 3 Energy

Energy is regarded a key requirement for the development of the national economy, essential for the development of industries and businesses as well as the delivery of high-quality services from social institutions such as health facilities, schools and administrative offices.

The EDPRS energy sector objectives are increasing access to energy, a sustainable tariff structure, diversification of energy resources, and security and strengthening of institutional framework and institutional capacity. Two main targets and indicators related to electricity generation capacity and numbers of electricity connections were defined for the period of the EDPRS.<sup>14</sup> Achievements with regard to these two indicators are summarised by the sector in the table below:

**Table 3.1 Energy sector achievements towards EDPRS targets**

EDPRS target indicator	Target 2010/11	Actual 2010/11
Number of HHs and enterprises with electricity installed	200,000	215,000 (by June11)
MW of electricity installed	90	97.44 (by Feb11)

Source: Energy Joint Sector Review Report 2010/2011.

The EICV survey is a household survey and therefore cannot produce any project-level information on energy services (e.g. MW of electricity installed, etc.). However, the EICV does allow detailed insights into households' use of fuels such as electricity and others. This chapter will present data on household use of different fuels for cooking and lighting, as well as expenditure data on electricity.

#### 3.1 Fuel use

Table 3.2 presents data on the main fuel that Rwandan households use for lighting. 11% of households in Rwanda use electricity as their main source of lighting, which is equivalent to approximately 243,000 households. The EICV data thereby confirms the data collected by the sector presented above.

Electricity access is particularly high in Kigali (56% of households). Outside Kigali, it is highest in the Western Province (8%) and lowest in the Southern Province (3%). Electricity use is heavily skewed towards the richest quintile (39% as compared to 6% in the fourth and 2% in the third quintile). Households with disabled members display relatively low rates of access to electricity.<sup>15</sup>

Other important sources of lighting are batteries and lanterns, with 29 and 35% of households using these respectively. Batteries are more important in rural areas, where they substitute for the lack of electricity.

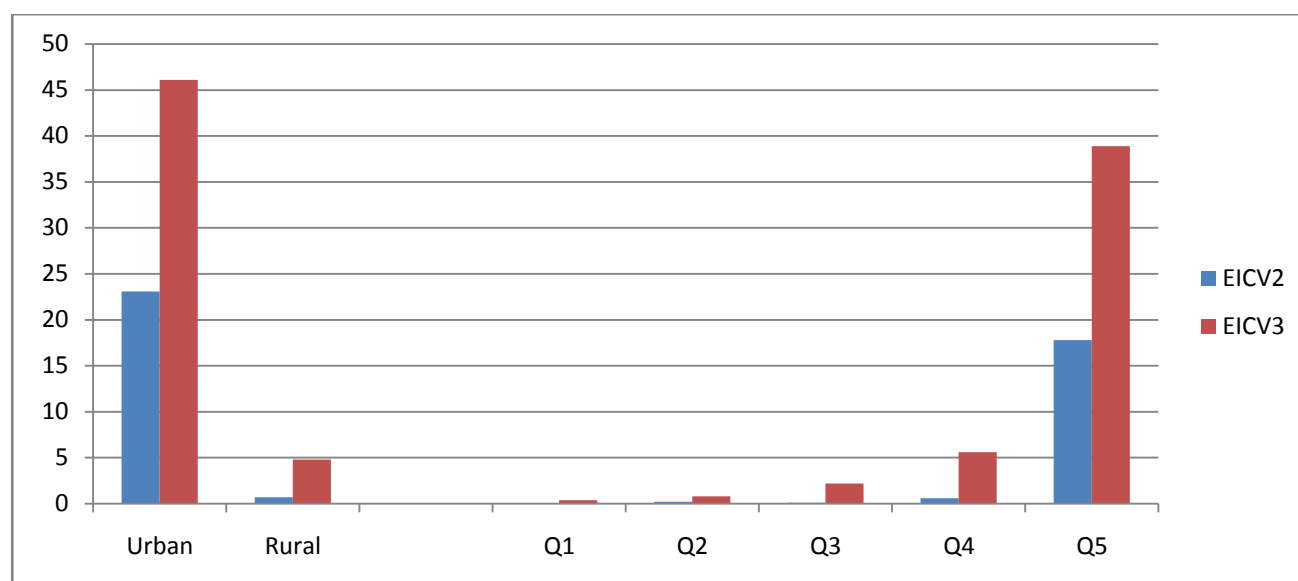
Compared to five years earlier, electricity access has improved drastically, especially in the cities. As illustrated in Figure 3.1, urban households with electricity have doubled from 23 to 46%. But even in rural areas the relative change is considerable, from 1 to 5%. The figure also shows that

<sup>14</sup> Energy sector EDPRS Self-Assessment, EWSA, MININFRA, November 2011.

<sup>15</sup> These estimates are in line with the data from the RDHS 2010, which reports 10% of households connected to electricity.

the change over time has lifted the richest quintile to almost 40% in terms of electricity access. However, it can be noted that the third and fourth quintiles also saw relative increases in access.

**Figure 3.1 Changes in household access to electricity (%)**



**Table 3.2 Primary fuel used for lighting, by province, urban/rural, quintile, habitat and disability status**

EICV3	Primary source of lighting							Total	Total no. of HHs (000s)
	Electricity distributors	Oil lamp	Firewood	Candle	Lantern	Battery	Other		
All Rwanda	10.8	9.7	8.8	5.9	34.7	28.6	1.5	100.0	2,253
Kigali City	55.6	9.6	0.8	12.6	13.8	6.4	1.1	100.0	223
Southern Province	3.3	7.2	13.5	4.0	42.7	27.9	1.4	100.0	549
Western Province	8.2	14.8	14.1	6.1	23.7	31.5	1.7	100.0	528
Northern Province	6.7	4.9	8.8	7.0	30.7	40.5	1.3	100.0	411
Eastern Province	5.6	11.0	2.0	4.0	49.0	26.9	1.5	100.0	542
Urban	46.1	11.2	1.5	9.0	23.6	7.9	0.6	100.0	331
Rural	4.8	9.4	10.0	5.3	36.6	32.2	1.6	100.0	1,922
Q1	0.4	5.2	21.2	4.8	30.8	36.2	1.4	100.0	381
Q2	0.8	6.5	9.6	4.2	41.5	35.9	1.7	100.0	415
Q3	2.2	8.8	7.9	4.5	43.6	31.7	1.3	100.0	448
Q4	5.6	12.2	5.6	7.6	39.0	28.5	1.4	100.0	490
Q5	38.9	14.0	2.8	7.6	20.4	14.8	1.5	100.0	519
Imidugudu	6.4	10.0	5.6	5.4	41.3	29.8	1.5	100.0	844
Unplanned clustered rural housing	5.9	14.3	10.2	5.8	32.4	29.8	1.6	100.0	249
Isolated rural housing	1.0	8.4	14.1	5.2	36.1	33.5	1.6	100.0	838
Agglomeration	13.5	10.7	6.1	8.0	31.0	28.3	2.3	100.0	107
Unplanned urban housing	72.1	7.5	0.0	10.5	7.0	2.7	0.3	100.0	189
Modern planned area	85.7	6.6	0.0	1.7	4.9	1.1	0.0	100.0	14
Other	35.3	6.8	0.0	7.1	26.5	23.3	0.9	100.0	12
No disability	11.7	9.6	7.3	6.2	34.8	29.0	1.4	100.0	1,839
With disability	6.8	10.2	15.3	4.6	34.4	27.1	1.5	100.0	414

Source: EICV3.

EICV2	Primary source of lighting						Total	Total no. of HHs (000s)
	Electricity distributor	Kerosene lantern	Firewood	Candle	Traditional lamp (Agatadowa)	Other		
All Rwanda	4.3	12.7	15.2	1.6	64.4	1.7	100.0	1,892
Kigali City	29.7	29.0	0.7	6.6	33.6	0.4	100.0	177
Southern Province	2.1	8.2	22.0	1.0	65.1	1.7	100.0	499
Western Province	2.0	16.7	21.5	0.9	56.2	2.7	100.0	448
Northern Province	1.0	8.6	15.8	2.3	70.6	1.6	100.0	347
Eastern Province	1.7	10.1	6.2	0.4	80.3	1.3	100.0	421
Urban	23.1	28.7	3.2	4.8	38.7	1.5	100.0	311
Rural	0.7	9.5	17.6	1.0	69.5	1.7	100.0	1,581
Q1	0.0	3.0	38.0	0.8	54.8	3.4	100.0	329
Q2	0.2	3.9	19.5	0.3	74.1	2.1	100.0	353
Q3	0.1	7.4	14.1	1.2	75.5	1.7	100.0	368
Q4	0.6	14.9	7.2	1.3	75.1	0.9	100.0	398
Q5	17.8	29.3	3.1	3.8	45.2	0.8	100.0	444
Imidugudu	1.0	12.2	7.6	0.4	77.6	1.1	100.0	334
Old regrouping (resettlement)	4.7	12.4	18.5	1.4	61.3	1.6	100.0	120
Isolated community	1.2	10.3	18.7	1.2	66.6	1.9	100.0	1,269
Neighbourhood lot	69.3	13.5	1.6	6.7	8.9	0.0	100.0	17
Unplanned community	35.3	34.8	0.7	8.1	20.6	0.4	100.0	128
Other	1.2	25.2	7.1	0.0	60.3	6.2	100.0	24
No disability	4.6	12.6	14.7	1.6	65.0	1.6	100.0	1,590
With disability	3.1	13.2	18.3	1.8	61.4	2.2	100.0	302

Source: EICV2.

Table 3.3 presents data on the primary fuel used by households for cooking. Firewood is by far the most widely used fuel in rural areas (93%). In the cities, Charcoal is used by 51% of households, followed by firewood (45%). While rural households' habits in regard to fuels for cooking did not change compared to five years earlier, a slow trend can be observed in the cities away from firewood (from 51 to 45%) and towards charcoal (from 43 to 51%).

**Table 3.3 Primary fuel used for cooking, by province, urban/rural, quintile, habitat and disability status**

EICV3	Primary source of cooking fuel				Total	Total no. of HHs (000s)
	Firewood	Charcoal	Crop waste	Other		
All Rwanda	86.3	10.6	2.3	0.8	100.0	2,253
Kigali City	31.5	65.0	0.1	3.4	100.0	223
Southern Province	94.1	2.4	3.1	0.3	100.0	549
Western Province	92.2	7.6	0.0	0.2	100.0	528
Northern Province	90.9	4.5	3.9	0.7	100.0	411
Eastern Province	91.7	4.2	3.4	0.6	100.0	542
Urban	45.3	50.9	1.0	2.8	100.0	331
Rural	93.4	3.7	2.5	0.4	100.0	1,922
Q1	95.4	0.5	3.8	0.3	100.0	381
Q2	95.4	1.6	2.9	0.1	100.0	415
Q3	94.2	3.0	2.7	0.1	100.0	448
Q4	91.0	6.6	2.0	0.4	100.0	490
Q5	61.0	35.7	0.7	2.5	100.0	519
<i>Imidugudu</i>	91.8	5.4	2.3	0.4	100.0	844
Unplanned clustered rural housing	92.3	4.8	2.3	0.6	100.0	249
Isolated rural housing	96.4	0.7	2.5	0.4	100.0	838
Agglomeration	82.9	11.9	4.6	0.6	100.0	107
Unplanned urban housing	15.4	80.3	0.0	4.3	100.0	189
Modern planned area	28.0	69.7	0.0	2.3	100.0	14
Other	79.8	16.7	3.6	0.0	100.0	12
No disability	85.3	11.8	2.1	0.8	100.0	1,839
With disability	91.0	5.3	3.0	0.7	100.0	414

Source: EICV3.

EICV2	Primary source of cooking fuel				Total	Total no. of HHs (000s)
	Wood	Charcoal	Miscellaneous burning	Other		
All Rwanda	88.2	7.9	2.7	1.1	100.0	1,892
Kigali City	38.9	57.1	0.2	3.8	100.0	177
Southern Province	96.5	2.4	0.4	0.7	100.0	499
Western Province	94.6	3.7	1.2	0.5	100.0	448
Northern Province	86.1	2.6	10.2	1.1	100.0	347
Eastern Province	94.0	2.7	2.1	1.3	100.0	421
Urban	51.4	42.7	1.5	4.5	100.0	311
Rural	95.4	1.1	3.0	0.5	100.0	1,581
Q1	93.6	0.3	5.5	0.6	100.0	329
Q2	94.1	0.9	4.0	0.9	100.0	353
Q3	96.1	0.9	2.4	0.5	100.0	368
Q4	92.7	4.9	1.8	0.6	100.0	398
Q5	68.9	27.6	0.8	2.6	100.0	444
<i>Imidugudu</i>	94.6	3.0	1.3	1.1	100.0	334
Old regrouping (resettlement)	90.2	7.5	1.5	0.9	100.0	120
Isolated community	93.8	2.0	3.5	0.7	100.0	1,269
Neighbourhood lot	19.3	76.8	0.0	3.9	100.0	17
Unplanned community	22.8	71.0	0.6	5.7	100.0	128
Other	89.3	9.9	0.0	0.8	100.0	24
No disability	87.9	8.2	2.9	1.1	100.0	1,590
With disability	89.9	6.6	1.9	1.6	100.0	302

Source: EICV2.

### 3.2 Expenditure on electricity

Given the increases in access to electricity, it is interesting to investigate the expenses that households incur in relation to their use of electricity. Table 3.4 presents data on household expenditure on electricity bills.<sup>16</sup> Among households that spend money on electricity, the mean annual amount spent in 2010/11 is approximately RWF 50,000. In urban areas, connected households spend on average more than in the countryside. Interestingly, occupants of the mainly rural *Imidugudu* spend almost the same amount as urban dwellers. Households with electricity expenditure above RWF 1 million can be found mainly in Kigali (13% of Kigali households with electricity expenditure).

Comparison with EICV2 shows that, despite usage rates increasing, the mean expenditure on electricity actually decreased. Given that the values presented in the table are undeflated, i.e. at prices of the time of the survey, this is even more interesting and shows that either the prices of electricity have decreased over the period or households use on average less electricity than before. In the light of data discussed earlier in this chapter, as well as the quintile disaggregation in the below table, it seems that electricity connections in 2005/06 were much more skewed towards the very rich; they are now becoming increasingly accessible to wider parts of the population, although these are able to afford lower amounts of electricity than the few rich households that had exclusive access before.

**Table 3.4 Annual HH expenditure on electricity, by province, urban/rural, quintile and habitat**

EICV3	% of HH with electricity expenditure	Total no. of HHs (000s)	HHs with electricity expenditure (RWF)						Total no. of HHs (000s) with electricity expenditure
			Mean HH expenditure on electricity (annual)	1–24,999	25,000–49,999	50,000–99,999	100,000 +	Total	
All Rwanda	9.6	2,253	49,194	23.9	40.6	26.6	8.9	100.0	217
Kigali City	49.0	223	60,102	16.3	38.9	32.1	12.7	100.0	110
Southern Province	2.9	549	39,598	29.3	42.3	24.4	3.9	100.0	16
Western Province	7.6	528	33,936	32.0	46.9	18.0	3.2	100.0	40
Northern Province	6.3	411	45,822	27.4	39.7	23.3	9.6	100.0	26
Eastern Province	4.7	542	35,710	37.3	37.6	21.4	3.7	100.0	25
Urban	41.2	331	56,172	18.8	39.6	30.4	11.2	100.0	137
Rural	4.2	1,922	37,351	32.7	42.2	20.1	5.0	100.0	80
Q1	0.4	381	-	-	-	-	-	-	-
Q2	0.6	415	20,804	63.9	27.4	8.7	0.0	100.0	3
Q3	1.8	448	20,241	62.0	35.9	2.1	0.0	100.0	8
Q4	4.7	490	27,332	39.5	49.6	10.8	0.0	100.0	23
Q5	35.0	519	53,868	19.5	39.8	30.1	10.6	100.0	182
<i>Imidugudu</i>	5.8	844	50,329	30.3	40.6	20.3	8.8	100.0	49
Unplanned clustered rural housing	5.5	249	30,560	28.3	53.5	16.9	1.3	100.0	14
Isolated rural housing	0.9	838	28,075	51.6	34.4	11.4	2.7	100.0	8
Agglomeration	11.7	107	46,491	36.1	44.1	12.9	6.8	100.0	13
Unplanned urban housing	63.8	189	48,083	19.2	42.0	30.3	8.5	100.0	121
Modern planned area	81.4	14	99,604	4.6	14.0	49.9	31.4	100.0	11
Other	17.8	12	-	-	-	-	-	-	-

<sup>16</sup> There is a slight discrepancy between electricity usage rates presented above and households with electricity expenditure presented here. This is due to some households stating they use electricity as their main lighting fuel but not reporting any expenditure.

Source: EICV3. Note: Calculation of average expenditure based on those HHs incurring expenditure on electricity. Empty cells are due to insufficient sample size to calculate indicators. All values reported are in prices at the time of the survey (undeflated).

EICV2	% of HHwith electricity expenditure	Total no. of HHs (000s)	HHs with electricity expenditure (RWF)						Total no. of HHs (000s) with electricity expenditure
			Mean HH expenditure on electricity	1–24,999	25000–49,999	50,000–99,999	100,000+	Total	
All Rwanda	4.3	1,892	59,135	38.3	26.0	22.5	13.2	100.0	82
Kigali City	29.7	177	69,447	32.6	22.9	27.3	17.2	100.0	53
Southern Province	2.1	499	41,394	62.2	29.6	3.9	4.2	100.0	10
Western Province	2.0	448	38,348	39.6	36.0	18.4	6.1	100.0	9
Northern Province	1.0	347	21,457	69.3	30.7	0.0	0.0	100.0	3
Eastern Province	1.7	421	52,536	29.4	28.9	30.1	11.6	100.0	7
Urban	23.1	311	59,085	39.3	24.1	23.4	13.2	100.0	72
Rural	0.7	1,581	59,485	31.5	39.3	15.9	13.2	100.0	10
Q1	0.0	329	-	-	-	-	-	-	-
Q2	0.2	353	-	-	-	-	-	-	-
Q3	0.1	368	-	-	-	-	-	-	-
Q4	0.6	398	-	-	-	-	-	-	-
Q5	17.8	444	60,553	37.8	25.3	23.2	13.7	100.0	79
<i>Imidugudu</i>	1.0	334	99,295	12.6	35.8	27.8	23.8	100.0	3
Old regrouping (resettlement)	4.7	120	67,770	50.6	25.7	13.7	10.1	100.0	6
Isolated community	1.2	1,269	55,526	33.2	35.4	21.7	9.8	100.0	15
Neighbourhood lot	69.3	17	94,026	23.0	20.5	22.6	33.9	100.0	12
Unplanned community	35.3	128	47,732	43.6	24.0	23.7	8.7	100.0	45
Other	1.2	24	-	-	-	-	-	-	-

Source: EICV2. Note: Calculation of average expenditure based on those HHs incurring expenditure on electricity. Empty cells are due to insufficient sample size to calculate indicators. All values reported are in prices at the time of the survey (undeflated).



## 4 Housing

The habitat sub-sector has the main objective of contributing to sustainable economic growth and the wellbeing of the Rwandan population by improving habitat and urbanism infrastructure. The sub-sector engages in a programme to modernise cities in Rwanda, especially in the habitat areas, with interventions to curb the proliferation of unplanned housing and to improve living standards in irregular neighbourhoods.<sup>17</sup>

The guiding documents of the sub-sector are the Vision 2020 and the EDPRS. As summarised in the sub-sector's EDPRS Self-Assessment Report (2008–2011), the objectives of the Vision 2020 with regard to human settlement are summarised as follows:

- Having urbanisation master plans and particular development plans for towns;
- Using urban land according to adopted plans; and
- Developing basic infrastructure in urban areas and other rural development zones.

The objectives of the EDPRS with regard to human settlement and management of public property are worded as follows:

- Planning and development of improved human facilities in both rural and urban areas;
- Sustainable rational use of land and environment protection;
- Designing urban master plans; construction of regrouped settlements (*Imidugudu*);
- 10,000 ha of marked out and improved plots;
- Restructuring of seven districts where the population suffer from bad living conditions; and
- Accommodating public facilities into comfortable buildings in accordance with the need for rapid and quality services.

In order to achieve these objectives, the sector has stipulated specific sub-programmes to be focused on:

- Real estate promotion, construction and maintenance of public buildings;
- Registration of land plots with all necessary statutory requirements;
- *Imidugudu* promotion and development of master plans;
- Support to housing financing;
- Establishment of main planning, urban architectural designs and simplified plans of 30 municipalities (district towns);
- Improvement of informal/peripheral neighbourhoods;
- Sensitisation on the standards of construction and urbanism as well as the protection of the urban environment; and
- Promotion of low cost and indigenous good materials and techniques for home building.

The sector self-assessment summarises the sector's major completed projects as follows:

---

<sup>17</sup> Introduction to the habitat and urbanism sub-sector, MINIFRA (<http://www.mininfra.gov.rw/index.php?id=26>)

**Table 4.1 Habitat sector major completed projects (November 2011)**

EDPRS Targets	Achievements	Districts or Cities
13 cities have urban Master Plans and Local Development Plans by 2012	18 elaborated Master Plans and Local Development Plans for cities and towns	Kigali (Nyarugenge, Kicukiro and Gasabo), Rusizi, Karongi, Nyagatare, Rwamagana and Kayonza, Rubavu, Nyamasheke, Musanze, Gakenke, Nyamata, Kibeho, Muhanga, Nyanza, Huye, and Kirehe
	Local Development Plans Under Elaboration (to be completed by 2012)	Rutsiro, Nyamagabe, Kamonyi, Ruhango, Nyabihu, Ngoma, Kabarore, Gicumbi, Ngororero, Gisagara, Burera, Rulindo
Improvement of informal settlements in seven districts	Informal settlement upgrading in four urban centres	Kigali (Kimironko), Rusizi, Karongi and Musanze
5,700 <i>Imidugudu</i> sites will be constructed by 2012	4,296 sites were constructed	At least two <i>Imidugudu</i> sites in each cell were constructed in all districts of the country
Accommodation of public institutions	54 public institutions were constructed	42 local tribunals, RRA, General Auditor, National Electoral Commission, Exe Umutara Province Administrative Head quarter, Eastern Province Administrative Head quarter, Supreme Court and MINUJUST, Institute of Legal Practice and Development- NYANZA, Gikongoro Regional Stadium, Kigali Public Library, Rubavu Border Post, Nemba Border Post
	Eight public institutions were rehabilitated	Buildings for MINECOFIN, MINALOC, Parliament, TELECOM House, Rubavu Regional Stadium, Nyamirambo Regional Stadium, Amahoro National Stadium, General Prosecutor Office
Construction of houses for returnees from neighbouring countries	1,573 houses constructed for returnees from Tanzania	Bugesera, Kirehe, Kayonza, Ngoma, Nyagatare, and Gatsibo
10,000 ha with serviced plots (Low, Medium and High Standings) by 2012	Studies for 5,900 ha of serviced plots are ongoing	Huye, Muhanga, Karongi, Rusizi, Musanze, Rubavu, Rwamagana, Nyagatare, Kayonza, Nyanza, Nyamasheke, Kamonyi, Ruhango, Nyabihu, Ngoma, Gatsibo, Rutsiro and Nyamagabe

Source: Habitat sector EDPRS Self-Assessment Report (2008–2011)

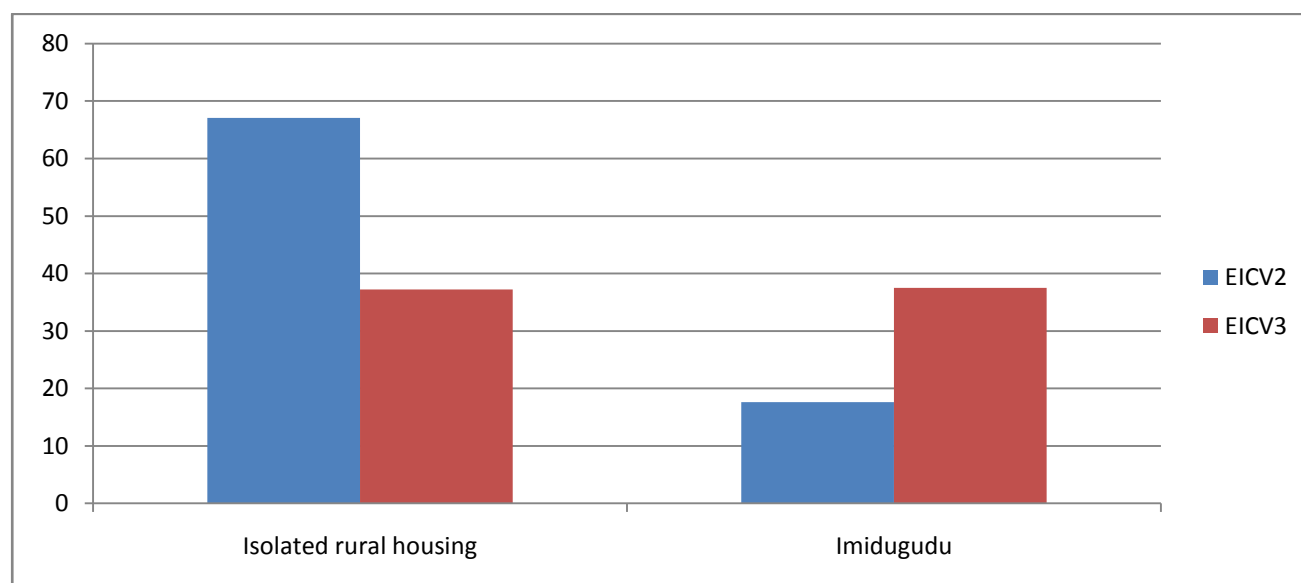
This chapter seeks to supplement the sector's own project achievement database with an inside view of Rwandan households. It provides detailed insights into the housing situation of the Rwandan population and an assessment of how things have changed between 2005/06 and 2010/11.

## 4.1 Dwelling characteristics

Traditionally, rural habitat in Rwanda has been made up of scattered and isolated dwellings.<sup>18</sup> The national policy strategy aims to encourage and establish clustered rural settlement models, including the *Imidugudu*.

Table 4.2 shows the habitat types occupied by Rwandan households, and the changes between EICV2 and EICV3. Answer choices were updated between the two surveys so direct comparison is difficult, but there is a clear trend away from the traditional isolated habitat towards *Imidugudu* or clustered forms of habitat, which is in line with national policy. This is also illustrated in Figure 4.1.

**Figure 4.1 Change in specific habitat types**



In addition to this major trend away from isolated dwellings, the data show that the habitat patterns differ considerably between provinces. Eastern Province has the highest incidence of households living in *Imidugudus* (80%) and only a few living in isolated rural housing (8%). In comparison, Southern Province only has 18% living in *Imidugudu* and 57% living in scattered dwellings. The Western and Northern provinces lie between these values, with 26% and 38% living in *Imidugudu*, respectively. The differences observed between provinces can also be found in EICV2 data.

The lowest and highest quintiles are least likely to live in *Imidugudu* (33–34% of these quintiles live in *Imidugudu*, as compared to 39–41% for the quintiles in between). This is likely to be due to different reasons for these two quintiles. The highest quintile is strongly urbanised, which means that a noteworthy proportion of this group lives in urban housing rather than the rural *Imidugudu*. In contrast, the lowest quintile lives mainly in traditional isolated dwellings.

<sup>18</sup> Initial National Communication under the UN Framework Convention on Climate Change, Ministry of Lands, Environment, Forestry, Water and Mines, June 2005.

**Table 4.2 Types of habitat, by province, urban/rural and quintile**

EICV3	Type of habitat							Total	Total no. of HHs (000s)
	<i>Imidugudu</i>	Unplanned clustered rural housing	Isolated rural housing	Agglomeration	Unplanned urban housing	Modern planned area	Other		
All Rwanda	37.5	11.1	37.2	4.8	8.4	0.6	0.5	100.0	2,253
Kigali City	7.8	2.4	21.9	2.8	62.6	2.4	0	100.0	223
Southern Province	18.2	17.1	56.6	5.6	2	0.2	0.4	100.0	549
Western Province	25.5	16.9	48.2	6.8	1.9	0.5	0.2	100.0	528
Northern Province	38.4	7.1	44.5	3.7	5.2	1.1	0.1	100.0	411
Eastern Province	80.2	5.8	7.6	3.5	1.3	0.1	1.5	100.0	542
Urban	15.1	6.7	22.4	4.6	48.8	2.4	0.1	100.0	331
Rural	41.3	11.8	39.7	4.8	1.4	0.3	0.6	100.0	1,922
Q1	33	11.8	51.3	3	0.6	0	0.2	100.0	381
Q2	39.2	12.4	42.1	4.3	1.8	0	0.3	100.0	415
Q3	40.1	11.3	40.8	4.5	2.9	0	0.3	100.0	448
Q4	40.9	12.1	36.5	5.4	4.4	0.1	0.6	100.0	490
Q5	33.8	8.3	20.4	6.1	27.9	2.4	1.1	100.0	519

Source: EICV3.

EICV2	Type of habitat						Total	Total no. of HHs (000s)
	Imidugudu	Old regrouping (resettlement)	Isolated community	Neighbourhood lot	Unplanned community	Other		
All Rwanda	17.6	6.3	67.1	0.9	6.8	1.3	100.0	1,892
Kigali City	6.6	3.1	36.7	4.9	48.7	0.1	100.0	177
Southern Province	3.9	4.0	89.0	0.6	1.1	1.4	100.0	499
Western Province	5.5	16.2	72.9	0.6	4.2	0.5	100.0	448
Northern Province	13.7	4.6	77.9	0.1	1.8	2.0	100.0	347
Eastern Province	54.8	1.5	38.7	0.6	2.6	1.9	100.0	421
Urban	11.7	6.3	39.4	4.7	33.5	4.4	100.0	311
Rural	18.8	6.4	72.5	0.2	1.5	0.7	100.0	1,581
Q1	13.2	6.7	77.7	0.2	1.1	1.2	100.0	329
Q2	16.1	5.3	75.9	0.0	1.7	1.1	100.0	353
Q3	18.4	6.4	72.4	0.1	1.9	0.9	100.0	368
Q4	19.9	6.3	67.6	0.2	4.4	1.6	100.0	398
Q5	19.5	7.0	47.3	3.5	21.2	1.6	100.0	444

Source: EICV2.

Table 4.3 presents data on the types of dwelling occupied by households. It shows that close to all rural households live in single-household dwellings (96%), irrespective of their location. Indeed, in the cities too, single-house dwellings are the most common type found, with 74%. Hardly any change can be observed between EICV2 and EICV3.

**Table 4.3 Types of dwelling, by province, urban/rural, quintile and habitat**

EICV3	Type of dwelling						Total	Total no. of HHs (000s)
	A single-house dwelling	A multiple HH dwelling	Multi-storied building (flat)	Group of enclosed dwellings with multiple HHs	Group of enclosed dwelling for single HH	Other		
All Rwanda	92.4	3.0	0.0	3.1	1.4	0.0	100.0	2,253
Kigali City	65.6	9.0	0.3	20.7	4.5	0.0	100.0	223
Southern Province	93.6	3.0	0.0	1.5	1.9	0.0	100.0	549
Western Province	94.1	2.5	0.1	1.2	2.0	0.1	100.0	528
Northern Province	98.8	1.0	0.0	0.1	0.0	0.0	100.0	411
Eastern Province	95.9	2.3	0.0	1.5	0.3	0.0	100.0	542
Urban	74.1	7.7	0.2	14.6	3.4	0.0	100.0	331
Rural	95.6	2.1	0.0	1.1	1.1	0.0	100.0	1,922
Q1	96.5	2.1	0.1	0.6	0.7	0.0	100.0	381
Q2	96.2	1.9	0.0	0.9	1.0	0.0	100.0	415
Q3	95.6	2.1	0.0	1.1	1.2	0.0	100.0	448
Q4	93.7	3.0	0.0	2.0	1.2	0.0	100.0	490
Q5	82.6	5.1	0.1	9.4	2.8	0.0	100.0	519
<i>Imidugudu</i>	96.7	2.2	0.0	0.6	0.4	0.0	100.0	844
Unplanned clustered rural housing	94.9	3.7	0.1	0.8	0.4	0.1	100.0	249
Isolated rural housing	95.1	1.7	0.0	0.9	2.2	0.0	100.0	838
Agglomeration	90.3	3.9	0.1	4.4	1.3	0.0	100.0	107
Unplanned urban housing	61.5	9.8	0.2	25.3	3.3	0.0	100.0	189
Modern planned area	75.2	3.5	1.6	9.8	9.8	0.0	100.0	14
Other	81.4	10.9	0.0	5.0	1.4	1.4	100.0	12

Source: EICV3.

EICV2	Type of dwelling						Total	Total no. of HHs (000s)
	Single HH dwelling (freehold)	Multiple household dwelling	Multi-storied building housing one or more HHs	Group of enclosed dwellings: multiple HHs	Group of enclosed dwellings: single household	Other		
All Rwanda	92.6	2.6	0.2	2.8	1.3	0.4	100.0	1,892
Kigali City	65.7	9.8	0.6	17.7	5.9	0.3	100.0	177
Southern Province	94.2	2.4	0.1	1.4	1.6	0.4	100.0	499
Western Province	94.7	2.5	0.1	1.5	0.7	0.5	100.0	448
Northern Province	97.7	0.5	0.6	0.9	0.3	0.0	100.0	347
Eastern Province	96.0	1.8	0.1	1.0	0.4	0.8	100.0	421
Urban	72.3	8.0	0.3	13.5	5.1	0.8	100.0	311
Rural	96.7	1.6	0.2	0.6	0.5	0.3	100.0	1,581
Q1	97.7	0.9	0.3	0.2	0.1	0.8	100.0	329
Q2	96.8	1.9	0.2	0.8	0.3	0.1	100.0	353
Q3	96.2	1.6	0.4	0.8	0.7	0.3	100.0	368
Q4	95.3	2.6	0.2	1.1	0.6	0.3	100.0	398
Q5	80.5	5.4	0.1	9.4	4.0	0.6	100.0	444
<i>Imidugudu</i>	95.3	2.1	0.9	0.3	0.7	0.6	100.0	334
Old regrouping (resettlement)	90.5	4.9	0.0	2.5	1.1	1.0	100.0	120
Isolated community	97.5	1.3	0.1	0.6	0.6	0.0	100.0	1,269
Neighbourhood lot	50.5	13.5	1.5	12.4	22.1	0.0	100.0	17
Unplanned community	49.0	13.5	0.1	30.1	6.7	0.6	100.0	128
Other	76.3	5.1	0.0	1.9	1.8	14.9	100.0	24

Source: EICV2.

In addition to questions on the use of buildings by multiple households, the EICV also asks about the sharing of rooms between households. However, this is hardly ever the case in Rwanda (less than 2% of households do so), hence no data on this are presented here.

Table 4.4 shows the average number of people per bedroom. In both urban and rural areas, this is only slightly above two.<sup>19</sup> Only 10% of households in Rwanda sleep on average four or more people per bedroom.

No significant differences are observed between cities and the countryside, but as expected the average number of persons per bedroom decreases with wealth (from 2.9 in the lowest quintile to 1.8 in the richest). In the poorest quintile, 21% of households sleep on average four or more persons in one bedroom.<sup>20</sup>

**Table 4.4 Number of persons per bedroom, by province, urban/rural, quintile and habitat**

EICV3	Mean no. of people per bedroom	Average no. of people per bedroom				Total	Total no. of HHs (000s)
		Less than 2	2 to 4	4 to 6	6 or more		
All Rwanda	2.3	35.3	54.6	8.7	1.4	100.0	2,253
Kigali City	2.2	37.3	52.3	9.0	1.4	100.0	223
Southern Province	2.4	33.9	54.1	10.1	1.9	100.0	549
Western Province	2.3	30.4	60.1	8.5	1.0	100.0	528
Northern Province	2.1	40.6	53.1	5.8	0.5	100.0	411
Eastern Province	2.3	36.4	52.0	9.6	2.0	100.0	542
Urban	2.2	39.4	50.2	8.9	1.5	100.0	331
Rural	2.3	34.5	55.4	8.7	1.4	100.0	1,922
Q1	2.9	13.4	65.3	17.6	3.7	100.0	381
Q2	2.6	22.2	64.6	11.4	1.7	100.0	415
Q3	2.3	32.3	58.3	8.1	1.3	100.0	448
Q4	2.1	44.6	48.9	5.8	0.7	100.0	490
Q5	1.8	55.4	41.1	3.3	0.2	100.0	519
<i>Imidugudu</i>	2.3	36.3	54.2	8.2	1.2	100.0	844
Unplanned clustered rural housing	2.4	33.1	55.5	9.4	2.0	100.0	249
Isolated rural housing	2.3	33.7	55.8	9.1	1.4	100.0	838
Agglomeration	2.2	35.6	55.6	7.3	1.4	100.0	107
Unplanned urban housing	2.2	39.1	50.2	9.7	1.0	100.0	189
Modern planned area	1.9	51.3	45.9	2.2	0.7	100.0	14
Other	2.6	28.8	57.3	5.9	8.0	100.0	12

Source: EICV3.

<sup>19</sup> No such data are available for EICV2 because only the EICV3 asks explicitly about number of bedrooms.

<sup>20</sup> It is important to note that these are only household average values, e.g. a household with two bedrooms, which are occupied by two adults and four children, respectively, would yield an average of three persons per bedroom in this statistic.

Table 4.5 presents data on the floor area (in m<sup>2</sup>) of Rwandan households' dwellings. On average this is 40m<sup>2</sup>, and *Imidugudus* are roughly in line with this national average. Unsurprisingly, richer households occupy larger dwellings. Urban households' dwellings are larger than those in the countryside.

In 2005/06, the average floor area was 37m<sup>2</sup>, i.e. only slightly less than in 2010/11. Interestingly, no strong changes can be observed in the different provinces except for the Northern Province. In this province, which experienced particularly strong economic development over the five-year period between surveys (see NISR, *The Evolution of Poverty in Rwanda From 2000 to 2011*), the mean floor area increased from only 33m<sup>2</sup> to 38.5m<sup>2</sup> and thereby caught up with the other provinces with respect to this indicator.



**Table 4.5 Floor area, by province, urban/rural, quintile and habitat**

EICV3	Mean floor area of dwelling – outside (m <sup>2</sup> )	Floor area of dwelling				Total	Total no. of HHs (000s)
		1–24 m <sup>2</sup>	25–49 m <sup>2</sup>	50–74 m <sup>2</sup>	75+m <sup>2</sup>		
All Rwanda	40.2	23.6	56.1	13.4	6.9	100.0	2,253
Kigali City	53.5	26.4	37.1	17.1	19.4	100.0	223
Southern Province	38.9	23.8	58.0	12.1	6.0	100.0	549
Western Province	41.8	17.1	59.4	17.2	6.3	100.0	528
Northern Province	38.5	24.1	59.9	10.1	5.8	100.0	411
Eastern Province	35.9	28.3	55.8	11.9	4.1	100.0	542
Urban	53.0	22.9	41.4	16.9	18.9	100.0	331
Rural	38.1	23.7	58.6	12.8	4.8	100.0	1,922
Q1	30.4	36.6	57.2	5.4	0.8	100.0	381
Q2	33.7	28.5	60.5	9.1	1.9	100.0	415
Q3	36.9	22.0	61.0	14.1	2.9	100.0	448
Q4	39.4	18.5	60.9	15.4	5.2	100.0	490
Q5	56.3	16.4	42.9	20.2	20.5	100.0	519
<i>Imidugudu</i>	39.4	23.4	57.6	13.2	5.9	100.0	844
Unplanned clustered rural housing	37.2	27.2	55.6	11.8	5.4	100.0	249
Isolated rural housing	37.1	22.7	60.5	13.3	3.5	100.0	838
Agglomeration	42.6	21.4	55.6	14.1	8.9	100.0	107
Unplanned urban housing	54.8	26.8	33.6	16.2	23.4	100.0	189
Modern planned area	125.1	5.8	17.9	10.4	65.8	100.0	14
Other	41.5	19.3	55.8	19.9	5.0	100.0	12

Source: EICV3.

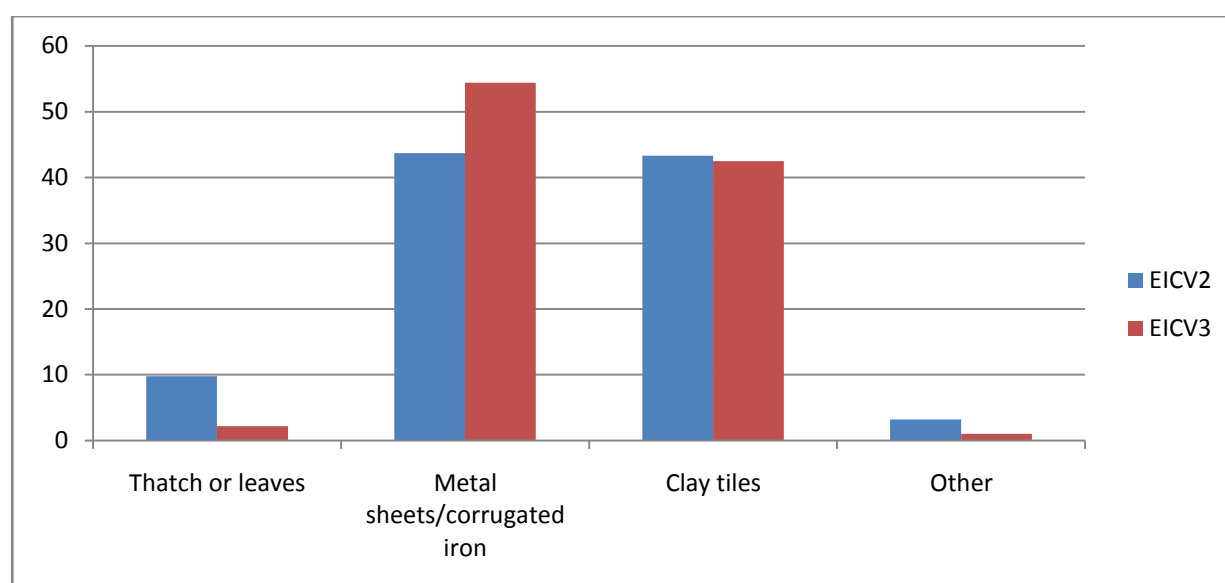
EICV2	Mean floor area of dwelling (m <sup>2</sup> )	Floor area of dwelling				Total	Total no. of HHs (000s)
		1–24 m <sup>2</sup>	25–49 m <sup>2</sup>	50–74 m <sup>2</sup>	75+m <sup>2</sup>		
All Rwanda	37.2	32.9	50.2	11.1	5.8	100.0	1,892
Kigali City	53.3	24.6	41.1	15.2	19.1	100.0	177
Southern Province	36.0	34.3	50.2	10.1	5.3	100.0	499
Western Province	39.1	26.8	54.5	13.6	5.0	100.0	448
Northern Province	33.0	34.8	53.2	9.5	2.4	100.0	347
Eastern Province	33.1	39.5	46.9	9.0	4.6	100.0	421
Urban	51.3	24.9	41.3	15.8	17.9	100.0	311
Rural	34.4	34.4	51.9	10.1	3.5	100.0	1,581
Q1	27.7	49.3	44.7	5.3	0.5	100.0	329
Q2	31.1	40.0	50.7	7.9	1.3	100.0	353
Q3	34.3	32.1	54.8	10.3	2.8	100.0	368
Q4	37.1	27.5	56.7	11.1	4.7	100.0	398
Q5	51.4	20.5	44.1	18.4	17.0	100.0	444
<i>Imidugudu</i>	34.5	33.4	53.0	9.7	3.7	100.0	334
Old regrouping (resettlement)	41.6	23.9	54.5	12.7	8.9	100.0	120
Isolated community	35.3	33.8	51.4	10.5	4.3	100.0	1,269
Neighbourhood lot	103.9	6.6	16.1	18.3	59.0	100.0	17
Unplanned community	50.5	29.0	35.8	18.6	16.7	100.0	128
Other	33.6	60.7	24.6	8.4	6.2	100.0	24

Source: EICV2.

The following three tables present the construction materials used for roofs, walls and floors respectively in households across Rwanda. Table 4.6 begins by showing roofing material. Half of rural households use metal sheets, and almost all of the remaining half use clay tiles. In urban households, metal sheets are even more predominant (80%). Metal sheets are also the first choice of the richer parts of the population; use of such roofing increases strictly with wealth, as compared to all other options which decrease with quintiles.

Comparison between 2005/06 and 2010/11 shows no significant change in use of clay tiles, but it clearly shows that the 10% of households that used thatch roofs in 2005/06 switched almost exclusively to metal sheets. This is also illustrated in Figure 4.2.

**Figure 4.2 Changes in roofing material**



**Table 4.6 Roofing material of the dwelling, by province, urban/rural, quintile and habitat**

EICV3	Roofing material				Total	Total no. of HHs (000s)
	Thatch or leaves	Metal sheets/corrugated iron	Clay tiles	Other		
All Rwanda	2.2	54.4	42.5	1.0	100.0	2,253
Kigali City	1.7	94.6	3.3	0.4	100.0	223
Southern Province	1.8	14.7	82.7	0.7	100.0	549
Western Province	3.1	43.6	52.3	1.0	100.0	528
Northern Province	2.0	49.0	48.6	0.5	100.0	411
Eastern Province	2.0	92.5	3.8	1.6	100.0	542
Urban	0.7	79.8	19.1	0.4	100.0	331
Rural	2.4	50.0	46.5	1.0	100.0	1,922
Q1	4.8	39.7	53.8	1.7	100.0	381
Q2	2.6	45.3	51.1	1.0	100.0	415
Q3	1.4	49.7	47.8	1.0	100.0	448
Q4	1.7	56.5	41.1	0.7	100.0	490
Q5	1.0	74.4	24.2	0.4	100.0	519
<i>Imidugudu</i>	1.8	70.1	26.7	1.3	100.0	844
Unplanned clustered rural housing	4.2	45.6	48.9	1.3	100.0	249
Isolated rural housing	2.4	30.0	66.9	0.6	100.0	838
Agglomeration	1.3	61.0	36.9	0.8	100.0	107
Unplanned urban housing	0.6	95.5	3.5	0.4	100.0	189
Modern planned area	0.0	89.0	10.1	0.9	100.0	14
Other	1.6	81.7	16.7	0.0	100.0	12

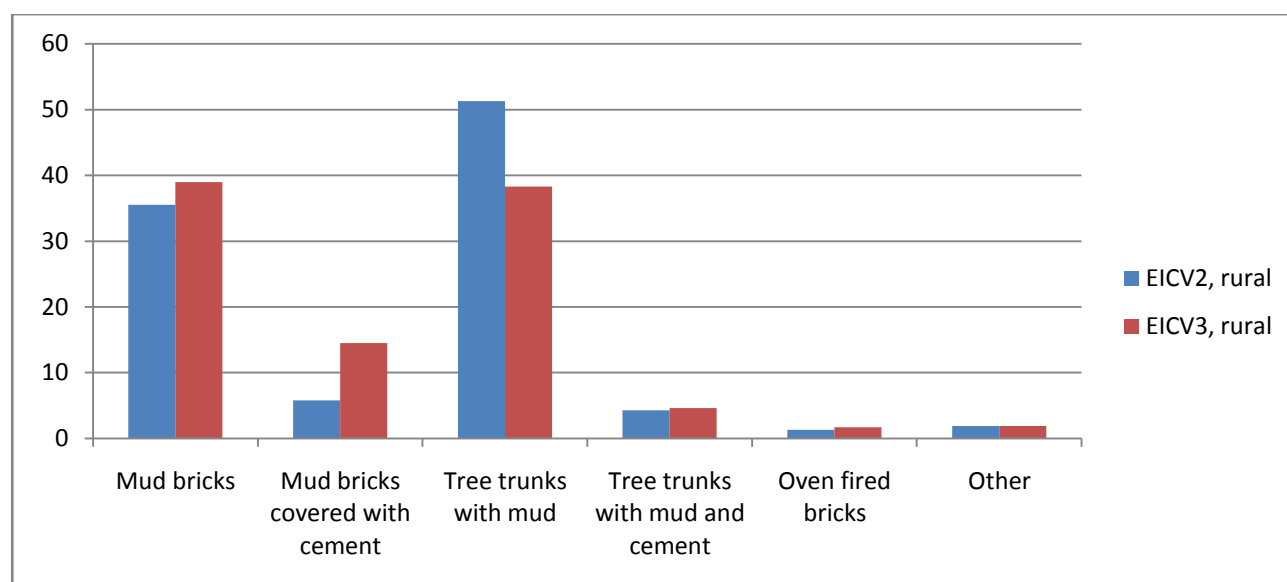
Source: EICV3.

EICV2	Roofing material				Total	Total no. of HHs (000s)
	Thatch or leaves	Metal sheets/corrugated iron	Clay tiles	Other		
All Rwanda	9.8	43.7	43.3	3.2	100.0	1,892
Kigali City	2.3	93.3	3.0	1.4	100.0	177
Southern Province	8.0	14.1	76.3	1.6	100.0	499
Western Province	5.8	36.7	54.2	3.4	100.0	448
Northern Province	9.7	37.3	50.2	2.8	100.0	347
Eastern Province	19.6	70.7	3.9	5.8	100.0	421
Urban	2.8	73.7	18.7	4.8	100.0	311
Rural	11.2	37.8	48.1	2.8	100.0	1,581
Q1	19.8	25.9	49.9	4.4	100.0	329
Q2	11.2	33.0	51.8	3.9	100.0	353
Q3	9.9	39.0	48.1	3.1	100.0	368
Q4	7.2	46.3	43.1	3.4	100.0	398
Q5	3.7	67.1	27.9	1.4	100.0	444
<i>Imidugudu</i>	12.4	68.8	14.2	4.5	100.0	334
Old regrouping (resettlement)	5.6	50.3	39.4	4.8	100.0	120
Isolated community	10.6	31.2	56.5	1.7	100.0	1,269
Neighbourhood lot	3.3	90.7	3.8	2.2	100.0	17
Unplanned community	2.2	91.7	4.8	1.3	100.0	128
Other	0.0	35.6	5.0	59.4	100.0	24

Source: EICV2.

Table 4.7 presents data on material used for constructing walls. It shows that 39% of rural households use mud bricks, 38% use tree trunks with mud, and 15% use mud bricks covered with cement. This is an important improvement compared to 2005/06, where more than half of households used tree trunks with mud. This is also illustrated in Figure 4.3, which shows how the decrease in tree trunks with mud has led to an increase in mud bricks and mud bricks covered with cement.

**Figure 4.3 Changes in wall material used in rural dwellings**



This development may in part be explained by the construction of *Imidugudu*, but the breakdown of wall material by habitat types shows that this is not the only explanation. Instead, the improvements in the past five years can be observed across all the different habitat types. Even in the traditional isolated rural habitats, dwellings constructed from mud bricks (with or without cement) have increased considerably, from 43 to 56%.

**Table 4.7 Wall material of the dwelling, by province, urban/rural, quintile and habitat**

EICV3	Wall material						Total	Total no. of HHs (000s)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven-fired bricks	Other		
All Rwanda	36.1	18.7	35.2	5.5	2.5	1.9	100.0	2,253
Kigali City	9.7	50.2	17.6	14.5	5.3	2.8	100.0	223
Southern Province	29.6	18.7	43.6	6.1	1.8	0.0	100.0	549
Western Province	56.5	11.4	24.3	1.3	2.3	4.3	100.0	528
Northern Province	42.5	13.1	35.1	3.1	3.5	2.7	100.0	411
Eastern Province	29.0	17.3	44.7	7.2	1.3	0.3	100.0	542
Urban	19.7	43.4	17.1	10.7	6.8	2.2	100.0	331
Rural	39.0	14.5	38.3	4.6	1.7	1.9	100.0	1,922
Q1	45.6	5.1	45.8	1.5	0.2	1.8	100.0	381
Q2	43.7	9.6	42.6	2.6	0.4	1.1	100.0	415
Q3	40.9	12.8	39.3	4.4	0.5	2.1	100.0	448
Q4	35.5	19.0	35.7	6.7	1.2	1.9	100.0	490
Q5	19.7	41.0	17.6	10.7	8.6	2.4	100.0	519
<i>Imidugudu</i>	34.8	17.7	38.9	4.9	1.5	2.3	100.0	844
Unplanned clustered rural housing	33.6	13.2	44.7	5.2	1.5	1.8	100.0	249
Isolated rural housing	44.9	11.2	37.3	4.5	1.0	1.1	100.0	838
Agglomeration	36.1	24.9	26.0	5.1	4.5	3.4	100.0	107
Unplanned urban housing	10.4	56.9	6.6	13.6	9.8	2.6	100.0	189
Modern planned area	1.9	44.8	0.8	2.8	41.1	8.6	100.0	14
Other	21.4	47.4	6.1	7.5	17.5	0.0	100.0	12

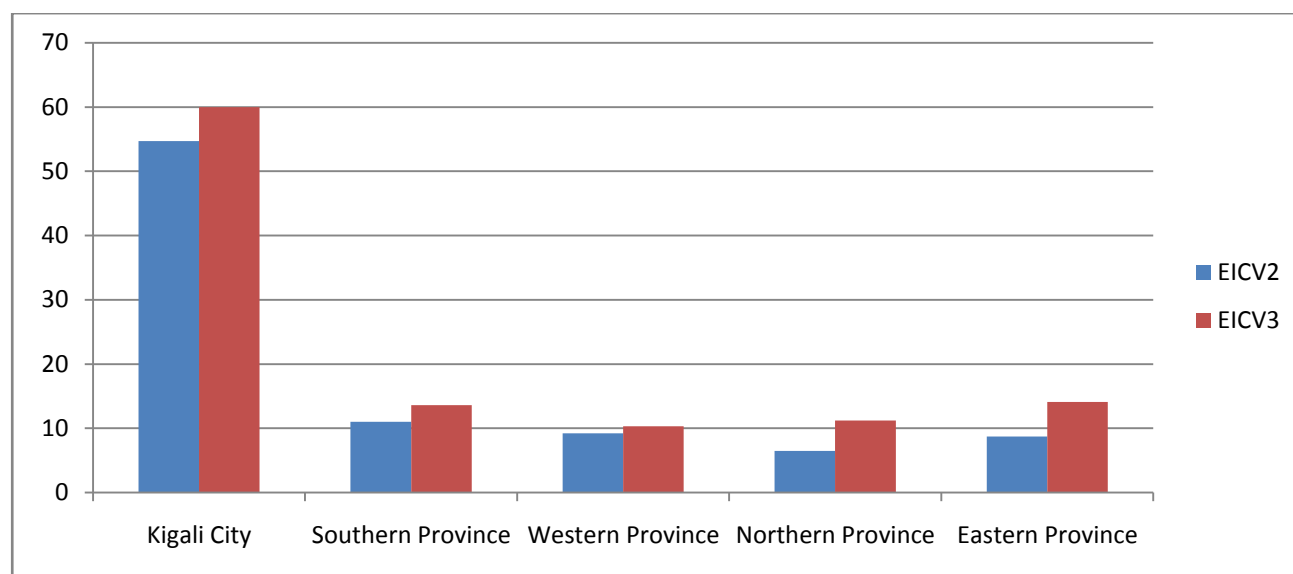
Source: EICV3.

EICV2	Wall material						Total	Total no. of HHs (000s)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven-fired bricks	Other		
All Rwanda	33.5	9.2	47.4	5.7	2.2	1.9	100.0	1,892
Kigali City	19.0	31.1	23.0	18.8	6.3	1.8	100.0	177
Southern Province	27.3	11.2	53.4	5.3	2.1	0.6	100.0	499
Western Province	58.4	6.2	29.8	1.2	2.3	2.2	100.0	448
Northern Province	38.6	3.9	50.7	3.1	1.0	2.9	100.0	347
Eastern Province	16.2	5.3	66.7	7.5	1.5	2.8	100.0	421
Urban	23.4	26.5	27.7	13.0	6.9	2.5	100.0	311
Rural	35.5	5.8	51.3	4.3	1.3	1.9	100.0	1,581
Q1	30.8	1.9	62.6	1.8	0.2	2.8	100.0	329
Q2	35.5	3.1	56.6	2.7	0.4	1.7	100.0	353
Q3	37.7	5.8	50.0	4.1	1.0	1.5	100.0	368
Q4	35.9	9.0	47.3	5.3	1.0	1.5	100.0	398
Q5	28.2	22.6	26.8	12.6	7.2	2.6	100.0	444
<i>Imidugudu</i>	24.9	5.5	58.2	5.9	1.2	4.1	100.0	334
Old regrouping (resettlement)	47.3	10.2	31.7	3.7	4.2	2.9	100.0	120
Isolated community	36.0	6.8	50.0	4.6	1.4	1.3	100.0	1,269
Neighbourhood lot	6.0	27.4	8.5	3.3	46.0	8.9	100.0	17
Unplanned community	25.2	39.7	11.7	17.9	4.7	1.0	100.0	128
Other	14.6	10.7	59.9	5.9	3.9	5.0	100.0	24

Source: EICV2.

Table 4.8 presents data on the construction material used for flooring. It shows that beaten earth is the most commonly used material, with cement coming second at 17%. Half of urban households have cement flooring, but only 11% in the countryside. Nevertheless, this is an improvement compared to five years earlier, where only 13% had cement floors. As illustrated in Figure 4.4, this development can be observed across all the provinces of the country.

**Figure 4.4 Changes in % of HHs with cement flooring**



Cement flooring increases strictly with wealth, with only 2% in the poorest quintile but 51% in the richest enjoying the benefits of such flooring. The poorest households use almost exclusively beaten earth (96%). 68% of urban Kigali has cement floors.

The data presented in the table below are corroborated by the data collected for the RDHS 2010. These data also show 16.4% of households having cement flooring, and urban/rural patterns are also similar to the EICV3 data.

**Table 4.8 Floor material of the dwelling, by province, urban/rural, quintile and habitat**

EICV3	Floor material					Total	Total no. of HHs (000s)
	Beaten earth	Cement	Bricks	Hardened dung	Other		
All Rwanda	78.4	17.1	1.5	2.2	0.8	100.0	2,253
Kigali City	34.7	60.0	0.7	0.4	4.2	100.0	223
Southern Province	82.0	13.6	3.1	1.1	0.2	100.0	549
Western Province	86.5	10.3	2.3	0.1	0.8	100.0	528
Northern Province	87.4	11.2	0.6	0.1	0.6	100.0	411
Eastern Province	77.9	14.1	0.3	7.5	0.2	100.0	542
Urban	43.3	50.4	2.3	1.1	3.1	100.0	331
Rural	84.4	11.4	1.4	2.3	0.5	100.0	1,922
Q1	96.0	2.3	0.7	0.9	0.2	100.0	381
Q2	91.6	3.8	1.4	2.5	0.6	100.0	415
Q3	87.5	7.3	1.9	2.9	0.4	100.0	448
Q4	81.9	13.4	1.7	2.8	0.2	100.0	490
Q5	43.7	50.5	1.8	1.5	2.4	100.0	519
<i>Imidugudu</i>	80.2	13.1	1.2	4.7	0.9	100.0	844
Unplanned clustered rural housing	84.9	11.3	2.7	0.7	0.4	100.0	249
Isolated rural housing	89.8	7.6	1.7	0.7	0.1	100.0	838
Agglomeration	73.8	23.7	1.7	0.2	0.6	100.0	107
Unplanned urban housing	21.1	74.3	0.9	0.2	3.6	100.0	189
Modern planned area	6.9	76.0	2.7	0.0	14.4	100.0	14
Other	47.2	51.5	0.0	0.0	1.4	100.0	12

Source: EICV3.

EICV2	Floor material				Total	Total no. of HHs (000s)
	Earth	Cement	Bricks	Other		
All Rwanda	84.5	13.3	1.6	0.7	100.0	1,892
Kigali City	43.1	54.7	0.7	1.5	100.0	177
Southern Province	85.5	11.0	3.2	0.2	100.0	499
Western Province	87.9	9.2	2.3	0.6	100.0	448
Northern Province	93.1	6.5	0.2	0.1	100.0	347
Eastern Province	90.0	8.7	0.5	0.9	100.0	421
Urban	51.3	45.4	2.0	1.3	100.0	311
Rural	91.0	7.1	1.5	0.5	100.0	1,581
Q1	98.2	0.9	0.8	0.1	100.0	329
Q2	95.7	3.1	0.9	0.4	100.0	353
Q3	92.4	5.0	1.9	0.7	100.0	368
Q4	88.9	8.9	1.7	0.6	100.0	398
Q5	55.0	41.6	2.4	1.0	100.0	444
<i>Imidugudu</i>	91.0	7.3	0.8	0.9	100.0	334
Old regrouping (resettlement)	80.9	16.8	1.8	0.5	100.0	120
Isolated community	89.6	8.2	1.9	0.3	100.0	1,269
Neighbourhood lot	11.4	85.3	0.0	3.3	100.0	17
Unplanned community	29.8	67.6	1.4	1.3	100.0	128
Other	87.5	12.5	0.0	0.0	100.0	24

Source: EICV2.



The last table on housing conditions is Table 4.9, which presents data on waste management facilities used by households in Rwanda. 64% of rural households use a compost heap as their main method of rubbish disposal, and 32% throw their waste into bushes or fields. This is only a minor change from 2005/06, where a slightly higher proportion of rural households threw their rubbish in bushes or fields, and slightly less used a compost heap. Out of all the different habitat types, *Imidugudus* have the highest use of compost heaps.

In urban areas, however, the data show that rubbish collection services now reach more households than before, up from 23 to 30%. This means fewer urban households use publicly managed refuse areas. Compost heaps remain the most widely used method of rubbish disposal in the cities, but if the current development continues then rubbish collection services can be expected to lead the statistic in the future.

**Table 4.9 Waste management facilities, by province, urban/rural, quintile and habitat**

EICV3	Main method of household rubbish disposal							Total	Total no. of HHs (000s)
	Compost heap	Thrown in bushes or fields	Rubbish collection service	Dumped in river or lake	Publicly managed refuse area	Burnt	Other		
All Rwanda	59.4	31.1	5.0	2.5	1.9	0.0	0.1	100.0	2,253
Kigali City	20.5	33.4	42.6	1.9	1.6	0.1	0.0	100.0	223
Southern Province	63.3	32.6	0.2	1.9	1.9	0.0	0.0	100.0	549
Western Province	56.8	35.2	1.7	3.2	3.0	0.0	0.2	100.0	528
Northern Province	66.9	28.8	0.5	2.8	1.0	0.0	0.1	100.0	411
Eastern Province	68.3	26.5	0.9	2.6	1.6	0.0	0.1	100.0	542
Urban	35.7	29.2	30.0	2.0	3.0	0.0	0.1	100.0	331
Rural	63.5	31.5	0.7	2.6	1.7	0.0	0.1	100.0	1,922
Q1	56.7	39.6	0.2	2.5	0.8	0.0	0.1	100.0	381
Q2	61.9	34.0	0.5	2.4	1.2	0.0	0.0	100.0	415
Q3	63.9	30.9	0.7	3.0	1.4	0.0	0.1	100.0	448
Q4	64.8	29.4	1.7	2.0	2.0	0.0	0.0	100.0	490
Q5	50.4	24.4	18.8	2.7	3.6	0.0	0.2	100.0	519
<i>Imidugudu</i>	66.4	27.7	1.4	2.7	1.7	0.0	0.1	100.0	844
Unplanned clustered rural housing	62.9	30.9	0.1	3.7	2.3	0.0	0.1	100.0	249
Isolated rural housing	60.6	36.8	0.0	1.8	0.7	0.0	0.1	100.0	838
Agglomeration	57.1	32.6	1.7	2.8	5.7	0.0	0.1	100.0	107
Unplanned urban housing	21.6	22.9	47.9	3.2	4.3	0.1	0.0	100.0	189
Modern planned area	29.4	10.7	46.9	3.9	6.7	0.1	2.4	100.0	14
Other	61.1	23.0	5.3	3.7	6.5	0.0	0.4	100.0	12

Source: EICV3.

EICV2	Methods of household rubbish disposal							Total	Total no. of HHs (000s)
	Compost heap	Thrown in bushes or fields	Rubbish collection service	Public dumpster	Discarded elsewhere	Burnt	Other		
All Rwanda	56.4	34.8	3.9	2.4	1.4	0.1	1.1	100.0	1,892
Kigali City	28.6	26.0	35.7	2.8	3.0	0.4	3.6	100.0	177
Southern Province	59.2	35.0	0.4	3.1	1.6	0.1	0.7	100.0	499
Western Province	54.6	40.4	1.4	1.8	0.5	0.1	1.2	100.0	448
Northern Province	62.5	32.5	0.1	2.9	1.5	0.0	0.5	100.0	347
Eastern Province	61.6	34.1	0.4	1.8	1.2	0.1	0.8	100.0	421
Urban	36.0	28.7	22.6	6.6	3.6	0.2	2.3	100.0	311
Rural	60.4	35.9	0.2	1.6	0.9	0.1	0.8	100.0	1,581
Q1	50.7	43.5	0.1	2.6	2.3	0.0	0.9	100.0	329
Q2	57.4	38.2	0.4	1.6	1.2	0.1	1.0	100.0	353
Q3	60.6	36.2	0.4	1.4	1.0	0.0	0.2	100.0	368
Q4	61.2	32.2	1.6	2.6	1.3	0.1	0.9	100.0	398
Q5	52.0	26.6	14.4	3.6	1.2	0.2	2.0	100.0	444
<i>Imidugudu</i>	64.1	32.2	0.7	0.9	0.6	0.2	1.2	100.0	334
Old regrouping (resettlement)	54.7	39.2	2.2	1.6	0.6	0.3	1.4	100.0	120
Isolated community	58.9	37.2	0.5	1.5	1.3	0.0	0.5	100.0	1,269
Neighbourhood lot	29.5	10.3	50.1	2.6	1.6	2.5	3.4	100.0	17
Unplanned community	21.4	20.4	42.0	6.9	3.6	0.2	5.5	100.0	128
Other	30.7	11.3	0.0	48.5	7.7	0.0	1.7	100.0	24

Source: EICV2.

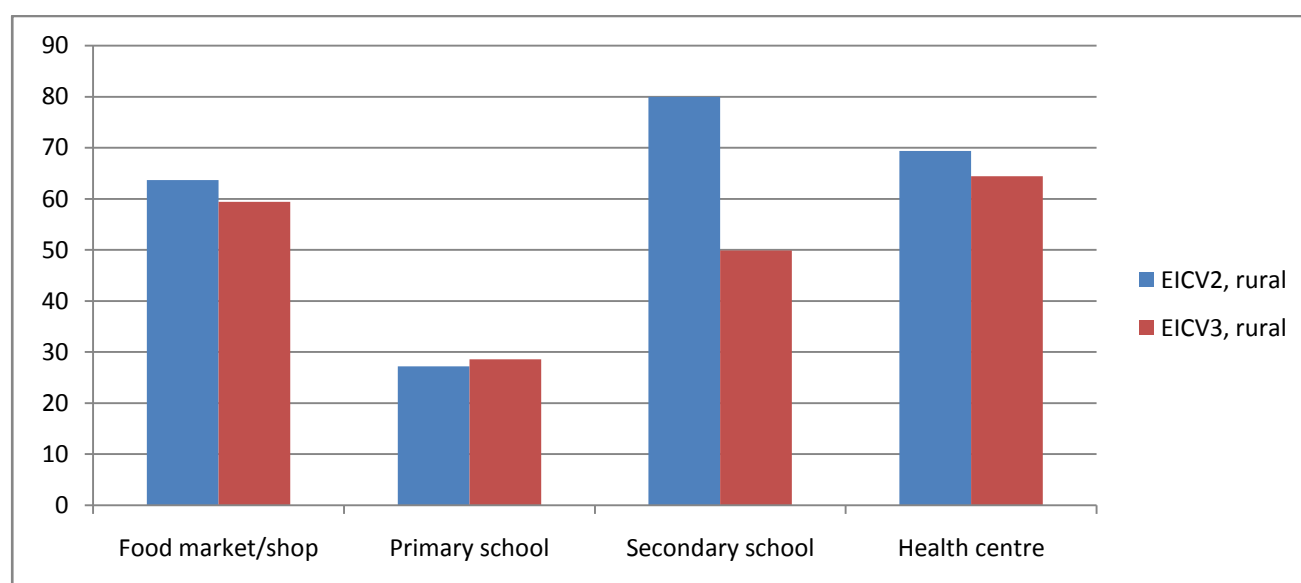
## 4.2 Distance to basic services

The previous section discussed Rwandan households' housing conditions and this section supplements that with information on people's distance to basic services. This can be considered an indicator of both provision/coverage of such services and the remoteness of households' dwellings. Further detailed information on distance to water sources can be found above in section 3 of this report on water.

As Table 4.10 shows, most rural households remain relatively far away from basic services, with 50 to 64 minutes on average to reach markets, health centres and secondary schools. Half of all rural households require an hour or longer to reach the nearest food market/shop. Provision of primary schools compares favourably to the other estimates, with 29 minutes' walk on average for rural households, and more than half of households are able to reach a primary school in less than 30 minutes.

Changes between surveys are illustrated in Figure 4.5. A major improvement observed between 2005/06 and 2010/11 is in the provision of secondary schools. The average time to reach such a facility decreased on average from 80 to 50 minutes in rural areas. The proportion of rural households being less than an hour walking distance away from a secondary school increased from 34 to 62%. This improvement in the provision of secondary schools is also reflected in the drastic increases in secondary attendance rates (see EICV3 Main Indicators report).

**Figure 4.5 Change in walking distance to basic services(in minutes)**



**Table 4.10 Walking distance to basic services (market/shop, public transport stage, primary schools, secondary schools, health centre)**

EICV3	Mean walking time to service (minutes)	Time to service (minutes)				Frequency of use not known	Total	Total no. of HHs (000s)
		0–29 min	30–59 min	60–119 min	120+min			
Food market/shop								
All Rwanda	55.8	26.0	27.3	32.9	13.8	0.0	100.0	2,253
Urban	35.1	44.2	33.9	18.4	3.5	0.0	100.0	331
Rural	59.4	22.9	26.2	35.4	15.5	0.0	100.0	1,922
Primary school								
All Rwanda	27.2	54.7	34.3	10.1	0.7	0.1	100.0	2,253
Urban	19.4	74.2	21.5	4.2	0.0	0.1	100.0	331
Rural	28.6	51.3	36.6	11.2	0.9	0.1	100.0	1,922
Secondary school								
All Rwanda	46.8	32.5	32.7	26.1	8.0	0.7	100.0	2,253
Urban	28.9	53.9	32.0	13.9	0.0	0.2	100.0	331
Rural	49.9	28.8	32.8	28.3	9.4	0.8	100.0	1,922
Health centre								
All Rwanda	60.1	19.0	29.9	37.5	13.7	0.0	100.0	2,253
Urban	35.0	39.1	38.9	22.1	0.0	0.0	100.0	331
Rural	64.4	15.5	28.4	40.1	16.0	0.0	100.0	1,922

Source: EICV3.

EICV2	Mean walking time to service (minutes)	Time to service (minutes)				Total	Total no. of HHs (000s)
		0–29 min	30–59 min	60–119 min	120+min		
Food market/shop							
All Rwanda	59.5	23.2	25.1	35.5	16.2	100.0	1,892
Urban	38.2	43.4	29.7	21.4	5.6	100.0	311
Rural	63.7	19.2	24.2	38.2	18.3	100.0	1,581
Primary school							
All Rwanda	26.1	55.8	34.4	9.4	0.4	100.0	1,892
Urban	20.3	71.4	23.7	4.7	0.2	100.0	311
Rural	27.2	52.8	36.5	10.3	0.4	100.0	1,581
Secondary school							
All Rwanda	73.3	19.2	21.4	34.7	24.7	100.0	1,892
Urban	38.9	41.7	32.1	20.5	5.6	100.0	311
Rural	80.0	14.8	19.3	37.5	28.4	100.0	1,581
Health centre <sup>21</sup>							
All Rwanda	65.3	16.5	25.3	40.1	18.1	100.0	1,892
Urban	44.7	33.1	34.3	25.9	6.7	100.0	311
Rural	69.4	13.2	23.5	42.9	20.3	100.0	1,581

Source: EICV2.

<sup>21</sup> A different estimate for mean walking time to health centres for EICV2 was presented in the EICV3 Main Indicators report. This indicator has been recalculated for this report and the revised figure in this report should be considered the final one.

### 4.3 Relocation

The EICV survey also provides information on relocation of households and 72% of households state they have lived in a different dwelling prior to moving to the one they currently occupy. This is slightly higher in urban areas than in rural areas, but in general no consistent patterns can be observed for the different areas or even quintiles.

Table 4.11 presents the percentage of households that relocated, and for those that did the time spent in the current dwelling. The main finding here is that the vast majority of households in Rwanda have relocated, and most of them did so during the last five or 10 years. 47% of households that relocated have spent less than five years in their current dwelling, and this very high degree of mobility is in part due to the sector's recent activities promoting improved and clustered settlements.

**Table 4.11 % of HH that lived in other dwelling before occupying current dwelling and time spent in current dwelling, by province, urban/rural, quintile and habitat**

EICV3	% of HH occupying other dwelling before moving to current	Time spent in current dwelling (years)					Total	Total no. of HHs occupying other dwelling before moving to current (000s)
		Less than 5 years	5–10 years	10–15 years	15–20 years	More than 20 years		
All Rwanda	72.2	46.9	17.7	14.1	7.3	14	100.0	1,627
Kigali City	78.0	64	14.4	11.7	4.0	5.9	100.0	174
Southern Province	61.1	35.9	16.7	12.4	11.9	23.1	100.0	336
Western Province	70.6	44.1	18.8	10.7	8.0	18.4	100.0	373
Northern Province	71.3	40.8	20.0	15.2	8.6	15.3	100.0	293
Eastern Province	83.3	54.7	17.2	18.3	3.9	5.9	100.0	452
Urban	75.6	59.3	14.2	13.1	4.6	8.8	100.0	250
Rural	71.6	44.6	18.3	14.3	7.8	15.0	100.0	1,377
Q1	76.5	48.6	20.4	12.5	7.6	10.8	100.0	292
Q2	72.3	43.4	19.5	14.6	8.2	14.3	100.0	300
Q3	69.2	44	18.2	13.2	7.7	16.8	100.0	310
Q4	70.0	42.3	15.7	15.8	8.6	17.6	100.0	343
Q5	73.7	54.7	15.4	14.1	5.0	10.7	100.0	383

EICV3 Thematic report – Water and Sanitation, Energy, Housing, Transport and ICT

<i>Imidugudu</i>	78.9	51.6	17.6	18.1	5.0	7.7	100.0	666
Unplanned clustered rural housing	68.3	45.5	18.5	10.3	9.0	16.7	100.0	170
Isolated rural housing	64.2	33.7	18.4	11.9	11.5	24.5	100.0	538
Agglomeration	73.0	54.0	20.5	9.7	6.5	9.4	100.0	78
Unplanned urban housing	82.2	68.5	13.6	10.5	2.3	5.0	100.0	155
Modern planned area	77.3	69.7	11.6	10.5	2.1	6.1	100.0	11
Other	74.3	53.2	16.6	22.5	2.1	5.6	100.0	9

Source: EICV3.

EICV2	% of HH occupying other dwelling before moving to current	Time spent in current dwelling (years)						Total	Total no. of HHs occupying other dwelling before moving to current (000s)
		Less than 5 years	5–10 years	10–15 years	15–20 years	More than 20 years	Missing info		
All Rwanda	73.9	44.5	22.1	12.6	7.3	13.1	0.4	100.0	1,398
Kigali City	83.1	59.2	21	7.8	4.6	6.2	1.2	100.0	147
Southern Province	65.4	47.5	20.7	11.8	7.0	12.9	0.2	100.0	326
Western Province	70.7	44.2	11.3	21.1	8.7	14.7	0.0	100.0	316
Northern Province	77.1	53.8	14.7	10.1	2.7	18.7	0.0	100.0	268
Eastern Province	80.8	47.6	20.2	12.3	7.1	12.9	0.0	100.0	340
Urban	82.0	55.1	21.4	7.7	5.2	9.6	1.0	100.0	255
Rural	72.3	42.1	22.3	13.7	7.8	13.9	0.2	100.0	1,143
Q1	76.6	44.0	20.8	16.9	8.6	9.2	0.4	100.0	252
Q2	75.2	43.5	20.9	12.1	8.4	14.8	0.3	100.0	265
Q3	72.1	39	23.9	12.7	7.7	16.6	0.1	100.0	265
Q4	71.0	44.6	21.7	12	7.8	13.6	0.4	100.0	283
Q5	75.0	49.9	23.0	10.0	4.8	11.6	0.7	100.0	333
<i>Imidugudu</i>	81.4	49.1	35.6	10.2	1.3	3.8	0.1	100.0	272
Old regrouping (resettlement)	68.4	52.3	17.1	12.5	4.3	13.3	0.5	100.0	82
Isolated community	70.5	38.9	18.6	14.3	10.3	17.6	0.4	100.0	895
Neighbourhood lot	88.3	66.5	18.4	10.4	1.0	3.6	0.0	100.0	15
Unplanned community	89.3	64.5	21.8	5.3	3.0	4.4	1.0	100.0	114
Other	82.3	65.7	23.6	10.7	0.0	0.0	0.0	100.0	20

Source: EICV2.

## 4.4 Dwelling ownership and rent arrangements

The vast majority of households in Rwanda live in homes they own. This is true for 88% of rural households and 59% in urban areas. However, there is also a growing number of households that rent their accommodation, especially in the cities. The trend towards tenancy arrangements in the past five years can be seen in both urban areas (26 to 32%) and rural areas (3 to 6%), as illustrated in Figure 4.6.

The remainder of this section will investigate ownership and tenancy arrangements.

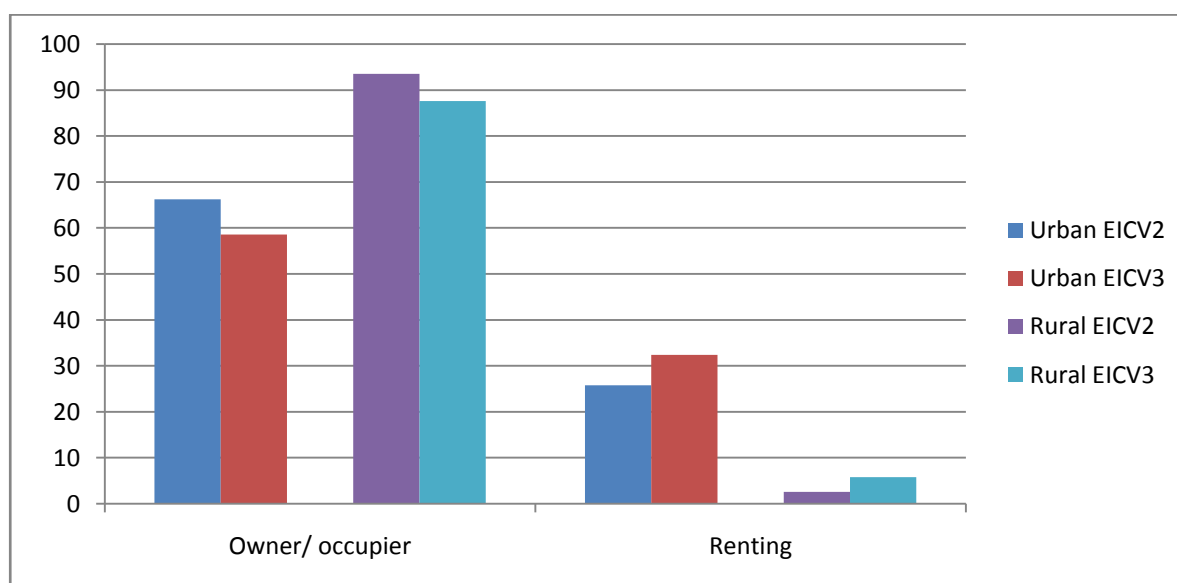
**Table 4.12 Occupancy status, by province, urban/rural, quintile and habitat**

EICV3	Current occupancy status							Total	Total no. of HHs (000s)
	Owner-occupied	Mortgaged	Tenancy (renting)	Dwelling provided by employer	Dwelling provided free of charge	Temporary camp	Other		
All Rwanda	83.3	0.7	9.7	0.4	5.4	0.4	0.1	100.0	2,253
Kigali City	50.9	1.7	40.5	0.9	5.6	0.2	0.2	100.0	223
Southern Province	84.5	0.4	6.0	0.4	8.0	0.6	0.1	100.0	549
Western Province	87.7	0.4	6.6	0.4	4.5	0.2	0.2	100.0	528
Northern Province	90.6	0.5	3.1	0.2	4.9	0.6	0.2	100.0	411
Eastern Province	85.7	0.9	9.0	0.2	4.0	0.2	0.1	100.0	542
Urban	58.6	1.4	32.4	0.9	6.3	0.0	0.2	100.0	331
Rural	87.6	0.5	5.8	0.3	5.2	0.4	0.1	100.0	1,922
Q1	88.0	0.4	4.1	0.1	6.3	1.0	0.2	100.0	381
Q2	87.8	0.3	5.1	0.3	6.1	0.3	0.1	100.0	415
Q3	87.7	0.3	6.2	0.2	5.3	0.2	0.2	100.0	448
Q4	85.8	0.4	7.8	0.4	5.1	0.3	0.2	100.0	490
Q5	70.2	1.7	22.5	0.8	4.6	0.2	0.1	100.0	519
<i>Imidugudu</i>	87.5	0.8	6.8	0.2	4.2	0.3	0.1	100.0	844
Unplanned clustered rural housing	84.7	0.5	7.0	0.2	6.0	1.2	0.3	100.0	249
Isolated rural housing	89.7	0.2	3.0	0.3	6.3	0.3	0.1	100.0	838
Agglomeration	75.6	0.7	16.1	0.7	6.5	0.1	0.2	100.0	107
Unplanned urban housing	41.6	1.4	50.8	0.5	5.5	0.0	0.3	100.0	189
Modern planned area	55.6	10.3	27.3	2.3	4.5	0.0	0.0	100.0	14
Other	66.7	1.4	18.3	10.6	1.6	1.4	0.0	100.0	12

Source: EICV3.

EICV2	Current occupancy status						Total	Total no. of HHs (000s)
	Owner/ occupier	Renting	Dwelling provided by employer	Dwelling provided free of charge	Temporary camp or settlement	Other		
All Rwanda	89.0	6.4	0.2	3.4	0.2	0.5	100.0	1,892
Kigali City	60.9	33.9	0.5	3.9	0.3	0.7	100.0	177
Southern Province	89.5	4.1	0.2	5.1	0.4	0.7	100.0	499
Western Province	90.7	4.4	0.1	3.8	0.3	0.8	100.0	448
Northern Province	94.9	1.8	0.2	2.3	0.1	0.4	100.0	347
Eastern Province	93.7	3.7	0.3	1.9	0.1	0.3	100.0	421
Urban	66.2	25.8	0.7	6.0	0.1	1.2	100.0	311
Rural	93.5	2.6	0.1	2.9	0.2	0.5	100.0	1,581
Q1	93.8	2.2	0.0	3.3	0.2	0.4	100.0	329
Q2	93.4	2.2	0.1	3.1	0.3	0.8	100.0	353
Q3	92.9	2.7	0.1	3.5	0.2	0.6	100.0	368
Q4	90.3	4.4	0.1	4.1	0.2	0.8	100.0	398
Q5	77.7	17.9	0.7	3.1	0.1	0.4	100.0	444
<i>Imidugudu</i>	93.6	3.5	0.1	2.3	0.2	0.3	100.0	334
Old regrouping (resettlement)	84.3	8.0	0.3	5.9	0.1	1.3	100.0	120
Isolated community	93.4	2.4	0.2	3.2	0.2	0.6	100.0	1,269
Neighbourhood lot	57.8	37.8	3.1	0.7	0.0	0.6	100.0	17
Unplanned community	47.8	47.7	0.3	3.3	0.0	0.8	100.0	128
Other	62.1	9.2	0.4	24.7	3.7	0.0	100.0	24

Source: EICV2.

**Figure 4.6 Changes in occupancy status**

The table above showed that the majority of households in Rwanda own the dwelling they occupy. Table 4.13 looks closer at this group of households, presenting the data on the owner of the dwelling. In approximately half of the cases, the house is owned by the head of the household alone, and in the other half it is owned jointly by the head and his/her spouse. Concepts of joint ownership are most frequently observed in the Northern Province (53%) as well as the Eastern Province (50%). Overall, joint ownership is more common in rural areas than in urban. Across the different habitat types owned, *Imidugudus* display the highest rates of joint ownership (50%).



**Table 4.13 For those owning dwelling: owner of dwelling, by province, urban/rural, quintile and habitat**

EICV3	Owner of dwelling						Total	Total no. of HHs where HH is owned (000s)
	Head	Spouse	Spouse with head	Other household member	Relative	Other		
All Rwanda	50.7	1.1	47.4	0.3	0.1	0.4	100.0	1,892
Kigali City	63.2	3.0	31.4	0.3	0.6	1.6	100.0	118
Southern Province	53.4	0.8	45.3	0.2	0.1	0.2	100.0	466
Western Province	52.0	1.0	46.1	0.4	0.1	0.4	100.0	465
Northern Province	44.5	1.6	53.4	0.1	0.0	0.4	100.0	374
Eastern Province	48.5	0.8	50.2	0.2	0.0	0.2	100.0	469
Urban	59.7	2.2	36.6	0.3	0.4	0.9	100.0	199
Rural	49.6	1.0	48.7	0.3	0.1	0.3	100.0	1,693
Q1	50.1	0.9	48.5	0.3	0.1	0.1	100.0	337
Q2	48.2	1.0	50.2	0.3	0.0	0.2	100.0	365
Q3	47.3	1.2	50.6	0.3	0.1	0.5	100.0	394
Q4	52.9	1.1	45.4	0.2	0.1	0.4	100.0	422
Q5	54.8	1.5	42.7	0.2	0.3	0.5	100.0	373
<i>Imidugudu</i>	48.1	1.2	50.2	0.2	0.1	0.2	100.0	746
Unplanned clustered rural housing	60.7	0.9	37.5	0.3	0.1	0.5	100.0	213
Isolated rural housing	49.8	0.8	48.7	0.3	0.1	0.4	100.0	754
Agglomeration	52.4	1.8	45.0	0.0	0.4	0.3	100.0	82
Unplanned urban housing	56.3	2.9	39.1	0.4	0.6	0.8	100.0	81
Modern planned area	52.1	11.4	36.5	0.0	0.0	0.0	100.0	9
Other	36.6	0.0	63.4	0.0	0.0	0.0	100.0	8

Source: EICV3. Note: Calculated on the basis of HHs that own their dwelling.

Turning from households that own their dwelling to those that rent it, Table 4.14 shows household expenditure on rent, both in cash and in kind. It can be seen that rent payment in kind plays a negligible role everywhere across the country. Unsurprisingly, rents are highest in Kigali City and increase with both household size and income. Rent arrangements in *Imidugudu* have an average monthly value of RWF 7,700 as compared to RWF2,500 for isolated rural housing. In Kigali, unplanned urban habitat types and the highest quintile, the average monthly rent paid is approximately RWF 21,000. It is highest in modern planned areas, but the small sample size makes this an unreliable estimate that should only be considered indicative.

**Table 4.14 For those renting dwelling: rent paid (cash, in kind and by others), by province, urban/rural, quintile, habitat and HH size**

EICV3	Expenditure on rent			Total no. of HHs renting (000s)
	Mean actual rent (monthly)	Mean value of services in kind (monthly)	Mean value of actual rent + services in kind (monthly)	
All Rwanda	13,027	246	13,272	219
Kigali City	22,178	30	22,207	91
Southern Province	5,553	616	6,169	33
Western Province	6,919	154	7,073	35
Northern Province	11,734	136	11,870	13
Eastern Province	5,679	495	6,174	49
Urban	20,975	53	21,028	107
Rural	5,377	431	5,808	112
Q1	1,771	868	2,638	15
Q2	2,922	649	3,571	21
Q3	4,278	382	4,659	28
Q4	6,075	265	6,340	38
Q5	20,759	50	20,809	117
<i>Imidugudu</i>	7,698	434	8,132	58
Unplanned clustered rural housing	3,318	376	3,694	17
Isolated rural housing	2,477	563	3,040	25
Agglomeration	7,061	322	7,383	17
Unplanned urban housing	21,125	28	21,153	96
Modern planned area	32,737	0	32,737	4
Other	8,243	0	8,243	2
1–2 people	10,753	312	11,065	60
3–4 people	10,935	230	11,166	90
5–6 people	16,182	259	16,441	50
7+ people	21,732	72	21,804	19

Source: EICV3. Note: Calculated on the basis of HHs that rent their dwelling. All expenditure values are in RWF at prices during the time of the respective survey (undeflated). Empty cells are due to insufficient sample size.

EICV2	Expenditure on rent			Total no. of HHs renting (000s)
	Mean actual rent (monthly)	Mean value of services in kind (monthly)	Mean value of actual rent + services in kind (monthly)	
All Rwanda	7,087	113	7,200	122
Kigali City	10,629	11	10,639	60
Southern Province	4,167	349	4,516	20
Western Province	3,486	155	3,640	20
Northern Province	3,148	174	3,321	6
Eastern Province	3,441	119	3,560	16
Urban	9,673	56	9,729	80
Rural	2,093	222	2,315	42
Q1	1,186	539	1,725	7
Q2	2,083	227	2,310	8
Q3	1,963	304	2,267	10
Q4	3,357	115	3,473	18
Q5	9,598	38	9,636	79
<i>Imidugudu</i>	3,513	221	3,735	12
Old regrouping (resettlement)	2,933	195	3,128	10
Isolated community	4,309	295	4,605	31
Neighbourhood lot	21,160	0	21,160	6
Unplanned community	8,468	2	8,470	61
Other	-	-	-	-
1–2 people	5,060	85	5,145	35
3–4 people	6,194	132	6,325	42
5–6 people	8,222	141	8,363	28
7+ people	11,447	80	11,527	18

Source: EICV2. Note: Calculated on the basis of HHs that rent their dwelling. All expenditure values are in RWF at prices during the time of the respective survey (undeflated). Empty cells are due to insufficient sample size.

The above tables looked in turn at households owning and those renting their dwelling. But how do the two compare in terms of their demographic and income characteristics? Table 4.15 shows that households owning their dwelling are spread pretty evenly across the different wealth quintiles, whereas the majority of tenants can be found in the richest quintile. Likewise, the distribution of households according to household size reflects that of the overall population for owners, but is heavily skewed towards smaller households in the case of tenants. Relatively few female-headed households rent their dwelling. Households renting their accommodation have heads heavily clustered around the age group 20–39 (75% of all household heads renting a dwelling fall into this age group, but only 43% of all household heads in the overall population).

**Table 4.15 Demographic and income characteristics comparison of HH renting versus HH owning dwelling**

EICV3	Current occupancy status			
	Owner-occupied	Tenancy (renting)	Dwelling provided by employer/ free	All Rwanda
Q1	17.8	7.0	18.7	16.9
Q2	19.3	9.7	20.5	18.4
Q3	20.8	12.7	18.8	19.9
Q4	22.3	17.4	20.6	21.7
Q5	19.7	53.1	21.4	23
Total	100.0	100.0	100.0	100.0
Household size: 1–2 people	11.7	27.3	24.6	14
Household size: 3–4 people	34.0	41.1	41.0	35.1
Household size: 5–6 people	31.5	22.9	24.5	30.3
Household size: 7+people	22.8	8.7	9.9	20.6
Total	100.0	100.0	100.0	100.0
Household head is male	72.0	81.4	64.2	72.3
Household head is female	28.0	18.6	35.8	27.7
Total	100.0	100.0	100.0	100.0
Age of household head: 14–19 years	0.3	0.5	2.5	0.4
Age of household head: 20–29 years	14.6	39.6	31.4	18
Age of household head: 30–39 years	23.3	35.6	24.2	24.6
Age of household head: 40–49 years	21.9	14.9	19.0	21
Age of household head: 50–59 years	19.6	6.1	11.1	17.8
Age of household head: 60–69 years	10.4	2.8	6.8	9.4
Age of household head: 70+ years	10.0	0.6	4.9	8.7
Total	100.0	100.0	100.0	100.0
<i>Imidugudu</i>	39.4	26.3	28.6	37.5
Unplanned clustered rural housing	11.2	7.9	12.0	11.1
Isolated rural housing	39.8	11.4	42.9	37.2
Agglomeration	4.3	7.9	6.0	4.8
Unplanned urban housing	4.3	43.8	8.6	8.4
Modern planned area	0.5	1.7	0.7	0.6
Other	0.4	1.0	1.1	0.5
Total	100.0	100.0	100.0	100.0

Source: EICV3. Note: Expenditure quintiles are calculated on the basis of individuals, not HHs; therefore, overall quintile disaggregation at the household level differs from 20%.

EICV2	Current occupancy status			
	Owner-occupied	Tenancy (renting)	Dwelling provided by employer/ free	All Rwanda
Q1	18.3	5.9	15.9	17.4
Q2	19.6	6.4	16.5	18.7
Q3	20.3	8.3	19.0	19.4
Q4	21.3	14.5	24.0	21
Q5	20.5	65.0	24.6	23.5
Total	100.0	100.0	100.0	100.0
1–2 people	11.0	28.7	21.7	12.7
3–4 people	32.4	34.2	41.7	32.8
5–6 people	30.8	22.6	24.5	29.9
7+people	25.8	14.5	12.1	24.5
Total	100.0	100.0	100.0	100.0
Household head is male	71.3	78.9	64.1	71.4
Household head is female	28.7	21.1	35.9	28.6
Total	100.0	100.0	100.0	100.0
Age of household head: 14–19 years	0.7	1.2	2.5	0.9
Age of household head: 20–29 years	16.2	38.9	29.9	18.2
Age of household head: 30–39 years	21.9	32.6	22.9	22.7
Age of household head: 40–49 years	25.5	17.2	20.0	24.8
Age of household head: 50–59 years	17.5	7.3	14.3	16.7
Age of household head: 60–69 years	9.5	1.6	5.2	8.8
Age of household head: 70+ years	8.6	1.2	5.1	8
Total	100.0	100.0	100.0	100.0
<i>Imidugudu</i>	18.6	9.5	11.5	17.6
Old regrouping (resettlement)	6.0	7.9	10.9	6.3
Isolated community	70.3	25.2	61.3	67.1
Neighbourhood lot	0.6	5.3	1.0	0.9
Unplanned community	3.6	50.2	6.7	6.8
Other	0.9	1.8	8.7	1.3
Total	100.0	100.0	100.0	100.0

Source: EICV2.

## 4.5 Construction and repairs

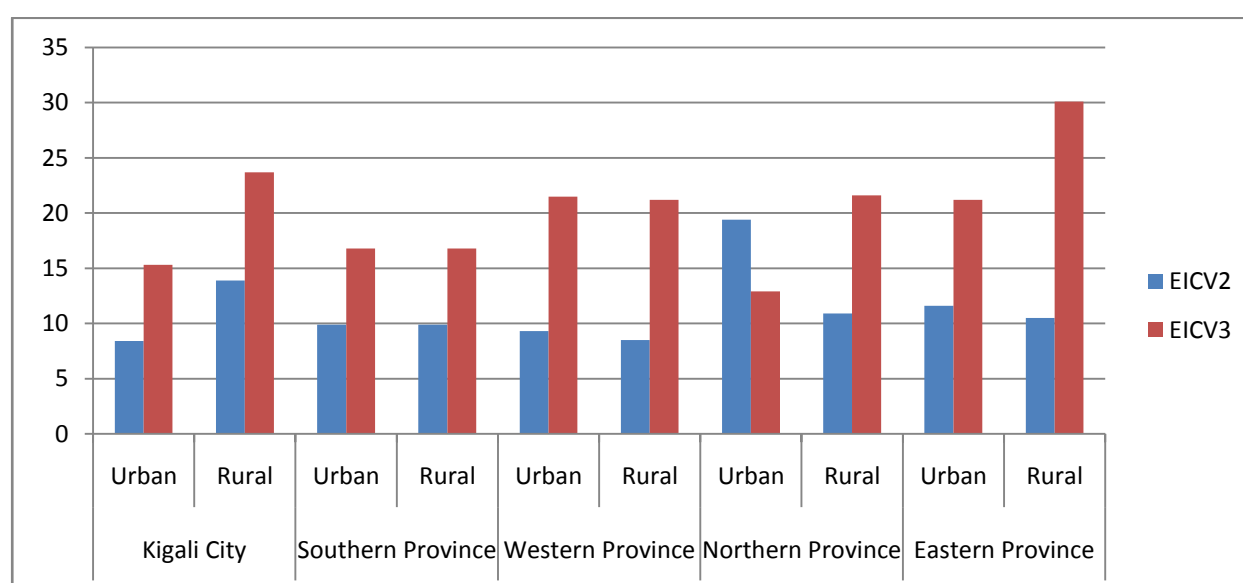
Table 4.16 shows the proportion of households that spent money on construction of housing during the past 12 months (i.e. building a new house or an extension). 23% of rural households did this and 16% of urban households. The table also shows the mean amount spent on such construction during the 12 months preceding the survey, for those households that did. It shows that where urban households spent money on construction, the amount spent was considerably higher than that spent in rural areas.

The construction boom experienced in Rwanda in recent years is reflected in the data from private households. Figure 4.7 illustrates the change between 2005/06 and 2010/11 and shows that the proportion of households engaging in construction has increased significantly across the country (with the only anomaly being urban Northern Province, but the sample size for this is small).

The highest average amounts are invested into construction in urban Kigali, where the 15% of households that constructed new housing spent on average RWF 1 million during the last 12 months.

There is only a minor increase of construction activity across quintiles; the amount invested, however, increases strongly with wealth as one would expect.

**Figure 4.7 % of HH spending money on house construction during past 12 months**



**Table 4.16 % of HH spending money on house construction during past 12 months (building a new house or an extension) and average amount spent, by province, urban/rural, quintile and habitat**

EICV3	Expenditure on construction		Total no. of HHs (000s)
	% of HH spending anything on construction	For those, mean amount spent on construction	
All Rwanda	21.7	250,666	2,253
Kigali City	16.7	839,536	223
Southern Province	16.8	202,242	549
Western Province	21.2	156,335	528
Northern Province	21.1	213,344	411
Eastern Province	29.8	227,556	542
Urban	16.4	777,513	331
Rural	22.7	184,932	1,922
Q1	20.0	67,387	381
Q2	20.4	90,910	415
Q3	21.8	134,681	448
Q4	22.4	165,997	490
Q5	23.5	644,402	519
<i>Imidugudu</i>	28.1	233,435	844
Unplanned clustered rural housing	18.7	193,775	249
Isolated rural housing	17.9	120,341	838
Agglomeration	21.0	310,344	107
Unplanned urban housing	14.4	984,718	189
Modern planned area	21.6	1,735,715	14
Other	28.1	424,756	12

Source: EICV3. Note: Mean amount calculated on the basis of HHs that incurred expenditure.

EICV2	Expenditure on construction		Total no. of HHs (000s)
	% of HH spending anything on construction	For those, mean amount spent on construction	
All Rwanda	10.0	85,919	1,892
Kigali City	9.3	287,062	177
Southern Province	9.9	69,379	499
Western Province	8.5	75,829	448
Northern Province	11.7	61,708	347
Eastern Province	10.6	60,822	421
Urban	10.3	175,233	311
Rural	9.9	67,779	1,581
Q1	8.7	27,219	329
Q2	8.6	44,725	353
Q3	9.3	73,163	368
Q4	11.0	72,598	398
Q5	11.7	162,195	444
<i>Imidugudu</i>	12.0	71,662	334
Old regrouping (resettlement)	8.6	97,797	120
Isolated community	9.6	78,824	1,269
Neighbourhood lot	18.3	262,462	17
Unplanned community	7.7	195,430	128
Other	17.8	9,247	24

Source: EICV2. Note: Mean amount calculated on the basis of HHs that incurred expenditure.

In addition to investment in construction, Table 4.17 shows that 26% of households invested in repairs of their dwelling. Repairs were made in similar proportions in urban and rural areas, but with prices for construction material being higher in the cities, the average amount spent was higher there.

The proportion of households investing in repairs increased strongly with quintile, suggesting that poorer households were less able or willing to invest in repairs. This is quite a contrast to the data presented above on investment in construction, where the quintile patterns were much less pronounced. This could suggest that poorer households are able to invest in additional dwelling space for their families (albeit at lower cost and thereby quality), but are less able or willing to maintain and repair these dwellings. This is also illustrated in Figure 4.8.

**Table 4.17 % of HH spending money on repairs and painting of house during past 12 months and average amount spent, by province, urban/rural, quintile and habitat**

	EICV3		Total no. of HHs (000s)
	% of HH spending anything on repairs	For those, mean amount spent on repairs	
All Rwanda	25.6	53,756	2,253
Kigali City	21.9	188,140	223
Southern Province	26.8	26,043	549
Western Province	26.5	37,972	528
Northern Province	22.1	49,706	411
Eastern Province	27.6	54,212	542
Urban	24.5	136,311	331
Rural	25.8	40,246	1,922
Q1	16.5	11,232	381
Q2	22.4	15,637	415
Q3	25.7	25,129	448
Q4	27.1	35,397	490
Q5	33.4	122,673	519
<i>Imidugudu</i>	27.8	51,611	844
Unplanned clustered rural housing	25.4	35,441	249
Isolated rural housing	23.6	27,502	838
Agglomeration	29.4	56,706	107
Unplanned urban housing	22.1	199,810	189
Modern planned area	27.6	157,288	14
Other	35.5	122,536	12

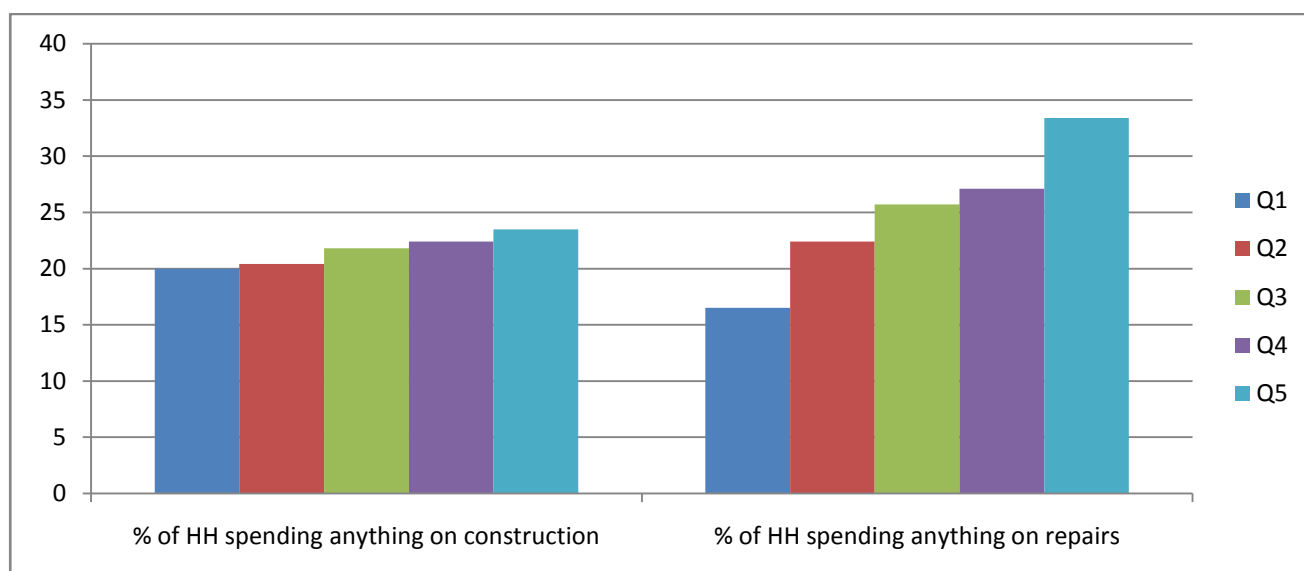
Source: EICV3. Note: Mean amount calculated on the basis of HHs that incurred expenditure.



	EICV2		Total no. of HHs (000s)
	% of HH spending anything on repairs	For those, mean amount spent on repairs	
All Rwanda	23.7	18,080	1,892
Kigali City	20.5	83,085	177
Southern Province	24.6	9,734	499
Western Province	23.7	13,640	448
Northern Province	20.6	11,384	347
Eastern Province	26.7	14,636	421
Urban	21.1	56,148	311
Rural	24.2	11,565	1,581
Q1	15.5	4,300	329
Q2	20.8	5,624	353
Q3	22.6	10,128	368
Q4	27.4	15,534	398
Q5	29.7	37,499	444
<i>Imidugudu</i>	26.8	18,018	334
Old regrouping (resettlement)	22.3	17,322	120
Isolated community	23.4	12,414	1,269
Neighbourhood lot	19.9	176,051	17
Unplanned community	20.3	63,336	128
Other	26.4	16,666	24

Source: EICV2. Note: Mean amount calculated on the basis of HHs that incurred expenditure.

**Figure 4.8 % of HHs spending money on construction and repairs, by quintile (EICV3)**



## 5 Transport

The transport sector is considered a strategic sector for Rwanda given that high transport costs are currently regarded as a hindrance to the economic growth and development of the country. The sector has identified the insufficient availability of affordable and accessible modes of transport in both urban and rural areas as a major constraint affecting the achievement of the development goals Rwanda has set itself.<sup>22</sup>

The global objective of the transport sector is therefore to reduce constraints to transport in order to promote sustainable economic growth and contribute to poverty reduction. Specific objectives are to:<sup>23</sup>

- Strengthen the institutional framework and capacity of transport institutions and stakeholders in the planning and management of the sector;
- Reduce and control transport costs;
- Assure the quality and durability of the rural, urban and international transport network;
- Improve safety for goods and passengers on the principle modes of transport;
- Increase the mobility of the population in order to improve access to essential services, education, and employment;
- Establish a system to ensure sustainable financing of road maintenance; and
- Facilitate access to cost effective transport services.

In Rwanda, transportation is done mainly through roads. This is reflected in the sector CPAF indicators against the EDPRS targets, which were:

- Increase of percentage of National classified road networks from 11% to 31%
- Increase the percentage of District classified road networks from 15% to 50%.

The sector evaluated its progress against these targets through Transport Joint Sector Reviews as shown in the table below, which shows that targets for the National classified road network were achieved and surpassed, whereas targets for the District classified road network were not achieved.

**Table 5.1 Transport sector achievements against sector EDPRS targets**

EDPRS Targets	Target 2009/2010	Actual
Increase the % of National classified road networks from 11% to 31%	19%	53.8%
Increase the % of District classified road networks from 15% to 50%	28%	23%

Source: Transport Joint Sector Review Report 2009–2010

<sup>22</sup>EDPRS Sector Self-Assessment Report, Rwanda Transport Development Agency, NININFRA.

<sup>23</sup>Ibid.

As the EICV survey is a household survey it therefore cannot produce any project-level information on infrastructure services (e.g. kilometres of roads constructed, quality of transport infrastructure, etc.). However, the EICV does facilitate production of useful information on households' perception of transport infrastructure. From this survey we can learn how far Rwandan households are from transport infrastructure, whether they use it or not (and why so), and what they think of it. In addition, this chapter will present data on household ownership of vehicles and the labour generated by the transport sector.

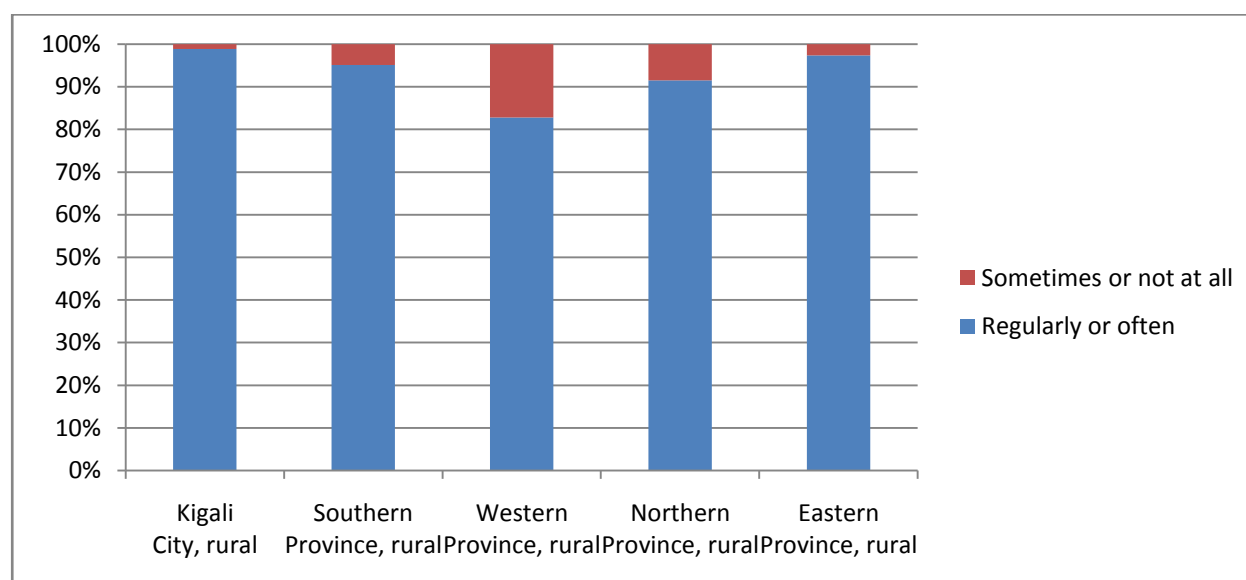
## 5.1 Household perceptions of transport infrastructure

The EICV collected data on two types of transport infrastructure/services: all-weather roads and public transport stages. For each of the two, respondent households gave information on:

- Usage rates;
- Distance to facility/service;
- Reasons for not using facility/service; and
- User satisfaction.

Beginning with all-weather roads, Table 5.2 shows that 93% of households access all-weather roads regularly or often. This has increased slightly from 89% in EICV2. The lowest usage rates can be found in the Western Province, where only 17% of households stated they use all-weather roads sometimes or not at all. This is also illustrated in Figure 5.1.

**Figure 5.1 Usage rates for all-weather roads in rural areas, EICV3**



**Table 5.2 Usage rates for all-weather road, by province, urban/rural and quintile**

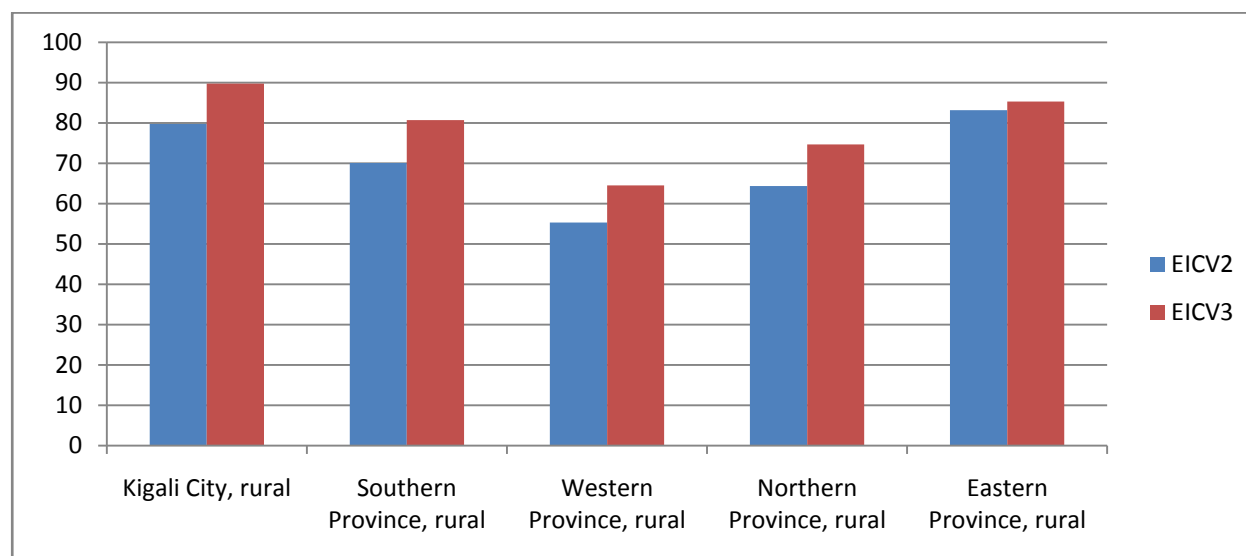
EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	65.7	27.0	5.8	1.4	0.0	100.0	2,253
Kigali City	92.0	7.7	0.3	0.0	0.0	100.0	223
Southern Province	69.3	25.8	4.3	0.6	0.0	100.0	549
Western Province	52.1	31.3	13.2	3.5	0.0	100.0	528
Northern Province	63.2	28.4	6.3	2.0	0.1	100.0	411
Eastern Province	66.3	31.0	2.1	0.4	0.1	100.0	542
Urban	82.3	15.5	1.8	0.4	0.0	100.0	331
Rural	62.8	29.0	6.5	1.6	0.0	100.0	1,922
Q1	58.2	30.2	9.3	2.2	0.0	100.0	381
Q2	62.4	30.3	5.6	1.7	0.0	100.0	415
Q3	63.8	28.8	6.3	1.2	0.0	100.0	448
Q4	67.0	26.0	5.6	1.4	0.1	100.0	490
Q5	74.3	21.6	3.2	0.9	0.1	100.0	519

Source: EICV3.

EICV2	Regularly	Often	Sometimes	Not at all	Total	Total no. of HHs (000s)
All Rwanda	61.2	27.3	9.1	2.4	100.0	1,892
Kigali City	78.1	15.5	6.0	0.3	100.0	177
Southern Province	63.9	22.9	9.4	3.8	100.0	499
Western Province	45.1	36.9	14.2	3.8	100.0	448
Northern Province	52.2	37.3	8.7	1.8	100.0	347
Eastern Province	75.3	19.1	4.8	0.9	100.0	421
Urban	73.6	17.1	7.7	1.6	100.0	311
Rural	58.7	29.3	9.3	2.6	100.0	1,581
Q1	50.0	32.6	12.6	4.8	100.0	329
Q2	59.0	28.1	10.4	2.6	100.0	353
Q3	60.6	28.1	8.9	2.4	100.0	367
Q4	63.1	27.2	7.9	1.8	100.0	398
Q5	70.0	22.2	6.6	1.2	100.0	444

Source: EICV2.

The low usage rates in the Western Province can partly be explained by distance. Figure 5.2 illustrates that the majority of rural households in Rwanda can access an all-weather road in less than 20 minutes by foot. However, in the Western Province this is only true for 65% of rural households, which is the lowest across the provinces. In any case it is important to note that, across all provinces, the provision of roads has improved a great deal since 2005/06, so the achievements in extension of the national road network evaluated by the sector in its self-assessment report are mirrored in the household-level data from the EICV.

**Figure 5.2 % of rural HHs that can walk to an all-weather road in less than 20 minutes.****Table 5.3 Walking distance to nearest all-weather road, by province, urban/rural and quintile**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	79.3	13.7	4.7	2.3	0.0	100.0	2,253
Kigali City	97.2	2.4	0.3	0.1	0.0	100.0	223
Southern Province	81.3	13.8	3.3	1.6	0.0	100.0	549
Western Province	66.4	17.7	9.6	6.3	0.0	100.0	528
Northern Province	74.7	19.7	4.2	1.3	0.1	100.0	411
Eastern Province	85.8	9.7	3.7	0.8	0.1	100.0	542
Urban	93.9	5.0	1.0	0.1	0.0	100.0	331
Rural	76.8	15.2	5.4	2.7	0.0	100.0	1,922
Q1	72.5	17.6	6.4	3.4	0.0	100.0	381
Q2	77.4	15.4	5.0	2.2	0.0	100.0	415
Q3	78.2	14.1	5.0	2.7	0.0	100.0	448
Q4	78.2	14.5	5.1	2.1	0.1	100.0	490
Q5	87.6	8.2	2.7	1.4	0.1	100.0	519

Source: EICV3.

EICV2	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Total	Total no. of HHs (000s)
All Rwanda	71.3	19.3	5.6	3.8	100.0	1,892
Kigali City	85.9	12.6	0.8	0.8	100.0	177
Southern Province	72.3	16.2	5.0	6.5	100.0	499
Western Province	57.4	28.5	8.2	5.9	100.0	448
Northern Province	65.7	25.9	7.5	0.9	100.0	347
Eastern Province	83.3	10.6	4.1	1.9	100.0	421
Urban	85.1	11.6	2.3	1.0	100.0	311
Rural	68.6	20.8	6.3	4.3	100.0	1,581
Q1	61.6	24.7	7.4	6.3	100.0	329
Q2	68.1	20.3	6.9	4.7	100.0	353
Q3	68.5	22.2	5.7	3.6	100.0	368
Q4	73.7	18.2	5.2	2.9	100.0	398
Q5	81.1	13.2	3.6	2.1	100.0	444

Source: EICV2.

The long distance to roads can be one reason for households not to use them. However, other reasons are also possible and Table 5.4 presents the reasons stated by households that used roads only sometimes or not at all. Half of the households that did not use all-weather roads claimed they did not require them.<sup>24</sup>

**Table 5.4 Reasons for not using all-weather road, by urban/rural and quintile**

EICV3	Too far	Poor quality of service	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	32.9	2.0	47.5	17.2	0.4	100.0	163
Urban	15.2	9.0	48.7	27.1	0.0	100.0	7
Rural	33.7	1.6	47.5	16.7	0.5	100.0	156
Q1	30.7	1.7	51.2	16.2	0.3	100.0	44
Q2	27.5	3.6	51.2	17.7	0.0	100.0	30
Q3	40.6	2.1	41.2	16.2	0.0	100.0	33
Q4	33.0	1.1	46.2	18.8	0.8	100.0	34
Q5	33.3	1.3	46.7	17.3	1.4	100.0	22

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes. Sample size insufficient to show further disaggregation.

EICV2	Too far	Poor quality of service	Other	Don't know	Total	Total no. of HHs that did not use service (000s)
All Rwanda	15.5	2.5	66.3	15.7	100.0	218
Urban	12.5	2.9	66.4	18.1	100.0	29
Rural	16.0	2.4	66.2	15.3	100.0	189
Q1	13.8	2.2	63.7	20.3	100.0	57
Q2	16.9	2.0	66.9	14.1	100.0	46
Q3	18.1	2.0	66.2	13.6	100.0	42
Q4	16.8	3.2	66.3	15.5	100.0	39
Q5	12.0	3.5	66.4	12.7	100.0	35

Source: EICV2. Notes: Calculated only on the basis of HHs that did not use the service at all or used it only sometimes. Sample size insufficient to show further disaggregation.

Going back to households that do use all-weather roads, Table 5.5 shows user satisfaction levels. 76% of urban households are satisfied with their nearest all-weather road, and so are 64% of rural households. In line with evidence discussed above, the lowest satisfaction rates can be found in the Western Province, where 41% of households state they are not satisfied with the nearest all-weather road. The highest levels of user satisfaction are found in Kigali (77% satisfied) and the Eastern Province (72% satisfied).

Perceptions of changes in quality of the road network are positive or neutral throughout. 59% of respondent households feel that the quality of all-weather roads has remained the same over the past 12 months, whereas 35% think it has improved. Only 6% say the quality has declined, and this criticism is equally low (<8%) across all provinces and quintiles. Compared to five years earlier, satisfaction with existing roads remained more or less the same but there was in general a slightly stronger feeling that the quality of roads had been changing for the better in 2010/11 (35%) as compared to 2005/06 (25%).

<sup>24</sup> In EICV2 'Do not need it' was not included as an answer choice, which explains the high proportion of 'Other.'

**Table 5.5 User satisfaction with all-weather roads and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	66.1	33.6	0.3	100.0	5.7	59.3	34.5	0.5	100.0	2,089
Kigali City	76.5	23.5	0.0	100.0	4.6	65.3	30.0	0.1	100.0	223
Southern Province	64.1	35.7	0.2	100.0	6.1	53.1	40.4	0.4	100.0	522
Western Province	59.0	40.7	0.3	100.0	5.7	60.6	33.1	0.5	100.0	440
Northern Province	63.3	36.4	0.3	100.0	7.3	61.6	30.6	0.6	100.0	377
Eastern Province	71.6	27.9	0.5	100.0	4.6	60.2	34.5	0.6	100.0	528
Urban	75.8	24.1	0.1	100.0	4.5	65.2	30.1	0.2	100.0	324
Rural	64.3	35.4	0.3	100.0	5.9	58.2	35.3	0.5	100.0	1,765
Q1	62.6	36.9	0.5	100.0	6.3	56.8	36.5	0.4	100.0	337
Q2	65.6	34.2	0.3	100.0	5.7	57.8	36.2	0.4	100.0	384
Q3	65.4	34.4	0.2	100.0	6.2	58.5	34.6	0.7	100.0	414
Q4	65.1	34.5	0.5	100.0	6.0	59.5	34.0	0.5	100.0	455
Q5	70.3	29.6	0.1	100.0	4.7	62.7	32.3	0.2	100.0	498

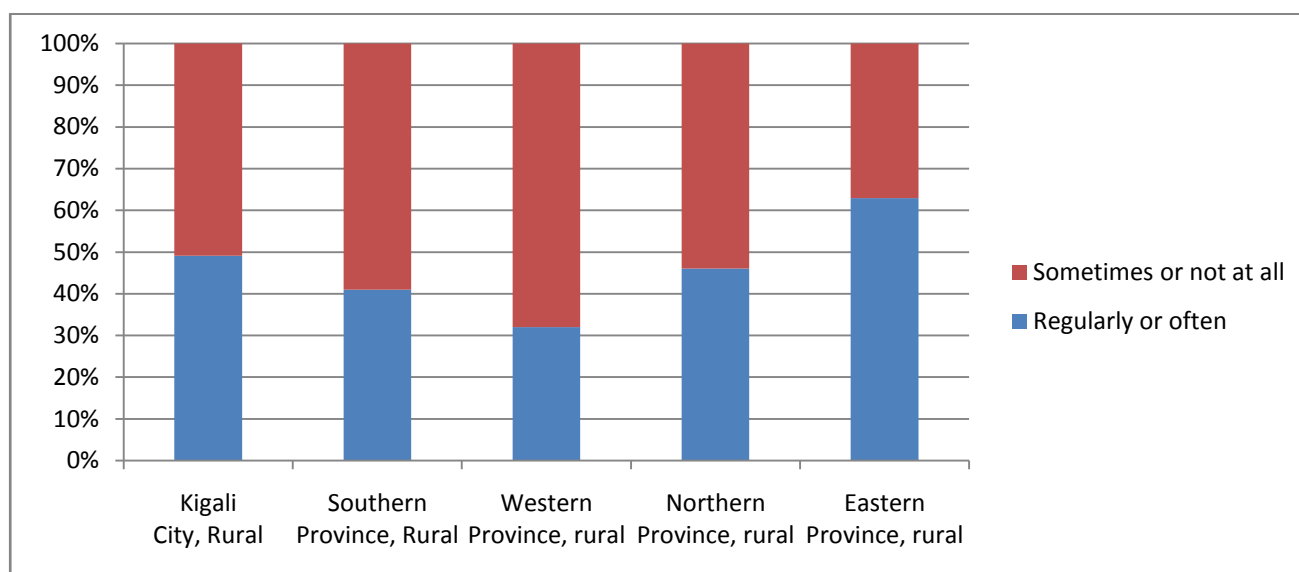
Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

EICV2	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	68.6	30.9	0.5	100.0	6.4	68.1	24.6	0.8	100.0	1,674
Kigali City	76.6	22.0	1.4	100.0	7.3	61.0	29.0	2.7	100.0	166
Southern Province	68.1	31.5	0.4	100.0	6.3	66.3	26.7	0.7	100.0	433
Western Province	59.6	39.7	0.7	100.0	8.0	71.0	20.3	0.6	100.0	367
Northern Province	64.8	34.9	0.2	100.0	6.5	68.1	24.9	0.5	100.0	311
Eastern Province	77.3	22.6	0.2	100.0	4.8	70.4	24.2	0.7	100.0	397
Urban	77.1	21.9	1.1	100.0	6.4	63.9	27.7	2.0	100.0	282
Rural	66.9	32.7	0.4	100.0	6.5	69.0	24.0	0.6	100.0	1,392
Q1	67.2	31.9	0.9	100.0	7.5	68.6	22.7	1.2	100.0	272
Q2	64.4	35.3	0.3	100.0	7.4	69.7	22.6	0.4	100.0	307
Q3	67.7	31.9	0.4	100.0	5.6	70.4	23.6	0.4	100.0	326
Q4	69.9	30.0	0.1	100.0	5.8	68.0	25.6	0.7	100.0	360
Q5	72.5	26.8	0.7	100.0	6.3	64.9	27.3	1.4	100.0	409

Source: EICV2. Notes: Calculated only on the basis of HHs that used this service regularly or often.

The EICV collected data not only for all-weather roads but also for public transport stages. The following four tables present data on the same indicators as above, but for public transport stages.

Figure 5.3 and Table 5.6 show that usage of public transport stages in rural areas is lowest in the Western Province and highest in the Eastern Province. Usage also increases with quintile, 73% in the richest quintile use public transport as compared to only 32% in the poorest.

**Figure 5.3 Usage rates for public transport stages in rural areas, EICV3****Table 5.6 Usage rates for public transport stage, by province, urban/rural and quintile**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	24.0	25.8	36.5	13.5	0.2	100.0	2,253
Kigali City	61.4	20.1	14.3	4.2	0.0	100.0	223
Southern Province	16.5	26.0	40.2	17.2	0.1	100.0	549
Western Province	12.4	19.8	49.7	17.8	0.3	100.0	527
Northern Province	21.2	26.0	36.8	15.6	0.3	100.0	411
Eastern Province	29.8	33.6	28.8	7.6	0.2	100.0	542
Urban	47.1	26.1	21.9	4.9	0.0	100.0	331
Rural	20.1	25.8	39.0	14.9	0.2	100.0	1,921
Q1	14.6	17.3	41.8	25.9	0.3	100.0	381
Q2	17.7	21.5	43.1	17.4	0.3	100.0	415
Q3	19.7	25.1	42.0	13.1	0.2	100.0	448
Q4	23.3	29.8	37.0	9.7	0.2	100.0	490
Q5	40.5	32.4	22.0	5.0	0.2	100.0	519

Source: EICV3.

EICV2	Regularly	Often	Sometimes	Not at all	Total	Total no. of HHs (000s)
All Rwanda	18.1	23.2	43.1	15.5	100.0	1,892
Kigali City	47.0	25.4	23.0	4.6	100.0	177
Southern Province	7.5	21.0	50.2	21.3	100.0	499
Western Province	16.0	27.5	41.6	15.0	100.0	447
Northern Province	19.0	17.6	44.9	18.4	100.0	347
Eastern Province	20.0	25.1	43.5	11.4	100.0	421
Urban	35.6	23.8	30.7	9.8	100.0	311
Rural	14.7	23.1	45.6	16.6	100.0	1,581
Q1	9.0	17.3	43.3	30.4	100.0	329
Q2	13.3	18.2	48.4	20.1	100.0	353
Q3	15.1	24.2	46.1	14.6	100.0	368
Q4	18.9	23.0	47.6	10.6	100.0	398
Q5	30.5	31.1	32.5	6.0	100.0	444

Source: EICV2.



Table 5.7 presents data on walking distance to the nearest public transport stage. In the Southern Province, only 17% of households can reach a public transport stage in less than 20 minutes' walk. Overall, more than half of all rural households need to walk more than one hour to get to the nearest public transport stage.

**Table 5.7 Walking distance to nearest public transport stage, by province, urban/rural and quintile**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	24.2	26.4	25.5	23.7	0.2	100.0	2,253
Kigali City	52.8	31.8	9.8	5.5	0.0	100.0	223
Southern Province	16.8	28.5	32.0	22.6	0.1	100.0	549
Western Province	20.6	21.0	25.3	32.7	0.3	100.0	528
Northern Province	22.4	30.5	24.6	22.2	0.3	100.0	411
Eastern Province	24.5	24.3	26.2	24.7	0.2	100.0	542
Urban	47.6	35.0	14.7	2.6	0.0	100.0	331
Rural	20.1	24.9	27.4	27.4	0.2	100.0	1,922
Q1	13.8	24.1	30.5	31.3	0.3	100.0	381
Q2	16.0	26.5	28.7	28.6	0.3	100.0	415
Q3	18.6	25.4	30.0	25.8	0.2	100.0	448
Q4	22.2	28.1	26.2	23.3	0.2	100.0	490
Q5	44.9	27.3	14.8	12.8	0.2	100.0	519

Source: EICV3.

EICV2	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Total	Total no. of HHs (000s)
All Rwanda	21.0	24.7	24.3	30.0	100.0	1,892
Kigali City	48.8	29.0	13.9	8.3	100.0	177
Southern Province	16.2	24.1	24.3	35.4	100.0	499
Western Province	17.3	20.4	27.7	34.6	100.0	448
Northern Province	14.2	25.7	25.7	34.4	100.0	347
Eastern Province	24.8	27.3	23.9	24.0	100.0	421
Urban	47.7	30.4	15.8	6.1	100.0	311
Rural	15.8	23.6	26.0	34.7	100.0	1,581
Q1	13.6	25.6	26.8	34.1	100.0	329
Q2	13.5	23.7	26.6	36.2	100.0	353
Q3	14.4	25.6	26.3	33.6	100.0	368
Q4	19.8	23.1	26.9	30.3	100.0	398
Q5	39.2	25.4	16.7	18.7	100.0	444

Source: EICV2.

Once again, distance is not the only reason why households decide not to use public transport stages. As shown in Table 5.8 below, only 20% of rural households that do not use public transport state they do so because the service is too far away. 49% say they do not require it and 26% say they cannot afford it.<sup>25</sup>

<sup>25</sup> In EICV2 'Do not need it' was not included as an answer choice, which explains the high proportion of 'Other.'

**Table 5.8 Reasons for not using public transport stage, by province, urban/rural and quintile**

EICV3	Too far	Too expensive	Poor quality of service	Missing personnel	Missing equipment	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	18.7	25.3	0.9	0.1	0.2	50.1	4.3	0.4	100.0	1,126
Kigali City	31.5	3.9	0.5	0.0	0.0	63.8	0.0	0.3	100.0	41
Southern Province	20.8	22.5	0.1	0.1	0.2	55.0	1.2	0.1	100.0	315
Western Province	17.3	26.2	1.0	0.2	0.0	53.3	1.5	0.5	100.0	357
Northern Province	14.3	25.0	1.1	0.0	0.1	42.3	16.5	0.6	100.0	215
Eastern Province	20.3	32.8	1.8	0.0	0.3	42.3	1.9	0.6	100.0	198
Urban	15.2	21.9	0.0	0.0	0.0	58.4	4.4	0.1	100.0	89
Rural	19.1	25.6	1.0	0.1	0.2	49.4	4.3	0.4	100.0	1,037
Q1	15.1	26.1	0.8	0.1	0.0	51.6	5.9	0.5	100.0	258
Q2	16.8	25.0	0.8	0.1	0.2	53.2	3.6	0.4	100.0	251
Q3	19.7	25.6	0.7	0.1	0.1	50.2	3.3	0.3	100.0	247
Q4	22.1	25.4	1.3	0.1	0.2	46.5	4.0	0.3	100.0	229
Q5	21.9	23.7	1.1	0.1	0.3	47.6	4.7	0.6	100.0	140

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.

EICV2	Too far	Too expensive	Poor quality of service	Missing personnel	Missing equipment	Other	Don't know	Total	Total no. of HHs that did not use service (000s)
All Rwanda	17.9	16.1	2.7	0.1	1.3	48.8	13.1	100.0	1,110
Kigali City	10.0	31.3	1.4	0.0	0.0	43.7	13.7	100.0	49
Southern Province	22.2	19.1	2.0	0.1	1.5	37.8	17.3	100.0	357
Western Province	16.6	13.8	0.9	0.3	3.1	53.7	11.6	100.0	253
Northern Province	21.6	14.6	3.0	0.0	0.2	51.9	8.8	100.0	220
Eastern Province	11.0	12.0	5.6	0.0	0.6	58.5	12.5	100.0	231
Urban	11.6	27.4	2.5	0.0	0.1	44.4	13.9	100.0	126
Rural	18.7	14.6	2.7	0.1	1.5	49.3	13.0	100.0	984
Q1	12.1	21.2	1.9	0.1	1.3	43.6	19.8	100.0	243
Q2	19.0	17.7	1.8	0.0	1.9	47.3	12.4	100.0	242
Q3	18.1	15.9	2.9	0.1	1.6	49.1	12.4	100.0	223
Q4	21.4	12.8	3.5	0.0	0.8	52.6	8.9	100.0	231
Q5	19.9	11.2	3.6	0.3	1.0	52.6	11.4	100.0	171

Source: EICV2. Notes: Calculated only on the basis of HHs that did not use the service at all or used it only sometimes.

When it comes to those households that did use public transport, user satisfaction levels are relatively high. 92% of urban and 74% of rural dwellers say they are satisfied with public transport services. This is an improvement compared to 2005/06, especially in urban areas (from 80 to 92% satisfied). The lowest satisfaction levels are found in the Southern Province (65%) and Western Province (74%), which is in line with the low usage rates in these provinces.

However, across all provinces there is a feeling that the quality of public transport has either remained constant or improved during the last 12 months.

**Table 5.9 User satisfaction with public transport stage and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	77.5	22.1	0.3	100.0	1.7	54.0	43.7	0.6	100.0	1,123
Kigali City	92.4	7.6	0.0	100.0	1.4	56.7	41.6	0.3	100.0	182
Southern Province	64.8	34.8	0.4	100.0	1.0	51.2	47.1	0.7	100.0	233
Western Province	74.4	25.2	0.4	100.0	2.0	47.2	50.0	0.8	100.0	170
Northern Province	81.1	18.2	0.7	100.0	1.9	55.0	42.3	0.8	100.0	194
Eastern Province	77.9	21.9	0.2	100.0	2.2	57.2	40.0	0.6	100.0	344
Urban	92.4	7.6	0.1	100.0	1.6	53.1	45.0	0.3	100.0	242
Rural	73.5	26.1	0.4	100.0	1.8	54.2	43.3	0.7	100.0	881
Q1	76.9	22.4	0.7	100.0	1.4	51.3	46.7	0.6	100.0	122
Q2	75.1	24.3	0.6	100.0	1.8	51.3	45.8	1.1	100.0	163
Q3	76.5	23.1	0.4	100.0	1.4	52.2	46.0	0.4	100.0	200
Q4	75.0	24.7	0.3	100.0	2.0	54.5	42.8	0.7	100.0	260
Q5	81.1	18.8	0.1	100.0	1.8	56.6	41.2	0.5	100.0	378

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

EICV2	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	71.9	27.3	0.9	100.0	6.6	70.7	21.1	1.6	100.0	783
Kigali City	78.0	20.4	1.6	100.0	10.1	60.2	26.6	3.2	100.0	128
Southern Province	77.9	21.2	0.9	100.0	7.0	63.7	28.0	1.3	100.0	143
Western Province	57.1	42.2	0.7	100.0	7.0	78.1	13.2	1.6	100.0	195
Northern Province	74.4	25.0	0.6	100.0	5.5	76.8	17.2	0.6	100.0	127
Eastern Province	76.5	22.8	0.7	100.0	4.3	71.4	22.8	1.5	100.0	190
Urban	79.5	18.6	2.0	100.0	9.2	62.1	26.0	2.7	100.0	185
Rural	69.5	30.0	0.5	100.0	5.8	73.3	19.5	1.3	100.0	597
Q1	72.6	26.9	0.5	100.0	5.3	73.8	19.1	1.8	100.0	87
Q2	69.5	29.7	0.8	100.0	7.2	72.2	18.7	1.9	100.0	111
Q3	73.0	26.2	0.8	100.0	5.5	75.6	17.8	1.1	100.0	145
Q4	73.0	26.3	0.8	100.0	4.9	70.9	23.0	1.2	100.0	167
Q5	71.3	27.6	1.1	100.0	8.4	66.3	23.2	2.0	100.0	273

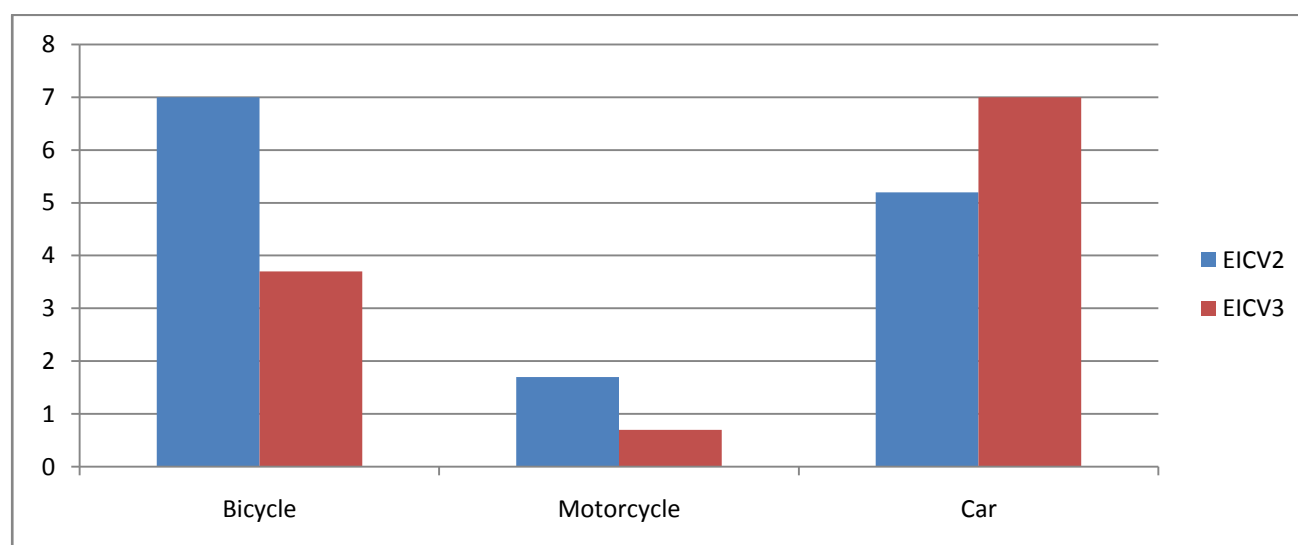
Source: EICV2. Notes: Calculated only on the basis of HHs that used this service regularly or often.

## 5.2 Ownership of vehicles

The EICV also provides information on ownership of vehicles. Table 5.10 shows the percentage of households owning bicycles, motorcycles and cars (for private, not commercial use). In rural areas, 15% of households own a bicycle, and this is by far the highest in the Eastern Province (33%). Private motorcycles are not very common in Rwanda (the below data excludes commercial vehicles like motos). Cars are owned by 6% of households in Kigali. Motorcycles and cars are owned exclusively by the richest quintile.

Comparison with 2005/06 shows that vehicle ownership has not changed much in most regions, or even decreased slightly. An interesting anomaly is urban Kigali. Here, car ownership increased (from 5 to 6%) but bicycle and motorcycle ownership decreased. This could suggest that households which owned a bicycle or motorcycle in 2005/06 replaced this with a car, and cars are now the most common privately owned vehicle in urban Kigali; however, it is clear that overall ownership of motorised vehicles is still very low in Rwanda. Nevertheless, if the trend towards privately owned cars in Kigali continues over the coming years (see also Figure 5.4) this will be an issue to consider for the transport sector in the future.

**Figure 5.4 Changes in ownership of vehicles in urban Kigali**



**Table 5.10 Ownership of vehicles (bicycle, motorcycle, car), by province, urban/rural and quintile**

EICV3	Bicycle	Motorcycle	Car	Total no. of HHs (000s)
All Rwanda	13.4	0.7	0.8	2,253
Kigali City	4.8	0.6	6.1	223
Southern Province	10.8	0.5	0.2	549
Western Province	2.5	0.4	0.2	528
Northern Province	9.6	0.7	0.2	411
Eastern Province	32.9	1.3	0.4	542
Urban	6.5	1.2	4.6	331
Rural	14.5	0.6	0.2	1,921
Q1	4.2	0.0	0.0	381
Q2	10.2	0.0	0.0	415
Q3	14.2	0.0	0.1	448
Q4	18.5	0.3	0.0	490
Q5	17.1	2.8	3.5	519

Source: EICV3.

EICV2	Bicycle	Motorcycle	Car	Total no. of HHs (000s)
All Rwanda	12.9	0.5	0.7	1,892
Kigali City	9.0	1.7	4.6	177
Southern Province	11.8	0.3	0.4	499
Western Province	4.7	0.2	0.1	448
Northern Province	9.0	0.4	0.1	347
Eastern Province	27.9	0.5	0.4	421
Urban	9.9	1.2	2.9	311
Rural	13.5	0.3	0.2	1,581
Q1	2.0	0.0	0.3	329
Q2	6.8	0.0	0.1	353
Q3	12.0	0.0	0.3	368
Q4	18.6	0.1	0.0	398
Q5	21.6	2.0	2.4	444

Source: EICV2.

### 5.3 Economic dimension of the transport sector

In addition to private use of vehicles and infrastructure, the transport sector also constitutes a source of employment for parts of the Rwandan population. Table 5.11 shows the proportion of the working population that holds a main job in the transport sector and in road construction. In Kigali, 5% of working individuals are employed in the transport industry, and these people tend to be relatively well-off (higher quintiles). That said, the road construction industry employs only around 0.2% of working individuals.

**Table 5.11 % of working individuals (16+) engaged in transport and road construction sectors, by province and urban/rural, gender, age group, and quintile**

EICV3	% of working people 16+ with main job in transport sector	% of working people 16+ with main job in road construction sector	Total no. of working people 16+ (000s)
All Rwanda	1.6	0.2	4,767
Kigali City	4.9	0.6	443
Southern Province	1.4	0.2	1,133
Western Province	1.4	0.3	1,124
Northern Province	1.2	0.0	924
Eastern Province	1.1	0.0	1,143
Urban	4.8	0.5	675
Rural	1.1	0.1	4,092
Q1	0.7	0.2	819
Q2	0.6	0.1	899
Q3	1.0	0.1	949
Q4	1.7	0.2	1,017
Q5	3.6	0.3	1,083

Source: EICV3

## 6 ICT

When the Vision 2020 was elaborated in 1998/99, the national consultative process stated: ‘Telecommunication coverage in Rwanda is very low. The communication policy will take advantage of the small size of the country, its high population density and the single local language to attract investors so that the sector can be liberalised. By 2020, Rwanda projects to have internet access at all administrative levels, for all secondary schools and for a large number of primary schools. Telephone services will be widespread in rural areas’.

Ever since, the ICT sector has been regarded a key element of Rwanda’s development process. It is expected to create jobs, facilitate general economy development, and ensure that Rwanda will transform into a globally competitive, information-rich knowledge-based economy.<sup>26</sup>

In line with these aspirations, the EDPRS/CPAF defines two sector-relevant progress indicators: ICT penetration in terms of voice (i.e. phone) and data (i.e. internet) services. As can be seen in Table 6.1 below, the sector achieved these targets by 2010/11.

**Table 6.1 ICT sector achievements towards EDPRS targets**

EDPRS target indicator	Target 2010/11	Actual 2010/11
ICT penetration in Rwanda		
-Voice (Subscribers)	36%	37%
-Data (Subscribers)	750,000	824,100

Source: ICT Joint Sector Review 2010/2011

This report investigates access to ICT services among Rwandan households. It first discusses the ICT devices and services owned by Rwandan households, then going on to analyse perceptions of ICT services available in public such as internet cafes and public phones.

One caveat with regard to ICT penetration is in order: The sector generally measures its achievements at the individual level, e.g. by the number of subscribers or by the gender and age of users. The EICV is a household-level survey and most ICT-related questions are asked only at the household level. Most of the data presented in this chapter are therefore at the household level, and thus a household will qualify as owning a mobile phone when only one member has such a phone. Estimates of ICT penetration of households as presented in this chapter will therefore be higher than penetration rates of individuals in the population.

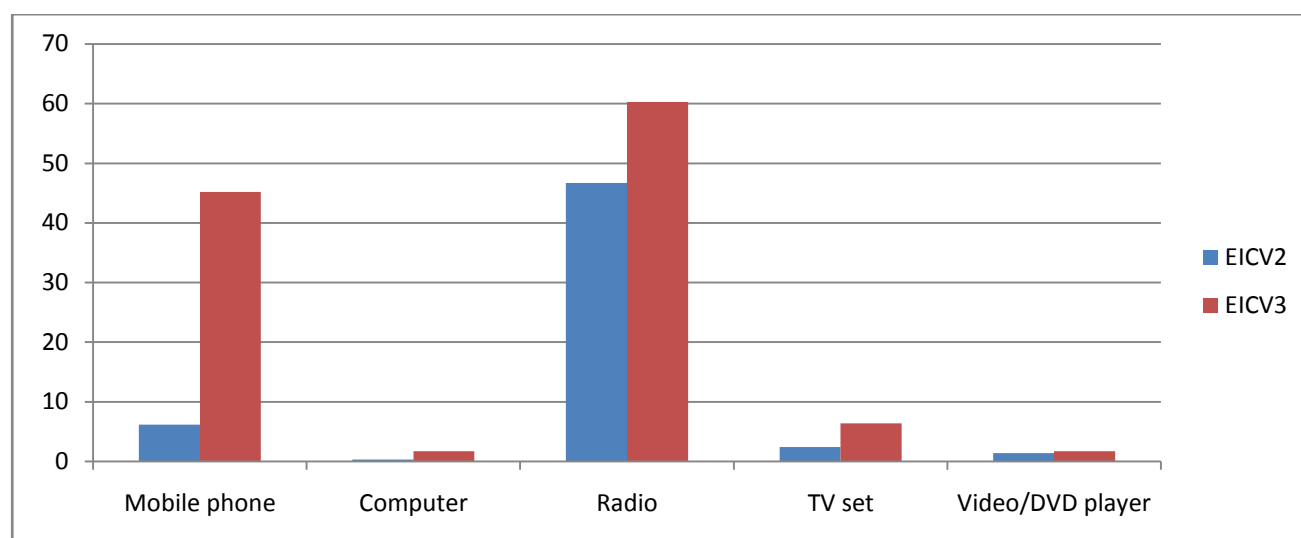
<sup>26</sup> ICT Sector EDPRS Self-Assessment Report, Ministry of Information and Communications Technology, December 2011.





EDPRS targets and reflect both public-sector initiatives<sup>27</sup> and private-sector investment.<sup>28</sup> The development of ICT device ownership is illustrated in Figure 6.2 as well as Table 6.2.

**Figure 6.2 Changes in ownership of ICT devices**



<sup>27</sup> For example, the one mobile phone per household scheme (<http://mail.newtimes.co.rw/news/index.php?i=13425&a=3842>) and others.

<sup>28</sup> Mobile network coverage is improving in Rwanda. In 2012, Airtel joined MTN and Tigo to become Rwanda's third mobile operator, following the revoking of operator Rwandatel's license in 2011 due to failure to meet the minimum network coverage obligations of its concession.

**Table 6.2 Ownership of ICT devices (mobile phone, landline phone, computer, radio, TV set, Video/DVD player), by province, urban/rural and quintile**

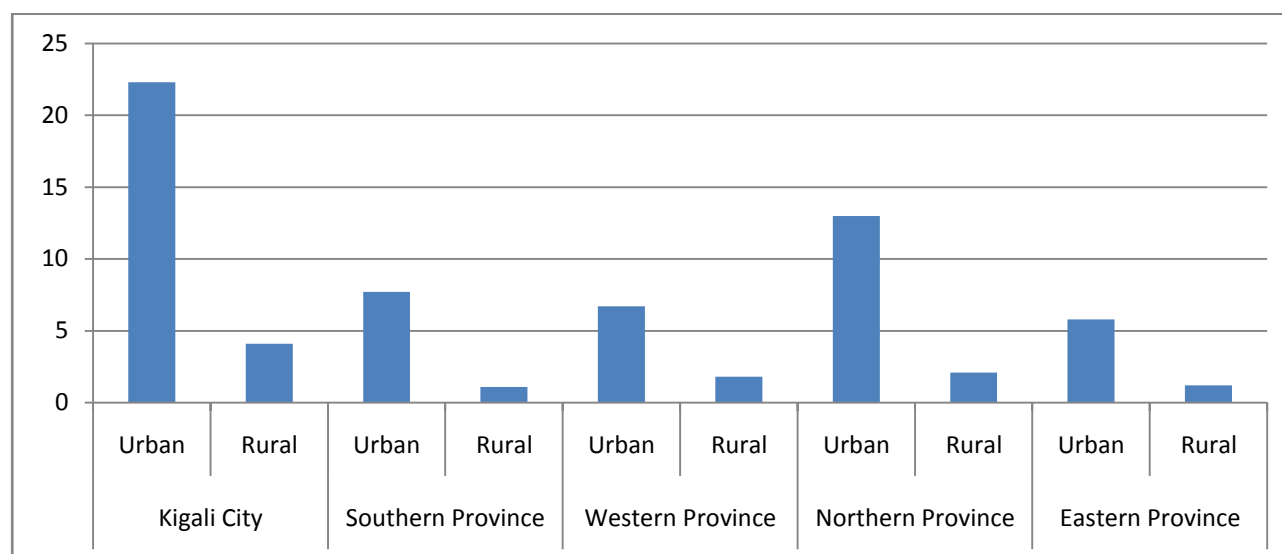
EICV3	Mobile phone	Landline phone	Computer	Radio	TV set	Video/DVD player	Total no. of HHs (000s)
All Rwanda	45.2	0.8	1.7	60.3	6.4	1.7	2,253
Kigali City	79.6	2.9	10.5	57.3	35.8	10.5	223
Southern Province	35.0	0.3	0.5	60.4	2.1	0.5	549
Western Province	40.4	0.7	0.6	51.7	4.1	0.6	528
Northern Province	41.9	1.0	1.4	63.8	4.5	1.4	411
Eastern Province	48.4	0.4	0.5	66.9	2.3	0.5	542
Urban	71.5	2.2	8.5	57.7	29.3	8.5	331
Rural	40.6	0.6	0.5	60.7	2.5	0.5	1,921
Q1	17.6	0.3	0.0	42.9	0.1	0	381
Q2	32.2	0.3	0.0	58.1	0.1	0	415
Q3	40.8	0.4	0.0	63.6	0.6	0	448
Q4	50.7	0.8	0.0	66.3	1.4	0	490
Q5	74.4	1.9	7.3	66.0	25.8	7.3	519

Source: EICV3.

EICV2	Telephone (mobile or landline)	Computer	Radio	TV set	Video/DVD player	Total no. of HHs (000s)
All Rwanda	6.2	0.3	46.7	2.4	1.4	1,892
Kigali City	33.2	2.8	53.5	18.0	11.3	177
Southern Province	3.1	0.0	46.2	0.8	0.4	499
Western Province	3.8	0.1	37.6	1.0	0.6	448
Northern Province	3.1	0.1	43.8	0.2	0.1	347
Eastern Province	3.8	0.1	56.2	1.0	0.4	421
Urban	26.5	1.8	50.7	12.9	7.9	311
Rural	2.2	0.0	45.9	0.3	0.2	1,581
Q1	0.1	0.0	27.5	0.0	0.0	329
Q2	0.3	0.0	40.0	0.0	0.0	353
Q3	0.5	0.0	46.9	0.1	0.1	368
Q4	2.4	0.0	55.8	0.2	0.0	398
Q5	23.6	1.4	57.7	10.0	6.0	444

Source: EICV2.

In addition to private ownership of ICT devices, the EICV provides information on private ownership of internet access. As illustrated in Figure 6.3 and Table 6.3 below, 16% of urban and 2% of rural households have access to the internet at home, with most of these people being in the richest quintile. The vast majority of internet access is via mobile phones, with 90% of those with internet access at home accessing it via their mobile phone. In addition, a quarter of households with internet access own a modem. Patterns of access types are similar across the different provinces.

**Figure 6.3 % of HHs with internet access at home****Table 6.3 % of HH with internet access at home, and types of internet connection, by province, urban/rural and quintile**

EICV3	% of HH with internet access at home	Of those with internet access at home, % of HHs owning...				Total no. of HHs (000s)
		Mobile phone	Landline/LAN	Modem	Wireless	
All Rwanda	3.7	90.5	0.6	24.8	3.0	2,253
Kigali City	19.2	90.7	0.0	26.7	2.8	223
Southern Province	2.0	96.9	4.4	15.1	1.5	549
Western Province	2.2	89.7	0.0	22.7	2.0	527
Northern Province	2.7	85.7	0.0	31.2	7.9	411
Eastern Province	1.4	89.1	0.0	20.5	0.0	542
Urban	16.1	91.0	0.0	26.3	2.8	331
Rural	1.6	89.7	1.6	22.0	3.3	1,922
Q1	0.0	-	-	-	-	381
Q2	0.2	100.0	0.0	0.0	0.0	415
Q3	0.4	100.0	0.0	0.0	0.0	448
Q4	1.0	100.0	0.0	0.0	0.0	490
Q5	14.7	89.5	0.6	27.3	3.3	519

Source: EICV3. Notes: Since HHs can own more than one type of internet connection at home, the sum of the different access types does not total 100%. No such data available from EICV2.

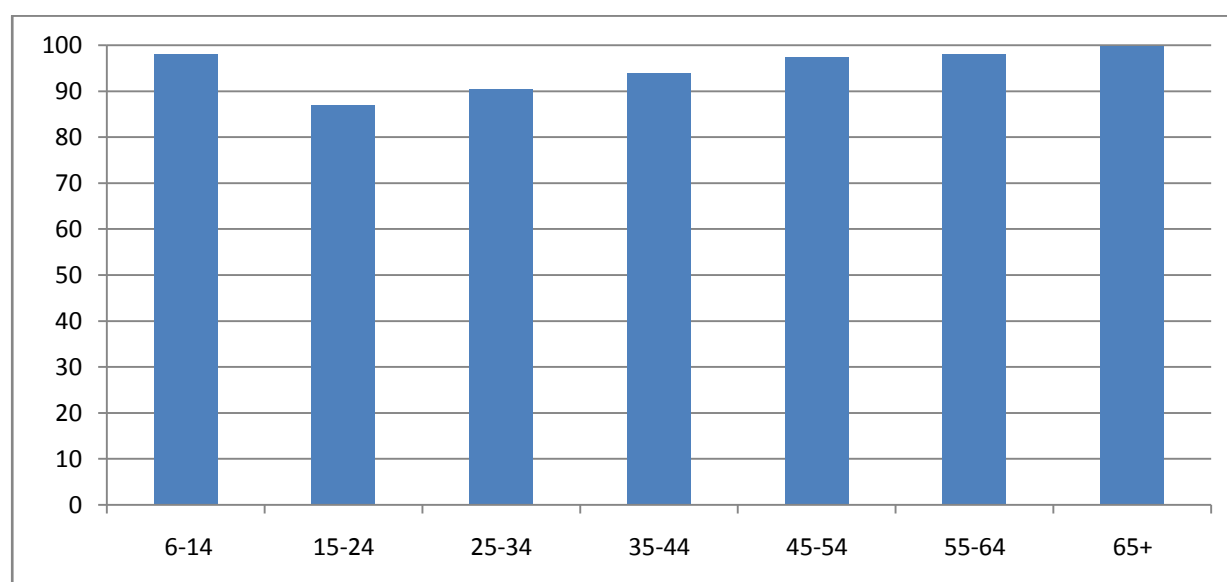
## 6.2 Computer literacy

The previous section discussed private ownership of ICT services. The following two sections take a broader approach, investigating computer literacy in the overall population and usage of public ICT facilities.

Table 6.4 shows that 94% of the Rwandan population have still never used a computer. Only 4% have used a computer before and feel confident using one again. Among the urban population, 14% can be classified as computer literate, but only 2% of the rural population.

More men than women have ever used a computer, and 5% of men are computer literate but only 3% of women. The highest computer literacy rates (7%) can be found in the age group 15–34 and in the richest quintile (15%). Nevertheless, more than 86% in all age groups have never used a computer, as illustrated in Figure 6.4.

**Figure 6.4** % of population (6+) that have never used a computer, by age group (EICV3)



**Table 6.4 Computer literacy: % of population(6+) that have used a computer and that would feel confident about using a computer again, by province,urban/rural, gender, age group and quintile**

EICV3	Never used computer before	Used computer before but not confident to use it again	Used computer before and confident to use it again (computer literate) <sup>29</sup>	Total	Total no. of persons 6+ (000s)
All Rwanda	93.5	2.6	3.9	100.0	8,820
Kigali City	75.5	7.6	16.9	100.0	870
Southern Province	95.9	2.2	2.0	100.0	2,082
Western Province	95.8	1.9	2.3	100.0	2,112
Northern Province	93.9	2.0	4.1	100.0	1,648
Eastern Province	95.9	2.0	2.1	100.0	2,108
Urban	79.4	6.9	13.7	100.0	1,318
Rural	96.0	1.8	2.2	100.0	7,501
Male	92.3	2.7	5.0	100.0	4,145
Female	94.5	2.5	3.0	100.0	4,675
6–14	98.1	1.2	0.7	100.0	2,664
15–24	86.9	6.6	6.5	100.0	2,231
25–34	90.4	2.2	7.3	100.0	1,534
35–44	93.8	1.1	5.2	100.0	917
45–54	97.3	0.5	2.2	100.0	704
55–64	98.1	0.3	1.6	100.0	409
65+	99.7	0.1	0.2	100.0	361
Q1	99.1	0.6	0.3	100.0	1,708
Q2	98.6	1.0	0.4	100.0	1,714
Q3	97.5	1.6	1.0	100.0	1,712
Q4	95.3	2.7	2.0	100.0	1,758
Q5	78.8	6.5	14.7	100.0	1,927

Source: EICV3. Notes: Calculated only for persons aged 6 and above. The EICV3 survey assumes that illiterate persons do not use computers. No such data available from EICV2.

### 6.3 Public ICT facilities

People that do not own an ICT device may still use ICT services that are publicly available. This section discusses the population's usage rates and satisfaction levels with internet service facilities as well as public phones.

Table 6.5 shows that 16% of urban households use internet service facilities regularly or often. The existence of internet service facilities is widely known in the cities, where only 34% of households are not aware of such facilities. In rural areas, however, 83% of households do not know of the existence of internet service facilities, and only very few use them on a frequent or infrequent basis.

<sup>29</sup> A different estimate for computer literacy was presented in the EICV3 Main Indicators Report. This indicator has been recalculated for this report and the revised figure in this report should be considered the final one.

**Table 6.5 Usage rates for internet service facility, by province, urban/rural and quintile**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	1.4	2.7	3.6	16.8	75.5	100.0	2,253
Kigali City	7.8	10.3	12.1	48.6	21.2	100.0	223
Southern Province	0.4	1.1	1.8	10.1	86.6	100.0	549
Western Province	0.5	2.0	3.9	18.8	74.9	100.0	528
Northern Province	1.3	2.9	2.1	12.4	81.4	100.0	411
Eastern Province	0.9	1.5	2.9	12.0	82.8	100.0	542
Urban	6.2	9.7	11.0	39.5	33.6	100.0	331
Rural	0.6	1.4	2.3	12.9	82.7	100.0	1,921
Q1	0.0	0.0	0.4	7.9	91.7	100.0	381
Q2	0.1	0.2	0.7	11.0	87.9	100.0	415
Q3	0.3	0.5	1.7	13.7	83.8	100.0	448
Q4	0.3	0.8	3.0	19.4	76.5	100.0	490
Q5	5.5	10.2	10.4	28.3	45.6	100.0	519

Source: EICV3.

This is further emphasised in Table 6.6, which presents reasons for not using internet service facilities for those households that made no use. This clearly shows that in rural areas, it is not availability, distance or price that are the main reasons for no use, but rather that people are not even aware of the existence of such services. In urban areas there are also many households that do not use internet facilities, and most of them say they do not require them.

**Table 6.6 Reasons for not using internet service facility, by province, urban/rural and quintile**

EICV3	Too far	Too expensive	Poor quality of service	Too few staff	Lack of equipment	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	3.1	2.1	0.1	0.0	0.1	15.5	0.4	78.7	100.0	2,160
Kigali City	2.2	3.4	0.6	0.0	0.4	67.2	0.3	26.0	100.0	183
Southern Province	3.1	1.8	0.0	0.0	0.0	7.0	0.1	88.0	100.0	540
Western Province	2.8	3.0	0.0	0.0	0.0	16.9	0.4	76.8	100.0	514
Northern Province	3.3	2.2	0.0	0.0	0.1	8.2	1.3	84.9	100.0	394
Eastern Province	3.6	0.9	0.2	0.0	0.0	10.3	0.1	84.8	100.0	529
Urban	2.4	5.0	0.5	0.0	0.3	51.3	0.6	40.0	100.0	278
Rural	3.2	1.6	0.1	0.0	0.0	10.2	0.4	84.5	100.0	1,882
Q1	1.1	0.6	0.0	0.0	0.0	6.3	0.2	91.7	100.0	381
Q2	2.2	0.8	0.0	0.0	0.0	8.4	0.3	88.3	100.0	413
Q3	2.9	1.7	0.0	0.0	0.0	10.6	0.3	84.5	100.0	444
Q4	3.5	2.7	0.1	0.0	0.1	15.8	0.5	77.4	100.0	484
Q5	5.5	4.3	0.4	0.0	0.2	34.7	0.7	54.1	100.0	438

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.

Table 6.7 shows the walking distance to the nearest internet service location. In urban areas, 26% of households could get to an internet facility in less than 20 minutes.<sup>30</sup>

<sup>30</sup> This assumes that households that do not know about the service are not located close to it.

**Table 6.7 Walking distance to nearest internet service facility, by province, urban/rural and quintile**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	5.6	6.6	4.5	7.8	75.5	100.0	2,253
Kigali City	30.7	31.8	10.2	6.1	21.2	100.0	223
Southern Province	1.3	2.4	2.9	6.8	86.6	100.0	549
Western Province	3.5	6.5	5.3	9.9	74.9	100.0	528
Northern Province	4.5	3.5	3.5	7.2	81.3	100.0	411
Eastern Province	2.6	3.1	3.6	7.8	82.8	100.0	542
Urban	26.3	27.4	8.9	3.7	33.6	100.0	331
Rural	2.0	3.1	3.7	8.5	82.7	100.0	1,922
Q1	0.2	1.0	1.8	5.3	91.7	100.0	381
Q2	0.6	2.4	2.8	6.2	87.9	100.0	415
Q3	1.4	3.3	3.9	7.7	83.8	100.0	448
Q4	2.9	6.0	5.8	8.9	76.5	100.0	490
Q5	19.8	17.7	7.1	9.9	45.6	100.0	519

Source: EICV3.

Table 6.8 shows user satisfaction with internet service facilities for those households that used them regularly or often. In general, users are satisfied with the facilities, and there is a feeling that the quality of internet service facilities has improved or stayed constant over the last 12 months.

**Table 6.8 User satisfaction with internet service facility and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile**

EICV3	Satisfaction			Changes in quality, last 12 months					Total	Total no. of HHs that used this service (000s)
	Satis- fied	Not satis- fied	NA / Don't know	Total	Declin- ing	Same	Impro- ving	Do not know		
All Rwanda	87.5	7.9	4.5	100.0	1.1	54.4	39.9	4.6	100.0	92
Kigali City	85.6	8.8	5.6	100.0	1.5	68.4	24.0	6.1	100.0	41
Southern Province	83.7	14.6	1.7	100.0	1.6	35.0	61.7	1.7	100.0	8
Western Province	84.4	10.1	5.5	100.0	0.0	40.8	54.7	4.5	100.0	13
Northern Province	97.2	2.8	0.0	100.0	1.5	58.5	40.0	0.0	100.0	17
Eastern Province	86.5	5.4	8.1	100.0	0.0	31.4	60.6	8.1	100.0	13
Urban	87.7	7.8	4.4	100.0	1.6	62.2	31.4	4.8	100.0	53
Rural	87.3	8.0	4.7	100.0	0.4	43.9	51.3	4.4	100.0	39
Q1	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	100.0	0
Q2	61.9	8.9	29.2	100.0	0.0	43.1	27.7	29.2	100.0	2
Q3	96.0	0.0	4.0	100.0	0.0	28.9	67.1	4.0	100.0	3
Q4	89.0	6.1	4.9	100.0	0.0	48.1	47.0	4.9	100.0	6
Q5	87.7	8.4	3.9	100.0	1.2	56.2	38.5	4.0	100.0	81

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often. Missing cells are due to insufficient sample size.

Turning from internet facilities to public telephones, Table 6.9 shows that 55% of urban households use a public phone sometimes or more often. Indeed, even in rural areas 39% of households use public phones. Usage rates are highest in Kigali (58%), followed by Western Province (42%).

**Table 6.9 Usage rates for public telephone, by province, urban/rural and quintile**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	8.4	10.3	22.1	45.9	13.2	100.0	2,253
Kigali City	24.3	13.4	20.7	40.7	1.0	100.0	223
Southern Province	5.5	8.9	23.2	43.8	18.6	100.0	549
Western Province	6.1	9.5	26.4	43.6	14.5	100.0	528
Northern Province	8.1	12.1	19.3	44.0	16.4	100.0	411
Eastern Province	7.3	10.0	19.6	54.0	9.1	100.0	542
Urban	17.6	14.3	22.5	42.0	3.5	100.0	331
Rural	6.8	9.7	22.1	46.6	14.9	100.0	1,922
Q1	4.4	4.8	19.6	51.4	19.7	100.0	381
Q2	5.8	8.2	23.1	47.7	15.2	100.0	415
Q3	7.7	9.8	23.4	45.7	13.4	100.0	448
Q4	8.9	12.3	24.1	43.1	11.6	100.0	490
Q5	13.6	14.7	20.2	43.3	8.2	100.0	519

Source: EICV3.

Among the households not using public phones, the most common reason for this is that households do not require them. There is, however, also a noteworthy proportion of non-users that say public phones are too expensive (15%). In Kigali, close to all non-users say they do not need public phones, presumably because they own mobile phones.

**Table 6.10 Reasons for not using public telephone, by province, urban/rural and quintile**

EICV3	Too far	Too expensive	Poor quality of service	Too few staff	Lack of equipment	Don't need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	9.8	14.8	1.1	0.0	0.1	55.2	2.7	16.3	100.0	1,827
Kigali City	2.5	1.6	0.3	0.2	0.0	93.8	0.0	1.6	100.0	139
Southern Province	11.9	15.1	1.0	0.1	0.1	49.5	0.5	21.7	100.0	469
Western Province	9.0	18.3	2.3	0.0	0.1	52.6	0.6	17.2	100.0	445
Northern Province	10.7	15.6	1.0	0.0	0.1	39.1	12.9	20.6	100.0	328
Eastern Province	9.9	14.4	0.5	0.0	0.2	63.7	0.2	11.1	100.0	447
Urban	4.6	7.4	0.5	0.1	0.0	80.0	2.1	5.2	100.0	225
Rural	10.5	15.8	1.2	0.0	0.1	51.7	2.7	17.8	100.0	1,602
Q1	11.0	17.6	0.2	0.0	0.0	45.5	3.8	21.8	100.0	346
Q2	10.2	16.8	0.6	0.0	0.1	52.5	2.1	17.7	100.0	355
Q3	10.4	15.8	1.1	0.0	0.3	53.7	2.4	16.2	100.0	369
Q4	10.8	15.1	1.9	0.0	0.1	55.0	2.3	14.7	100.0	386
Q5	6.6	8.8	1.8	0.1	0.0	68.5	2.8	11.5	100.0	371

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.

Table 6.11 shows the walking distance to the nearest public phone. 61% of urban households could reach a public phone in less than 20 minutes, but only 25% of urban households. Coverage of public phones in urban areas seems to be best in Eastern Province, where 34% of urban households could reach a public phone in less than 20 minutes.



**Table 6.11 Walking distance to nearest public telephone, by province, urban/rural and quintile**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	30.4	26.9	18.5	11.0	13.2	100.0	2,253
Kigali City	69.9	20.9	5.8	2.3	1.0	100.0	223
Southern Province	18.8	27.7	22.3	12.6	18.6	100.0	549
Western Province	26.3	23.7	19.5	16.0	14.5	100.0	528
Northern Province	23.8	30.3	20.3	9.2	16.4	100.0	411
Eastern Province	34.7	29.1	17.5	9.6	9.1	100.0	542
Urban	61.3	22.7	9.8	2.7	3.5	100.0	331
Rural	25.0	27.6	20.0	12.5	14.9	100.0	1,922
Q1	17.7	25.3	22.2	15.1	19.7	100.0	381
Q2	21.4	29.3	21.4	12.7	15.2	100.0	415
Q3	25.4	28.7	20.5	12.0	13.4	100.0	448
Q4	28.8	29.4	19.3	11.0	11.6	100.0	490
Q5	52.6	22.4	10.9	5.8	8.2	100.0	519

Source: EICV3.

Among those households that use public phones, 90% are satisfied with the service. User satisfaction is lowest in the rural Southern Province (81%). More than half of users feel that improvements have been made over the last 12 months, and interestingly this is particularly high in the Southern Province. Thus, despite the relatively low satisfaction levels people seem to be positive about improvements in recent months.

**Table 6.12 User satisfaction with public telephone and perceptions of changes in quality over last 12 months, by province, urban/rural and quintile**

EICV3	Satisfaction			Changes in quality, last 12 months					Total	Total no. of HHs that used this service (000s)
	Satis- fied	Not satis- fied	NA / Don't know	Total	Declin- ing	Same	Impro- ving	Do not know		
All Rwanda	89.2	9.3	1.5	100.0	3.1	43.7	51.2	2.0	100.0	422
Kigali City	93.4	3.8	2.8	100.0	2.9	55.5	37.3	4.3	100.0	84
Southern Province	82.5	16.5	1.0	100.0	4.9	31.7	62.1	1.4	100.0	79
Western Province	91.2	8.2	0.6	100.0	3.7	38.0	57.6	0.8	100.0	82
Northern Province	87.9	10.4	1.7	100.0	2.4	41.9	53.9	1.8	100.0	83
Eastern Province	90.5	8.1	1.4	100.0	2.1	49.9	46.3	1.7	100.0	94
Urban	93.3	4.5	2.2	100.0	3.6	50.2	43.1	3.2	100.0	106
Rural	87.8	10.9	1.3	100.0	3.0	41.5	53.9	1.6	100.0	317
Q1	91.7	6.9	1.4	100.0	2.4	37.4	58.8	1.4	100.0	35
Q2	89.5	9.7	0.8	100.0	2.6	42.6	54.0	0.8	100.0	58
Q3	89.4	8.8	1.8	100.0	2.8	43.4	51.9	2.0	100.0	78
Q4	86.9	11.5	1.6	100.0	3.5	44.0	50.3	2.2	100.0	104
Q5	90.0	8.4	1.6	100.0	3.5	45.6	48.4	2.5	100.0	147

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

## References

WATSAN sector EDPRS Self-Assessment Report.

WATSAN Joint Sector Review Report.

Energy sector EDPRS Self-Assessment Report.

Energy sector Joint Sector Review Report.

Habitat sector EDPRS Self-Assessment Report.

Transport sector EDPRS Self-Assessment Report.

Transport sector Joint Sector Review Report.

ICT sector EDPRS Self-Assessment Report.

ICT Joint Sector Review Report.

The Evolution of Poverty in Rwanda from 2000 to 2011, NISR, 2011.

RDHS 2010, NISR.

## Annex A District disaggregation tables for selected indicators from EICV3

**Table A.1 Main drinking water source/ access to improved drinking water, by district**

EICV3	Total improved water source	Improved water sources						Surface water (river or lake)	Unprotected spring	Unprotected well	Tanker truck	Other	Total no. of HHs (000s)
		Protected spring	Public standpipe	Piped into dwelling/ yard	Borehole	Protected well	Rain water						
All Rwanda	74.2	38.1	25.7	5.9	1.8	2.3	0.4	11.6	10.6	2.3	0.0	1.3	2,253
Nyarugenge	94.0	1.8	47.0	39.4	3.9	1.9	0.0	0.9	1.7	0.5	0.0	3.0	60
Gasabo	84.7	16.7	36.9	24.0	2.2	4.8	0.0	6.5	7.1	1.7	0.0	0.0	99
Kicukiro	69.0	7.3	20.7	39.3	0.2	1.2	0.3	4.5	0.3	0.0	0.0	26.2	64
Nyanza	82.1	62.3	15.5	1.8	1.0	1.5	0.0	15.1	2.7	0.0	0.0	0.0	67
Gisagara	82.1	61.8	17.3	0.0	0.0	2.9	0.0	9.9	6.1	2.0	0.0	0.0	74
Nyaruguru	66.1	44.4	14.7	0.7	0.0	6.3	0.0	6.7	21.5	5.5	0.2	0.0	61
Huye	91.0	63.7	17.0	6.7	0.0	3.7	0.0	3.5	3.1	2.0	0.0	0.4	70
Nyamagabe	68.4	50.9	8.5	2.5	0.0	6.5	0.0	9.9	17.4	3.7	0.0	0.6	71
Ruhango	58.7	46.5	6.0	0.9	0.0	5.3	0.0	21.7	17.2	2.4	0.0	0.0	71
Muhanga	84.4	64.7	11.6	4.3	0.0	3.8	0.0	4.6	9.1	2.0	0.0	0.0	63
Kamonyi	65.9	43.0	14.9	0.2	0.0	7.8	0.0	16.3	11.4	6.4	0.0	0.0	72
Karongi	74.7	51.7	13.0	1.6	3.1	5.3	0.0	10.3	14.8	0.2	0.0	0.0	77
Rutsiro	59.9	50.3	9.0	0.2	0.3	0.2	0.0	9.6	28.3	0.7	0.0	1.5	69
Rubavu	93.4	14.8	59.6	12.4	0.0	0.0	6.6	5.2	1.2	0.3	0.0	0.0	82
Nyabihu	79.6	52.5	25.6	0.1	0.0	0.8	0.7	5.1	11.3	2.9	0.0	1.1	68
Ngororero	63.7	54.7	8.6	0.0	0.0	0.2	0.2	4.3	30.3	1.7	0.0	0.0	74
Rusizi	72.8	27.4	30.8	6.1	4.1	4.4	0.0	4.4	20.0	2.1	0.0	0.7	78
Nyamasheke	72.6	40.1	28.6	3.4	0.0	0.6	0.0	2.5	23.0	1.8	0.0	0.2	80
Rulindo	74.6	59.7	14.3	0.2	0.2	0.2	0.0	7.8	16.4	1.2	0.0	0.0	63
Gakenke	74.6	57.3	15.8	0.6	0.0	0.9	0.0	6.1	15.9	3.4	0.0	0.0	76
Musanze	74.0	13.8	53.3	6.6	0.0	0.2	0.1	20.9	4.9	0.0	0.0	0.2	87
Burera	76.8	44.0	31.2	0.4	0.0	0.6	0.6	12.6	9.9	0.0	0.0	0.7	71
Gicumbi	89.4	58.9	17.3	9.0	0.4	2.5	1.3	2.6	7.1	0.6	0.0	0.3	113
Rwamagana	82.0	28.4	44.9	6.1	0.0	2.4	0.2	11.9	3.8	1.7	0.0	0.7	68
Nyagatare	42.3	2.2	18.1	3.1	15.4	3.4	0.2	40.6	5.1	5.4	0.0	6.6	84
Gatsibo	72.3	33.8	32.7	0.7	5.1	0.0	0.0	12.1	6.9	8.3	0.4	0.0	100
Kayanza	72.0	26.8	37.1	1.6	5.8	0.8	0.0	22.1	3.2	2.7	0.0	0.0	70
Kirehe	61.5	33.7	27.2	0.2	0.0	0.4	0.0	17.4	17.3	3.8	0.0	0.0	72
Ngoma	67.6	40.7	21.8	1.3	3.7	0.0	0.0	28.1	3.0	1.4	0.0	0.0	68
Bugesera	70.6	4.7	56.2	2.6	5.5	1.6	0.0	24.6	1.2	2.5	0.0	1.1	80

Source: EICV3.

**Table A.2 Time to improved water source, by district**

EICV3	Mean time to improved water source (minutes)	Time to improved water source (minutes)						No improved source	Total	Total no. of HHs (000s)
		Water piped into dwelling/ yard	0–4 min	5–14 min	15–29 min	30–59 min	60+ min			
All Rwanda	14.4	5.9	10.2	28.7	16.7	10.3	2.5	25.8	100.0	2,253
Nyarugenge	9.4	39.5	15.8	18.8	6.0	11.1	2.8	6.0	100.0	60
Gasabo	10.5	24.1	13.3	26.8	10.8	6.5	3.3	15.3	100.0	99
Kicukiro	6.2	39.3	4.5	13.1	5.3	6.8	0.0	31.0	100.0	64
Nyanza	13.6	1.9	9.5	36.9	23.5	9.1	1.3	17.9	100.0	67
Gisagara	22.7	0.0	4.7	22.1	28.4	20.7	6.1	17.9	100.0	74
Nyaruguru	14.2	0.7	7.4	30.7	18.5	7.6	1.2	33.9	100.0	61
Huye	13.9	6.7	9.1	34.2	28.1	12.3	0.7	9.0	100.0	70
Nyamagabe	15.7	2.5	6.6	27.4	16.0	14.9	1.1	31.6	100.0	71
Ruhango	12.2	0.9	9.9	29.0	11.9	6.7	0.5	41.3	100.0	71
Muhanga	9.6	4.1	14.9	43.2	18.4	3.1	0.5	15.8	100.0	63
Kamonyi	15.9	0.2	6.9	30.5	14.4	11.4	2.4	34.1	100.0	72
Karongi	14.1	1.6	11.6	33.6	17.9	7.6	2.5	25.3	100.0	77
Rutsiro	17.4	0.2	6.3	23.6	16.8	9.8	3.0	40.4	100.0	69
Rubavu	12.8	12.4	13.9	38.0	16.1	8.6	4.4	6.6	100.0	82
Nyabihu	12.0	0.1	14.0	37.5	21.2	6.9	0.0	20.4	100.0	68
Ngororero	14.4	0.0	5.6	30.4	18.3	8.0	1.5	36.3	100.0	74
Rusizi	10.6	6.1	17.1	30.9	11.4	5.8	1.5	27.2	100.0	78
Nyamasheke	11.9	3.3	8.0	37.4	15.8	7.4	0.6	27.4	100.0	80
Rulindo	14.7	0.2	12.1	28.3	20.3	12.9	1.0	25.4	100.0	63
Gakenke	15.3	0.6	7.5	33.2	20.7	11.3	1.2	25.4	100.0	76
Musanze	9.7	6.5	17.0	27.9	17.3	4.9	0.3	26.0	100.0	87
Burera	18.2	0.4	6.7	28.8	19.9	18.0	3.0	23.2	100.0	71
Gicumbi	20.4	9.0	4.9	25.6	21.8	22.3	5.8	10.5	100.0	113
Rwamagana	14.8	6.1	9.6	31.2	20.5	12.2	2.4	18.0	100.0	68
Nyagatare	17.6	3.1	7.3	12.5	10.0	7.1	2.4	57.7	100.0	84
Gatsibo	14.2	0.7	13.5	29.4	18.8	8.1	1.8	27.7	100.0	100
Kayonza	16.1	1.6	9.7	33.0	14.8	9.1	3.8	28.0	100.0	70
Kirehe	26.0	0.2	7.2	16.9	11.2	16.1	10.0	38.5	100.0	72
Ngoma	16.3	1.4	13.1	27.0	11.5	10.1	4.4	32.5	100.0	68
Bugesera	13.5	2.3	16.2	25.0	14.9	9.7	2.2	29.6	100.0	80

Source: EICV3.

**Table A.3 User satisfaction with main drinking water source and perceptions of changes in quality over last 12 months, by district**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs (000s)
	Satis- fied	Not satisfied	Don't know/NA		Decli- ning	Same	Improving	Don't Know		
All Rwanda	53.9	44.2	1.9	100.0	8.3	67.5	21.8	2.3	100.0	2,253
Nyarugenge	77.1	17.8	5.2	100.0	0.7	86.2	7.9	5.2	100.0	60
Gasabo	63.4	31.0	5.6	100.0	6.3	53.1	32.7	8.0	100.0	99
Kicukiro	53.0	41.4	5.7	100.0	6.0	78.2	9.6	6.2	100.0	64
Nyanza	64.2	35.2	0.5	100.0	11.2	40.9	46.7	1.2	100.0	67
Gisagara	61.9	37.0	1.1	100.0	20.1	36.7	41.6	1.5	100.0	74
Nyaruguru	45.5	54.0	0.5	100.0	4.4	73.5	21.7	0.4	100.0	61
Huye	58.0	38.5	3.5	100.0	11.2	67.7	16.9	4.2	100.0	70
Nyamagabe	44.1	55.7	0.2	100.0	14.1	66.6	18.6	0.7	100.0	71
Ruhango	44.9	54.1	1.0	100.0	9.1	74.4	15.6	1.0	100.0	71
Muhanga	59.5	38.5	1.6	100.0	8.9	81.6	7.9	1.1	100.0	63
Kamonyi	38.9	59.0	2.1	100.0	3.3	63.2	31.0	2.5	100.0	72
Karongi	47.0	46.7	6.2	100.0	21.3	50.9	21.6	6.2	100.0	77
Rutsiro	39.3	56.4	3.8	100.0	11.8	71.7	12.5	3.6	100.0	69
Rubavu	76.4	20.6	3.0	100.0	3.1	55.1	36.3	5.5	100.0	82
Nyabihu	56.3	43.2	0.5	100.0	8.2	73.0	18.4	0.5	100.0	68
Ngororero	52.2	47.0	0.9	100.0	12.6	71.8	14.7	0.9	100.0	74
Rusizi	61.3	38.5	0.2	100.0	3.0	65.9	30.7	0.4	100.0	78
Nyamasheke	39.8	60.2	0.0	100.0	6.6	82.1	11.0	0.3	100.0	80
Rulindo	54.7	45.3	0.0	100.0	11.1	70.4	18.3	0.2	100.0	63
Gakenke	56.1	43.8	0.2	100.0	9.8	53.1	37.1	0.0	100.0	76
Musanze	47.2	52.8	0.0	100.0	1.2	83.5	15.4	0.0	100.0	87
Burera	48.7	49.8	1.5	100.0	15.5	66.0	16.6	1.9	100.0	71
Gicumbi	62.8	36.3	0.4	100.0	6.7	79.2	13.1	0.4	100.0	113
Rwamagana	61.7	36.0	2.3	100.0	5.4	71.0	19.5	4.1	100.0	68
Nyagatare	39.6	57.9	2.5	100.0	2.3	86.1	8.6	3.1	100.0	84
Gatsibo	48.8	48.7	2.6	100.0	9.9	58.7	28.9	2.6	100.0	100
Kayonza	47.7	51.9	0.4	100.0	6.8	63.0	29.8	0.4	100.0	70
Kirehe	52.3	46.4	1.3	100.0	3.9	65.5	29.2	1.3	100.0	72
Ngoma	55.3	42.5	1.8	100.0	8.1	71.6	18.1	1.8	100.0	68
Bugesera	57.2	40.9	1.4	100.0	9.5	70.0	17.3	2.6	100.0	80

Source: EICV3.

**Table A.4 HH expenditure on water, by district**

EICV3	Mean HHexpenditure on water as % of total expenditure	Mean HHexpenditure on water	HHexpenditure on water (RWF)				Total	Total no. of HHs (000s)
			Pay nothing	1– 19,999	20,000– 39,999	40,000+		
All Rwanda	0.4	6,870	68.9	21.5	5.7	3.9	100.0	2,253
Nyarugenge	1.1	28,588	17.0	39.3	24.6	19.2	100.0	60
Gasabo	0.7	22,271	41.1	28.7	16.5	13.7	100.0	99
Kicukiro	1.4	35,902	16.7	27.3	27.4	28.7	100.0	64
Nyanza	0.2	2,210	87.3	9.6	2.2	0.9	100.0	67
Gisagara	0.2	1,856	83.6	14.2	1.8	0.4	100.0	74
Nyaruguru	0.1	979	88.5	11.1	0.0	0.4	100.0	61
Huye	0.3	4,029	74.6	18.9	4.2	2.3	100.0	70
Nyamagabe	0.1	708	89.8	9.8	0.2	0.2	100.0	71
Ruhango	0.2	1,335	88.9	9.6	1.3	0.2	100.0	71
Muhanga	0.1	1,558	95.0	2.2	1.6	1.1	100.0	63
Kamonyi	0.4	4,358	75.6	18.5	3.5	2.4	100.0	72
Karongi	0.0	578	95.8	3.5	0.5	0.2	100.0	77
Rutsiro	0.0	498	97.8	1.5	0.5	0.2	100.0	69
Rubavu	0.9	11,727	25.3	61.0	9.1	4.7	100.0	82
Nyabihu	0.2	2,142	82.6	13.8	3.4	0.2	100.0	68
Ngororero	0.0	100	99.0	0.7	0.2	0.0	100.0	74
Rusizi	0.2	3,384	85.6	8.4	4.0	2.0	100.0	78
Nyamasheke	0.2	1,655	74.6	24.1	1.0	0.3	100.0	80
Rulindo	0.2	1,460	89.3	8.2	2.1	0.4	100.0	63
Gakenke	0.0	222	98.0	1.7	0.0	0.2	100.0	76
Musanze	0.4	6,697	49.7	43.7	4.4	2.3	100.0	87
Burera	0.4	3,819	71.1	24.9	3.4	0.6	100.0	71
Gicumbi	0.4	7,306	80.0	8.7	5.0	6.4	100.0	113
Rwamagana	0.9	11,250	40.9	39.1	15.2	4.8	100.0	68
Nyagatare	0.8	10,877	52.9	32.0	8.9	6.1	100.0	84
Gatsibo	0.4	4,709	66.8	28.0	2.7	2.5	100.0	100
Kayanza	0.9	10,774	52.7	30.9	8.1	8.3	100.0	70
Kirehe	0.6	5,670	72.8	17.6	6.4	3.1	100.0	72
Ngoma	0.6	5,649	59.6	32.0	6.6	1.8	100.0	68
Bugesera	1.2	12,418	26.1	63.2	6.7	4.0	100.0	80

Source: EICV3. Note: Calculation of average expenditure includes those spending RWF 0.

**Table A.5 Sanitation type used/access to improved sanitation, by district**

EICV3	Total improved sanitation	Improved sanitation		Pit latrine without slab	Other	No toilet facilities	Total no. of HHs (000s)
		Flush toilet	Pit latrine with solid slab				
All Rwanda	74.5	1.7	72.8	19.4	0.0	6.1	2,253
Nyarugenge	92.0	7.1	84.9	6.9	0.2	0.8	60
Gasabo	74.3	7.1	67.2	23.6	0.0	2.1	99
Kicukiro	89.0	10.5	78.5	9.8	0.0	1.3	64
Nyanza	88.6	0.8	87.8	6.5	0.0	5.0	67
Gisagara	44.4	0.2	44.2	47.1	0.0	8.4	74
Nyaruguru	51.2	0.2	50.9	44.3	0.0	4.5	61
Huye	54.7	2.8	51.9	40.4	0.0	4.9	70
Nyamagabe	70.2	0.0	70.2	19.7	0.0	10.0	71
Ruhango	72.9	0.6	72.3	19.8	0.0	7.3	71
Muhanga	76.0	0.5	75.5	22.2	0.0	1.8	63
Kamonyi	72.3	0.0	72.3	23.4	0.0	4.2	72
Karongi	76.6	0.1	76.4	15.4	0.0	8.1	77
Rutsiro	63.4	1.3	62.0	24.8	0.3	11.6	69
Rubavu	80.1	2.3	77.8	4.1	0.2	15.6	82
Nyabihu	70.4	1.8	68.6	20.7	0.0	8.9	68
Ngororero	90.2	0.0	90.2	5.4	0.0	4.4	74
Rusizi	85.1	1.6	83.5	12.6	0.0	2.3	78
Nyamasheke	85.9	0.2	85.7	7.5	0.0	6.7	80
Rulindo	82.6	0.0	82.6	14.3	0.0	3.1	63
Gakenke	86.2	0.4	85.7	8.9	0.0	5.0	76
Musanze	51.7	3.2	48.5	39.7	0.0	8.5	87
Burera	78.4	0.2	78.2	17.2	0.0	4.4	71
Gicumbi	76.0	4.2	71.8	13.0	0.2	10.8	113
Rwamagana	62.0	1.1	60.8	35.2	0.0	2.8	68
Nyagatare	92.8	0.8	91.9	2.6	0.0	4.6	84
Gatsibo	67.4	0.0	67.4	29.6	0.0	3.0	100
Kayanza	66.3	0.3	66.0	27.8	0.0	5.9	70
Kirehe	75.2	0.1	75.0	16.2	0.0	8.6	72
Ngoma	78.7	1.1	77.6	14.3	0.0	7.1	68
Bugesera	80.5	0.7	79.8	11.4	0.2	7.9	80

Source: EICV3.

**Table A.6 Primary fuel used for lighting, by district**

EICV3	Primary source of lighting							Total	Total no. of HHs (000s)
	Electricity distributors	Oil lamp	Firewood	Candle	Lantern	Battery	Other		
All Rwanda	10.8	9.7	8.8	5.9	34.7	28.6	1.5	100.0	2,253
Nyarugenge	61.6	9.2	1.0	11.7	13.8	2.1	0.6	100.0	60
Gasabo	47.3	8.1	1.2	15.2	15.6	10.8	1.8	100.0	99
Kicukiro	63.0	12.4	0.0	9.6	11.0	3.5	0.6	100.0	64
Nyanza	2.9	9.7	4.2	2.2	52.6	27.4	1.2	100.0	67
Gisagara	0.3	4.0	14.7	2.4	29.4	48.9	0.4	100.0	74
Nyaruguru	0.7	4.4	43.0	7.8	14.3	28.6	1.1	100.0	61
Huye	8.3	7.5	9.7	5.6	46.7	22.2	0.0	100.0	70
Nyamagabe	2.7	7.6	24.9	9.1	19.6	30.6	5.5	100.0	71
Ruhango	2.6	10.7	8.0	1.5	57.0	19.6	0.6	100.0	71
Muhanga	5.5	4.9	4.5	1.7	56.8	26.3	0.3	100.0	63
Kamonyi	3.5	8.2	1.4	1.7	64.1	18.6	2.3	100.0	72
Karongi	2.8	9.4	27.3	5.4	18.7	33.7	2.6	100.0	77
Rutsiro	0.4	9.6	12.1	8.8	22.4	44.0	2.8	100.0	69
Rubavu	21.0	10.8	5.3	12.0	22.6	26.8	1.5	100.0	82
Nyabihu	10.0	6.5	15.6	6.6	33.7	26.5	1.2	100.0	68
Ngororero	0.4	9.9	19.1	2.3	27.5	40.6	0.2	100.0	74
Rusizi	13.5	33.2	6.5	3.0	16.9	24.8	2.1	100.0	78
Nyamasheke	7.7	22.1	13.8	4.2	24.9	25.8	1.5	100.0	80
Rulindo	2.6	6.9	5.0	10.2	23.1	50.9	1.3	100.0	63
Gakenke	1.0	4.8	9.9	2.1	29.9	52.0	0.4	100.0	76
Musanze	14.5	2.1	6.1	5.6	40.7	30.4	0.7	100.0	87
Burera	3.2	6.0	14.2	7.0	31.8	36.7	1.2	100.0	71
Gicumbi	8.9	5.3	9.0	9.8	27.2	37.2	2.5	100.0	113
Rwamagana	9.8	18.9	0.4	5.1	44.4	19.3	2.1	100.0	68
Nyagatare	11.0	16.1	2.1	4.0	25.3	40.7	0.8	100.0	84
Gatsibo	2.5	6.9	0.9	5.6	41.3	41.7	1.1	100.0	100
Kayanza	7.5	7.5	2.3	1.7	69.8	10.5	0.7	100.0	70
Kirehe	1.6	9.0	0.9	1.5	64.8	21.9	0.4	100.0	72
Ngoma	3.4	5.2	1.7	1.3	76.1	11.7	0.6	100.0	68
Bugesera	4.3	13.8	5.8	7.4	31.9	31.9	4.8	100.0	80

Source: EICV3.



**Table A.7 Primary fuel used for cooking, by district**

EICV3	Primary source of cooking fuel				Total	Total no. of HHs (000s)
	Firewood	Charcoal	Crop waste	Other		
All Rwanda	86.3	10.6	2.3	0.8	100.0	2,253
Nyarugenge	23.2	70.7	0.2	5.9	100.0	60
Gasabo	43.5	53.7	0.0	2.8	100.0	99
Kicukiro	20.7	77.2	0.0	2.1	100.0	64
Nyanza	96.3	2.8	0.7	0.2	100.0	67
Gisagara	99.3	0.2	0.4	0.0	100.0	74
Nyaruguru	99.8	0.0	0.0	0.2	100.0	61
Huye	93.3	5.9	0.1	0.7	100.0	70
Nyamagabe	96.8	2.6	0.4	0.2	100.0	71
Ruhango	76.4	1.4	21.4	0.8	100.0	71
Muhanga	95.8	2.5	1.3	0.5	100.0	63
Kamonyi	96.2	3.8	0.0	0.0	100.0	72
Karongi	97.9	2.0	0.0	0.1	100.0	77
Rutsiro	99.2	0.6	0.0	0.2	100.0	69
Rubavu	73.9	25.5	0.0	0.6	100.0	82
Nyabihu	88.7	10.5	0.0	0.7	100.0	68
Ngororero	98.8	1.2	0.0	0.0	100.0	74
Rusizi	91.0	8.8	0.2	0.0	100.0	78
Nyamasheke	97.2	2.8	0.0	0.0	100.0	80
Rulindo	86.0	0.4	13.6	0.0	100.0	63
Gakenke	99.4	0.6	0.0	0.0	100.0	76
Musanze	88.4	11.1	0.2	0.3	100.0	87
Burera	90.2	1.3	8.1	0.4	100.0	71
Gicumbi	90.4	6.1	1.3	2.2	100.0	113
Rwamagana	88.4	10.3	0.5	0.8	100.0	68
Nyagatare	75.4	7.2	17.1	0.3	100.0	84
Gatsibo	94.7	1.4	3.3	0.6	100.0	100
Kayanza	92.7	6.7	0.0	0.5	100.0	70
Kirehe	98.5	1.5	0.0	0.0	100.0	72
Ngoma	97.3	1.7	0.6	0.3	100.0	68
Bugesera	96.3	1.9	0.0	1.8	100.0	80

Source: EICV3.

**Table A.8 Types of habitat (*Imidugudu*, etc.), by district**

EICV3	Type of habitat							Total	Total no. of HHs (000s)
	<i>Imidugudu</i>	Unplanned clustered rural housing	Isolated rural housing	Agglomeration	Unplanned urban housing	Modern planned area	Other		
All Rwanda	37.5	11.1	37.2	4.8	8.4	0.6	0.5	100.0	2,253
Nyarugenge	6.5	0.3	18	0.5	73.9	0.8	0	100.0	60
Gasabo	11.2	2.5	36	1.9	46.9	1.5	0	100.0	99
Kicukiro	3.6	4.4	3.8	6.3	76.6	5.4	0	100.0	64
Nyanza	4.1	1.2	78.2	12.8	3.7	0	0	100.0	67
Gisagara	29.6	54.8	13.6	2	0	0	0	100.0	74
Nyaruguru	52.9	5.9	40.1	1.1	0	0	0	100.0	61
Huye	14.2	23.5	52.8	3.2	5.6	0.7	0	100.0	70
Nyamagabe	4.6	4.2	80.2	9.7	1.4	0	0	100.0	71
Ruhango	6.3	4.6	79.7	9	0.4	0	0	100.0	71
Muhanga	5.6	11.2	76.7	2	4.5	0	0	100.0	63
Kamonyi	30.6	27.1	34.2	4.5	0.5	0.6	2.7	100.0	72
Karongi	5.8	3.8	88.9	0	1.5	0	0	100.0	77
Rutsiro	53.5	13.8	29.9	2.5	0.2	0.2	0	100.0	69
Rubavu	40	19.9	9.5	22.1	5.9	2.6	0	100.0	82
Nyabihu	20.7	24.1	37.6	15.8	0	0	1.8	100.0	68
Ngororero	8.5	1.3	87.6	2.5	0	0	0	100.0	74
Rusizi	28.7	52.1	9.7	4.5	4.9	0.2	0	100.0	78
Nyamasheke	21.9	3.5	74.3	0.2	0	0	0	100.0	80
Rulindo	23.6	3.5	71	1.8	0	0	0	100.0	63
Gakenke	71	1.6	27.4	0	0	0	0	100.0	76
Musanze	25.8	1.8	48.4	7	14.1	2.9	0	100.0	87
Burera	43.2	25.6	21.2	10	0	0	0	100.0	71
Gicumbi	31.1	5.4	52.9	0.6	8.1	1.6	0.3	100.0	113
Rwamagana	71.2	4.3	20.1	3.2	1.2	0	0	100.0	68
Nyagatare	64.3	11.6	2.6	8.6	2.8	0.5	9.7	100.0	84
Gatsibo	81.5	0.4	18.1	0	0	0	0	100.0	100
Kayonza	88.7	1.2	2.1	5	3	0	0	100.0	70
Kirehe	94.5	2.3	0.1	3	0	0	0	100.0	72
Ngoma	97.9	0.4	1.1	0	0.6	0	0	100.0	68
Bugesera	67.4	19.1	6.4	5.2	1.7	0.3	0	100.0	80

Source: EICV3.

**Table A.9 Types of dwelling, by district**

EICV3	Type of dwelling						Total	Total no. of HHs (000s)
	A single-house dwelling	A multiple household dwelling	Multi-storied building (flat)	Group of enclosed dwellings with multiple HHs	Group of enclosed dwelling for single household	Other		
All Rwanda	92.4	3.0	0.0	3.1	1.4	0.0	100.0	2,253
Nyarugenge	61.2	4.0	0.2	28.3	6.1	0.0	100.0	60
Gasabo	69.7	8.9	0.2	17.8	3.4	0.0	100.0	99
Kicukiro	63.2	13.7	0.3	18.2	4.5	0.0	100.0	64
Nyanza	96.2	2.1	0.0	1.2	0.5	0.0	100.0	67
Gisagara	92.0	7.0	0.0	0.6	0.4	0.0	100.0	74
Nyaruguru	96.9	2.2	0.0	0.8	0.0	0.0	100.0	61
Huye	92.5	5.7	0.0	1.3	0.4	0.0	100.0	70
Nyamagabe	92.5	2.0	0.0	2.8	2.7	0.0	100.0	71
Ruhango	82.3	2.9	0.2	4.2	10.5	0.0	100.0	71
Muhanga	99.1	0.4	0.0	0.5	0.0	0.0	100.0	63
Kamonyi	98.4	1.4	0.0	0.2	0.0	0.0	100.0	72
Karongi	98.5	1.3	0.0	0.1	0.0	0.0	100.0	77
Rutsiro	98.8	1.2	0.0	0.0	0.0	0.0	100.0	69
Rubavu	87.0	7.4	0.0	4.6	0.7	0.2	100.0	82
Nyabihu	97.3	2.0	0.0	0.7	0.0	0.0	100.0	68
Ngororero	83.3	0.4	0.0	3.0	13.4	0.0	100.0	74
Rusizi	98.6	0.7	0.5	0.0	0.0	0.2	100.0	78
Nyamasheke	95.9	4.1	0.0	0.0	0.0	0.0	100.0	80
Rulindo	99.8	0.2	0.0	0.0	0.0	0.0	100.0	63
Gakenke	99.8	0.0	0.0	0.2	0.0	0.0	100.0	76
Musanze	98.8	0.9	0.0	0.1	0.2	0.0	100.0	87
Burera	98.9	1.1	0.0	0.0	0.0	0.0	100.0	71
Gicumbi	97.6	2.1	0.0	0.1	0.0	0.1	100.0	113
Rwamagana	94.2	3.3	0.0	2.1	0.3	0.0	100.0	68
Nyagatare	93.5	3.6	0.0	2.7	0.2	0.0	100.0	84
Gatsibo	97.0	3.0	0.0	0.0	0.0	0.0	100.0	100
Kayanza	92.4	1.4	0.0	4.6	1.6	0.0	100.0	70
Kirehe	99.0	0.7	0.0	0.3	0.0	0.0	100.0	72
Ngoma	99.1	0.9	0.0	0.0	0.0	0.0	100.0	68
Bugesera	96.0	2.6	0.0	1.4	0.0	0.0	100.0	80

Source: EICV3.

**Table A.10 Number of persons per bedroom, by district**

EICV3	Mean no. of people per bedroom	Number of people per bedroom				Total	Total no. of HHs (000s)
		Fewer than 2	2 to 4	4 to 6	6 or more		
All Rwanda	2.3	35.3	54.6	8.7	1.4	100.0	2,253
Nyarugenge	2.2	37.3	54.1	6.9	1.8	100.0	60
Gasabo	2.2	35.6	53.9	9.2	1.3	100.0	99
Kicukiro	2.2	40.0	48.1	10.7	1.1	100.0	64
Nyanza	2.4	31.6	54.1	12.5	1.7	100.0	67
Gisagara	2.3	34.0	55.0	9.5	1.5	100.0	74
Nyaruguru	2.5	28.9	55.6	12.1	3.4	100.0	61
Huye	2.3	33.9	55.8	8.9	1.5	100.0	70
Nyamagabe	2.5	35.3	48.4	12.2	4.2	100.0	71
Ruhango	2.4	32.6	54.2	11.6	1.6	100.0	71
Muhanga	2.2	39.7	52.4	7.0	0.9	100.0	63
Kamonyi	2.2	34.7	57.1	7.4	0.9	100.0	72
Karongi	2.5	25.5	62.3	10.9	1.3	100.0	77
Rutsiro	2.4	28.2	62.3	9.1	0.2	100.0	69
Rubavu	2.4	33.9	55.8	9.1	1.0	100.0	82
Nyabihu	2.3	29.8	63.4	6.6	0.2	100.0	68
Ngororero	2.3	31.4	60.5	7.0	1.1	100.0	74
Rusizi	2.5	28.3	59.3	10.3	2.1	100.0	78
Nyamasheke	2.2	35.1	57.9	6.1	0.9	100.0	80
Rulindo	2.2	33.0	60.7	5.9	0.4	100.0	63
Gakenke	2.3	33.5	57.9	8.1	0.4	100.0	76
Musanze	1.7	62.4	35.8	1.6	0.2	100.0	87
Burera	2.0	42.6	53.3	3.4	0.7	100.0	71
Gicumbi	2.3	31.7	58.8	8.9	0.6	100.0	113
Rwamagana	2.0	46.6	45.4	7.1	1.0	100.0	68
Nyagatare	2.8	22.9	57.9	13.2	6.0	100.0	84
Gatsibo	1.9	51.3	45.5	2.6	0.6	100.0	100
Kayanza	2.2	43.1	46.0	9.8	1.1	100.0	70
Kirehe	2.2	35.5	55.2	9.1	0.2	100.0	72
Ngoma	2.6	24.4	59.8	14.0	1.8	100.0	68
Bugesera	2.5	28.7	55.5	13.0	2.9	100.0	80

Source: EICV3.

**Table A.11 Floor area, by district**

EICV3	Mean floor area of dwelling – outside (m <sup>2</sup> )	Floor area of dwelling - outside				Total	Total no. of HHs (000s)
		1–24 m <sup>2</sup>	25–49 m <sup>2</sup>	50–74 m <sup>2</sup>	75– m <sup>2</sup>		
All Rwanda	40.2	23.6	56.1	13.4	6.9	100.0	2,253
Nyarugenge	46.0	33.5	34.2	16.6	15.6	100.0	60
Gasabo	53.0	25.0	41.2	17.2	16.6	100.0	99
Kicukiro	61.5	21.9	33.6	17.4	27.1	100.0	64
Nyanza	34.3	28.4	59.2	9.5	2.9	100.0	67
Gisagara	34.4	33.6	53.5	7.8	5.0	100.0	74
Nyaruguru	37.9	19.2	65.5	11.4	3.8	100.0	61
Huye	40.3	28.3	51.1	12.9	7.6	100.0	70
Nyamagabe	37.0	23.5	59.2	12.7	4.5	100.0	71
Ruhango	40.9	22.7	56.0	13.7	7.6	100.0	71
Muhanga	44.3	16.2	58.6	16.1	9.1	100.0	63
Kamonyi	42.9	16.9	62.2	13.4	7.4	100.0	72
Karongi	42.8	12.2	61.9	21.2	4.6	100.0	77
Rutsiro	45.6	10.0	59.8	22.7	7.5	100.0	69
Rubavu	43.6	21.8	54.1	14.4	9.6	100.0	82
Nyabihu	39.5	15.8	63.3	17.0	3.9	100.0	68
Ngororero	40.3	16.8	59.5	20.6	3.0	100.0	74
Rusizi	40.6	22.7	56.7	11.5	9.1	100.0	78
Nyamasheke	40.3	18.7	61.5	13.8	6.0	100.0	80
Rulindo	35.1	23.6	60.9	13.5	1.7	100.0	63
Gakenke	31.7	34.1	56.0	8.4	1.5	100.0	76
Musanze	43.4	12.0	67.9	11.5	8.6	100.0	87
Burera	34.3	25.1	62.8	9.7	2.3	100.0	71
Gicumbi	43.7	26.4	53.9	8.6	11.0	100.0	113
Rwamagana	41.8	21.2	55.3	15.9	7.5	100.0	68
Nyagatare	33.7	30.8	58.1	9.6	1.5	100.0	84
Gatsibo	38.0	24.4	56.7	13.3	5.7	100.0	100
Kayonza	34.0	30.0	54.0	13.7	2.3	100.0	70
Kirehe	32.5	29.7	60.3	8.7	1.2	100.0	72
Ngoma	33.4	36.8	48.4	10.8	3.9	100.0	68
Bugesera	37.7	26.5	56.2	11.2	6.1	100.0	80

Source: EICV3.

**Table A.12 Roofing material of the dwelling, by district**

EICV3	Roofing material				Total	Total no. of HHs (000s)
	Thatch or leaves	Metal sheets	Clay tiles	Other		
All Rwanda	2.2	54.4	42.5	1.0	100.0	2,253
Nyarugenge	0.0	99.0	0.8	0.2	100.0	60
Gasabo	3.5	89.8	6.1	0.6	100.0	99
Kicukiro	0.5	97.9	1.5	0.2	100.0	64
Nyanza	1.4	24.8	72.6	1.2	100.0	67
Gisagara	4.4	10.1	84.8	0.7	100.0	74
Nyaruguru	5.4	7.8	85.3	1.6	100.0	61
Huye	1.7	21.1	76.4	0.7	100.0	70
Nyamagabe	0.8	13.6	84.7	1.0	100.0	71
Ruhango	0.7	2.5	96.0	0.8	100.0	71
Muhanga	0.0	4.5	95.4	0.2	100.0	63
Kamonyi	0.4	31.9	67.5	0.2	100.0	72
Karongi	3.0	17.2	79.8	0.0	100.0	77
Rutsiro	1.9	9.3	88.5	0.2	100.0	69
Rubavu	0.9	69.4	26.7	3.1	100.0	82
Nyabihu	0.6	36.6	61.9	0.8	100.0	68
Ngororero	0.6	6.2	92.8	0.4	100.0	74
Rusizi	7.1	90.1	0.4	2.3	100.0	78
Nyamasheke	6.6	67.5	25.9	0.0	100.0	80
Rulindo	1.4	35.1	62.9	0.6	100.0	63
Gakenke	0.2	19.4	80.1	0.2	100.0	76
Musanze	2.0	64.2	33.1	0.7	100.0	87
Burera	2.6	50.3	46.4	0.7	100.0	71
Gicumbi	3.0	64.2	32.7	0.1	100.0	113
Rwamagana	0.3	97.9	1.4	0.4	100.0	68
Nyagatare	2.8	92.5	1.2	3.5	100.0	84
Gatsibo	1.6	92.0	5.3	1.2	100.0	100
Kayanza	1.9	93.3	0.9	3.9	100.0	70
Kirehe	2.4	94.6	2.7	0.3	100.0	72
Ngoma	0.6	96.4	3.0	0.0	100.0	68
Bugesera	4.1	82.8	11.0	2.2	100.0	80

Source: EICV3.

**Table A.13 Wall material of the dwelling, by district**

EICV3	Wall material						Total	Total no. of HHs (000s)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven-fired bricks	Other		
All Rwanda	36.1	18.7	35.2	5.5	2.5	1.9	100.0	2,253
Nyarugenge	9.6	39.9	19.0	23.8	6.6	1.1	100.0	60
Gasabo	8.0	46.4	24.0	12.7	5.2	3.7	100.0	99
Kicukiro	12.5	65.7	6.3	8.5	4.2	2.8	100.0	64
Nyanza	27.8	19.6	43.6	7.8	0.7	0.4	100.0	67
Gisagara	10.2	9.6	70.0	10.1	0.2	0.0	100.0	74
Nyaruguru	11.9	7.7	76.2	3.1	1.2	0.0	100.0	61
Huye	17.1	20.1	46.8	11.5	4.3	0.3	100.0	70
Nyamagabe	12.1	3.4	76.7	6.7	1.0	0.0	100.0	71
Ruhango	56.0	32.9	8.7	1.8	0.4	0.2	100.0	71
Muhanga	66.1	19.3	7.3	0.7	6.6	0.0	100.0	63
Kamonyi	37.5	35.7	19.4	6.5	0.7	0.2	100.0	72
Karongi	76.8	7.7	15.1	0.0	0.4	0.0	100.0	77
Rutsiro	85.4	10.4	3.5	0.0	0.4	0.2	100.0	69
Rubavu	50.8	24.1	12.9	0.3	2.3	9.5	100.0	82
Nyabihu	55.8	14.1	24.6	1.6	1.8	2.1	100.0	68
Ngororero	83.9	9.9	5.8	0.0	0.4	0.0	100.0	74
Rusizi	11.6	2.0	67.6	4.7	7.9	6.3	100.0	78
Nyamasheke	37.2	10.9	37.2	2.1	2.4	10.2	100.0	80
Rulindo	41.8	16.2	33.4	5.5	3.1	0.0	100.0	63
Gakenke	73.7	13.3	9.6	0.0	2.3	1.0	100.0	76
Musanze	32.0	10.2	42.6	3.3	4.4	7.4	100.0	87
Burera	43.5	4.0	43.8	2.4	0.8	5.4	100.0	71
Gicumbi	29.2	19.2	42.0	4.2	5.4	0.0	100.0	113
Rwamagana	11.9	19.6	50.6	13.5	3.5	0.8	100.0	68
Nyagatare	52.2	32.8	10.3	2.1	2.5	0.1	100.0	84
Gatsibo	25.3	14.5	50.7	9.0	0.5	0.0	100.0	100
Kayanza	25.7	14.0	51.4	7.9	0.5	0.5	100.0	70
Kirehe	38.6	7.3	47.3	5.2	0.7	0.9	100.0	72
Ngoma	4.7	2.3	83.7	7.6	1.7	0.0	100.0	68
Bugesera	38.9	27.1	27.0	5.9	0.3	0.9	100.0	80

Source: EICV3.

**Table A.14 Floor material of the dwelling, by district**

EICV3	Floor material					Total	Total no. of HHs (000s)
	Beaten earth	Cement	Bricks	Hardened dung	Other		
All Rwanda	78.4	17.1	1.5	2.2	0.8	100.0	2,253
Nyarugenge	30.9	66.0	1.3	0.5	1.3	100.0	60
Gasabo	43.1	50.3	0.2	0.7	5.7	100.0	99
Kicukiro	25.3	69.3	0.9	0.0	4.6	100.0	64
Nyanza	83.7	13.4	1.2	1.3	0.4	100.0	67
Gisagara	84.8	9.3	4.6	1.0	0.2	100.0	74
Nyaruguru	86.9	7.4	2.2	3.5	0.0	100.0	61
Huye	72.2	19.7	5.3	2.4	0.5	100.0	70
Nyamagabe	91.1	7.8	1.1	0.0	0.0	100.0	71
Ruhango	79.8	15.3	4.3	0.5	0.0	100.0	71
Muhanga	79.7	14.4	5.5	0.4	0.0	100.0	63
Kamonyi	78.1	20.6	0.4	0.0	0.8	100.0	72
Karongi	91.4	6.4	1.9	0.0	0.4	100.0	77
Rutsiro	88.7	4.1	6.3	0.4	0.4	100.0	69
Rubavu	74.5	22.1	1.4	0.2	1.7	100.0	82
Nyabihu	89.2	10.8	0.0	0.0	0.0	100.0	68
Ngororero	93.8	4.7	1.3	0.0	0.2	100.0	74
Rusizi	83.0	12.8	3.0	0.0	1.2	100.0	78
Nyamasheke	86.7	9.3	2.5	0.0	1.4	100.0	80
Rulindo	86.0	12.3	1.0	0.2	0.4	100.0	63
Gakenke	91.2	5.5	1.9	0.0	1.4	100.0	76
Musanze	85.1	14.5	0.0	0.0	0.3	100.0	87
Burera	93.9	5.5	0.6	0.0	0.0	100.0	71
Gicumbi	83.5	15.4	0.0	0.2	0.9	100.0	113
Rwamagana	72.9	21.0	0.4	5.6	0.0	100.0	68
Nyagatare	76.5	18.6	0.2	4.7	0.0	100.0	84
Gatsibo	82.0	13.1	0.0	4.9	0.0	100.0	100
Kayanza	81.8	13.9	0.0	3.8	0.5	100.0	70
Kirehe	76.1	5.3	0.1	18.3	0.2	100.0	72
Ngoma	72.3	8.5	0.9	18.1	0.2	100.0	68
Bugesera	81.6	17.7	0.5	0.2	0.0	100.0	80

Source: EICV3.



**Table A.15 Waste management facilities, by district**

EICV3	Methods of household rubbish disposal							Total	Total no. of HHs (000s)
	Compost heap	Thrown in bushes or fields	Rubbish collection service	Dumped in river or lake	Publicly managed refuse area	Burnt	Other		
All Rwanda	59.4	31.1	5.0	2.5	1.9	0.0	0.1	100.0	2,253
Nyarugenge	16.9	24.1	56.2	1.3	1.5	0.0	0.0	100.0	60
Gasabo	23.1	39.2	33.4	2.2	2.2	0.0	0.0	100.0	99
Kicukiro	20.0	33.1	44.2	1.9	0.6	0.2	0.0	100.0	64
Nyanza	54.9	40.7	0.0	1.1	3.3	0.0	0.0	100.0	67
Gisagara	70.0	26.5	0.0	2.4	1.1	0.0	0.0	100.0	74
Nyaruguru	59.8	37.4	0.0	1.1	1.7	0.0	0.0	100.0	61
Huye	67.3	27.2	0.6	1.9	2.9	0.0	0.0	100.0	70
Nyamagabe	59.5	38.9	0.2	1.0	0.2	0.0	0.2	100.0	71
Ruhango	60.3	34.4	0.0	1.4	3.9	0.0	0.0	100.0	71
Muhanga	72.3	25.7	0.4	0.3	1.3	0.0	0.0	100.0	63
Kamonyi	62.6	30.6	0.0	5.8	0.9	0.0	0.0	100.0	72
Karongi	53.6	41.4	0.0	3.7	1.2	0.0	0.0	100.0	77
Rutsiro	62.7	31.5	0.0	3.7	1.6	0.0	0.4	100.0	69
Rubavu	30.6	52.1	10.4	1.9	5.1	0.0	0.0	100.0	82
Nyabihu	52.8	37.3	0.0	7.3	2.6	0.0	0.0	100.0	68
Ngororero	56.1	38.5	0.0	3.0	2.4	0.0	0.0	100.0	74
Rusizi	71.7	19.8	0.7	1.9	6.0	0.0	0.0	100.0	78
Nyamasheke	70.6	25.5	0.0	1.4	1.7	0.0	0.8	100.0	80
Rulindo	69.9	28.6	0.2	0.6	0.6	0.0	0.0	100.0	63
Gakenke	65.6	31.3	0.0	2.9	0.2	0.0	0.0	100.0	76
Musanze	57.4	38.9	0.9	2.1	0.3	0.0	0.4	100.0	87
Burera	72.8	23.8	0.0	3.0	0.4	0.0	0.0	100.0	71
Gicumbi	69.8	22.4	0.8	4.4	2.6	0.0	0.0	100.0	113
Rwamagana	73.0	23.2	0.3	2.1	1.2	0.0	0.2	100.0	68
Nyagatare	69.6	18.7	4.3	4.0	2.5	0.0	0.8	100.0	84
Gatsibo	65.4	31.5	0.5	2.5	0.0	0.0	0.0	100.0	100
Kayanza	66.4	28.1	0.0	4.2	1.2	0.0	0.0	100.0	70
Kirehe	79.9	16.6	0.0	0.6	2.9	0.0	0.0	100.0	72
Ngoma	78.0	17.5	0.0	3.4	1.0	0.0	0.0	100.0	68
Bugesera	49.5	46.2	0.8	1.1	2.4	0.0	0.0	100.0	80

Source: EICV3.

**Table A.16 Occupancy status, by district**

EICV3	Current occupancy status							Total	Total no. of HHs (000s)
	Owner-occupied	Mortgaged	Tenancy (renting)	Dwelling provided by employer	Dwelling provided free of charge	Temporary camp	Other		
All Rwanda	83.3	0.7	9.7	0.4	5.4	0.4	0.1	100.0	2,253
Nyarugenge	43.5	1.0	48.7	0.8	5.5	0.2	0.2	100.0	60
Gasabo	61.3	2.2	30.4	0.9	4.9	0.3	0.0	100.0	99
Kicukiro	41.6	1.6	48.7	0.8	7.0	0.0	0.3	100.0	64
Nyanza	82.7	0.7	8.8	0.5	7.2	0.0	0.0	100.0	67
Gisagara	84.5	0.2	3.9	0.0	7.8	3.6	0.0	100.0	74
Nyaruguru	86.1	0.7	3.0	0.8	8.8	0.6	0.0	100.0	61
Huye	76.9	0.4	8.4	0.7	13.2	0.2	0.2	100.0	70
Nyamagabe	87.9	0.4	2.2	0.0	8.8	0.4	0.2	100.0	71
Ruhango	79.9	0.2	10.7	0.8	8.0	0.1	0.2	100.0	71
Muhanga	94.2	0.0	2.1	0.5	3.1	0.0	0.2	100.0	63
Kamonyi	84.9	0.8	7.9	0.0	6.4	0.0	0.0	100.0	72
Karongi	91.5	0.4	3.4	0.0	4.1	0.4	0.2	100.0	77
Rutsiro	89.4	0.2	2.8	0.0	7.6	0.0	0.0	100.0	69
Rubavu	76.2	1.1	17.0	0.0	5.4	0.2	0.0	100.0	82
Nyabihu	81.9	0.2	9.6	2.0	4.7	0.2	1.4	100.0	68
Ngororero	94.3	0.2	1.7	0.0	3.8	0.0	0.0	100.0	74
Rusizi	89.5	0.4	6.6	0.2	2.9	0.4	0.0	100.0	78
Nyamasheke	91.6	0.0	4.5	0.5	3.3	0.0	0.0	100.0	80
Rulindo	92.0	1.0	1.9	0.2	4.6	0.2	0.0	100.0	63
Gakenke	94.6	0.0	1.6	0.2	3.4	0.2	0.0	100.0	76
Musanze	86.8	0.2	5.7	0.3	7.0	0.0	0.0	100.0	87
Burera	93.1	0.7	1.5	0.4	2.7	1.7	0.0	100.0	71
Gicumbi	88.3	0.8	3.6	0.0	5.7	1.0	0.6	100.0	113
Rwamagana	80.9	0.6	11.7	1.1	5.7	0.0	0.0	100.0	68
Nyagatare	81.0	1.1	14.0	0.2	3.4	0.2	0.2	100.0	84
Gatsibo	90.4	0.7	6.2	0.2	2.4	0.2	0.0	100.0	100
Kayanza	83.5	0.8	12.9	0.0	2.6	0.2	0.0	100.0	70
Kirehe	91.9	0.9	4.5	0.2	2.1	0.5	0.0	100.0	72
Ngoma	92.5	0.7	4.0	0.0	2.7	0.0	0.0	100.0	68
Bugesera	79.6	1.3	9.6	0.0	8.9	0.2	0.5	100.0	80

Source: EICV3.

**Table A.17 For those owning dwelling: owner of dwelling, by district**

EICV3	Owner of dwelling						Total	Total no. of HHs where HH is owned (000s)
	Head	Spouse	Spouse with head	Other household member	Relative	Other		
All Rwanda	50.7	1.1	47.4	0.3	0.1	0.4	100.0	1,892
Nyarugenge	79.8	1.9	17.2	0.6	0.4	0.0	100.0	27
Gasabo	57.8	2.5	36.0	0.0	0.9	2.8	100.0	63
Kicukiro	59.4	5.2	34.5	0.5	0.0	0.4	100.0	28
Nyanza	49.7	1.1	49.0	0.0	0.2	0.0	100.0	56
Gisagara	52.0	0.8	46.8	0.3	0.2	0.0	100.0	62
Nyaruguru	42.7	0.5	56.4	0.2	0.2	0.0	100.0	53
Huye	48.4	0.5	50.0	0.0	0.2	0.9	100.0	54
Nyamagabe	63.0	0.2	36.4	0.2	0.3	0.0	100.0	63
Ruhango	83.9	1.1	14.3	0.7	0.0	0.0	100.0	57
Muhanga	34.2	0.8	64.7	0.0	0.0	0.2	100.0	59
Kamonyi	51.9	1.2	46.2	0.5	0.0	0.2	100.0	62
Karongi	36.1	0.3	62.7	0.7	0.2	0.0	100.0	70
Rutsiro	41.5	0.9	56.7	0.2	0.2	0.4	100.0	62
Rubavu	67.0	1.4	31.3	0.0	0.0	0.3	100.0	63
Nyabihu	51.6	0.0	46.9	0.2	0.0	1.2	100.0	56
Ngororero	42.0	2.4	55.3	0.0	0.0	0.2	100.0	70
Rusizi	92.0	1.4	6.2	0.2	0.2	0.0	100.0	70
Nyamasheke	34.8	0.7	62.5	1.5	0.0	0.6	100.0	74
Rulindo	70.8	0.0	28.5	0.5	0.2	0.0	100.0	58
Gakenke	32.0	0.0	66.3	0.0	0.0	1.7	100.0	72
Musanze	45.0	0.0	55.0	0.0	0.0	0.0	100.0	76
Burera	41.8	1.3	56.5	0.0	0.0	0.4	100.0	67
Gicumbi	39.8	5.0	55.2	0.0	0.0	0.0	100.0	101
Rwamagana	50.6	1.1	47.5	0.0	0.0	0.8	100.0	55
Nyagatare	27.5	0.3	71.7	0.2	0.0	0.2	100.0	69
Gatsibo	40.4	0.2	59.1	0.4	0.0	0.0	100.0	91
Kayanza	53.2	1.2	45.6	0.0	0.0	0.0	100.0	59
Kirehe	42.0	1.0	56.5	0.2	0.3	0.0	100.0	66
Ngoma	77.7	1.3	20.5	0.5	0.0	0.0	100.0	63
Bugesera	54.4	1.0	43.8	0.2	0.0	0.5	100.0	65

Source: EICV3. Note: Calculated on the basis of HHs that own their dwelling.

**Table A.18 For those renting dwelling: rent paid (cash, inkind and by others), by district**

EICV3	Expenditure on rent			Total no. of HHs renting (000s)
	Mean actual rent (monthly)	Mean value of services in kind (monthly)	Mean value of actual rent + services in kind (monthly)	
All Rwanda	13,027	246	13,272	219
Nyarugenge	25,202	23	25,225	29
Gasabo	17,807	28	17,835	30
Kicukiro	23,580	38	23,617	31
Nyanza	2,207	726	2,932	6
Gisagara	1,866	1,110	2,976	3
Nyaruguru	3,765	341	4,106	2
Huye	13,004	392	13,396	6
Nyamagabe	6,480	229	6,709	2
Ruhango	1,968	1,028	2,996	8
Muhanga	16,355	0	16,355	1
Kamonyi	5,855	256	6,111	6
Karongi	5,663	783	6,446	3
Rutsiro	1,572	540	2,112	2
Rubavu	10,585	74	10,659	14
Nyabihu	2,598	0	2,598	7
Ngororero	3,765	0	3,765	1
Rusizi	7,797	132	7,929	5
Nyamasheke	4,314	169	4,483	4
Rulindo	4,083	379	4,462	1
Gakenke	4,670	129	4,799	1
Musanze	20,890	0	20,890	5
Burera	7,551	0	7,551	1
Gicumbi	6,144	268	6,413	4
Rwamagana	4,874	249	5,123	8
Nyagatare	7,198	321	7,519	12
Gatsibo	4,884	447	5,332	6
Kayonza	5,271	515	5,785	9
Kirehe	5,187	393	5,580	3
Ngoma	8,401	566	8,967	3
Bugesera	4,533	1,052	5,585	8

Source: EICV3. Note: Calculated on the basis of HHs that rent their dwelling.

**Table A.19 % of HH spending money on house construction during past 12 months (building a new house or an extension) and average amount spent, by district**

EICV3	Expenditure on construction		Total no. of HHs (000s)
	% of HHs spending on construction	For those, mean amount spent on construction	
All Rwanda	21.7	250,666	2,253
Nyarugenge	14.0	574,163	60
Gasabo	22.1	714,748	99
Kicukiro	10.9	1,553,525	64
Nyanza	15.1	148,099	67
Gisagara	23.1	105,195	74
Nyaruguru	19.8	103,913	61
Huye	16.0	379,962	70
Nyamagabe	16.1	112,652	71
Ruhango	19.0	120,273	71
Muhanga	12.1	348,049	63
Kamonyi	13.0	461,687	72
Karongi	22.1	138,896	77
Rutsiro	18.2	127,792	69
Rubavu	22.2	260,971	82
Nyabihu	11.7	178,491	68
Ngororero	22.6	92,582	74
Rusizi	23.9	170,620	78
Nyamasheke	26.2	127,174	80
Rulindo	20.9	198,552	63
Gakenke	22.4	101,632	76
Musanze	16.1	299,728	87
Burera	25.6	185,509	71
Gicumbi	21.3	271,352	113
Rwamagana	29.7	312,998	68
Nyagatare	30.0	309,475	84
Gatsibo	30.2	251,777	100
Kayonza	24.8	310,052	70
Kirehe	33.5	120,065	72
Ngoma	25.3	128,613	68
Bugesera	34.1	166,032	80

Source: EICV3. Note: Mean amount calculated on the basis of HHs that incurred expenditure.

**Table A.20 % of HHs spending money on repairs and painting of house during past 12 months and average amount spent, by district**

	EICV3		Total no. of HHs (000s)
	% of HHs spending on repairs	For those, mean amount spent on repairs	
All Rwanda	25.6	53,756	2,253
Nyarugenge	15.2	155,450	60
Gasabo	23.4	167,416	99
Kicukiro	26.1	234,964	64
Nyanza	20.6	27,122	67
Gisagara	29.5	20,980	74
Nyaruguru	29.3	14,249	61
Huye	28.5	27,261	70
Nyamagabe	29.4	10,413	71
Ruhango	26.9	31,859	71
Muhanga	27.6	40,151	63
Kamonyi	22.8	41,410	72
Karongi	32.9	33,333	77
Rutsiro	27.4	36,104	69
Rubavu	26.5	50,626	82
Nyabihu	23.0	44,432	68
Ngororero	20.4	21,947	74
Rusizi	28.1	39,869	78
Nyamasheke	27.0	36,920	80
Rulindo	20.1	34,700	63
Gakenke	17.9	22,476	76
Musanze	27.6	54,500	87
Burera	19.8	41,961	71
Gicumbi	23.5	70,632	113
Rwamagana	26.0	52,671	68
Nyagatare	26.2	67,288	84
Gatsibo	29.9	55,430	100
Kayanza	28.8	44,442	70
Kirehe	26.7	44,253	72
Ngoma	31.0	60,277	68
Bugesera	24.5	52,395	80

Source: EICV3. Note: Mean amount calculated on the basis of HHs that incurred expenditure.

**Table A.21 Usage rates for all-weather roads, by district**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	65.7	27.0	5.8	1.4	0.0	100.0	2,253
Nyarugenge	95.9	3.6	0.5	0.0	0.0	100.0	60
Gasabo	86.2	13.4	0.4	0.0	0.0	100.0	99
Kicukiro	97.4	2.6	0.0	0.0	0.0	100.0	64
Nyanza	75.2	21.5	3.1	0.2	0.0	100.0	67
Gisagara	82.5	16.4	1.2	0.0	0.0	100.0	74
Nyaruguru	72.6	26.3	1.0	0.0	0.0	100.0	61
Huye	73.2	21.9	4.1	0.8	0.0	100.0	70
Nyamagabe	51.9	36.8	10.3	1.0	0.0	100.0	71
Ruhango	66.2	23.0	9.8	1.0	0.0	100.0	71
Muhanga	62.6	32.0	3.8	1.6	0.0	100.0	63
Kamonyi	70.0	29.2	0.8	0.0	0.0	100.0	72
Karongi	19.0	46.6	31.9	2.6	0.0	100.0	77
Rutsiro	32.9	26.9	22.6	17.6	0.0	100.0	69
Rubavu	66.6	29.6	3.5	0.2	0.0	100.0	82
Nyabihu	63.7	31.9	4.1	0.2	0.0	100.0	68
Ngororero	77.8	15.9	5.1	1.3	0.0	100.0	74
Rusizi	59.6	37.5	2.7	0.2	0.0	100.0	78
Nyamasheke	44.3	30.1	22.2	3.5	0.0	100.0	80
Rulindo	74.3	21.3	3.8	0.6	0.0	100.0	63
Gakenke	95.0	2.3	2.3	0.4	0.0	100.0	76
Musanze	82.5	17.1	0.2	0.2	0.0	100.0	87
Burera	33.6	46.7	18.2	1.4	0.2	100.0	71
Gicumbi	39.2	47.3	7.5	5.8	0.1	100.0	113
Rwamagana	55.2	41.7	3.1	0.0	0.0	100.0	68
Nyagatare	39.1	52.9	6.1	2.0	0.0	100.0	84
Gatsibo	55.3	43.4	1.1	0.2	0.0	100.0	100
Kayanza	70.9	28.7	0.2	0.2	0.0	100.0	70
Kirehe	80.9	16.9	2.2	0.0	0.0	100.0	72
Ngoma	80.4	19.0	0.6	0.0	0.0	100.0	68
Bugesera	89.3	8.5	1.3	0.4	0.5	100.0	80

Source: EICV3.

**Table A.22 Walking distance to nearest all-weather road, by district**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	79.3	13.7	4.7	2.3	0.0	100.0	2,253
Nyarugenge	98.1	1.9	0.0	0.0	0.0	100.0	60
Gasabo	96.0	3.6	0.2	0.3	0.0	100.0	99
Kicukiro	98.2	1.0	0.8	0.0	0.0	100.0	64
Nyanza	62.1	29.2	7.0	1.6	0.0	100.0	67
Gisagara	90.2	8.6	1.3	0.0	0.0	100.0	74
Nyaruguru	75.6	18.7	4.8	0.9	0.0	100.0	61
Huye	89.0	5.9	2.0	3.1	0.0	100.0	70
Nyamagabe	70.2	20.7	5.0	4.0	0.0	100.0	71
Ruhango	87.6	6.3	3.9	2.2	0.0	100.0	71
Muhanga	87.1	11.9	0.9	0.1	0.0	100.0	63
Kamonyi	87.4	10.5	1.6	0.4	0.0	100.0	72
Karongi	62.3	21.2	11.4	5.1	0.0	100.0	77
Rutsiro	33.1	18.1	24.2	24.6	0.0	100.0	69
Rubavu	88.3	10.9	0.8	0.0	0.0	100.0	82
Nyabihu	68.7	24.8	6.0	0.5	0.0	100.0	68
Ngororero	51.5	32.3	13.8	2.4	0.0	100.0	74
Rusizi	93.3	5.2	1.3	0.2	0.0	100.0	78
Nyamasheke	62.5	13.8	11.4	12.3	0.0	100.0	80
Rulindo	78.2	18.8	1.9	1.1	0.0	100.0	63
Gakenke	65.6	27.1	7.1	0.2	0.0	100.0	76
Musanze	87.3	12.3	0.4	0.0	0.0	100.0	87
Burera	66.8	24.4	6.2	2.4	0.2	100.0	71
Gicumbi	74.1	17.9	5.3	2.5	0.1	100.0	113
Rwamagana	87.3	10.4	2.0	0.3	0.0	100.0	68
Nyagatare	56.0	25.3	15.5	3.2	0.0	100.0	84
Gatsibo	86.6	12.4	0.8	0.2	0.0	100.0	100
Kayanza	96.5	2.3	0.8	0.4	0.0	100.0	70
Kirehe	87.6	9.1	3.2	0.2	0.0	100.0	72
Ngoma	98.5	1.0	0.5	0.0	0.0	100.0	68
Bugesera	92.7	3.7	2.1	1.1	0.5	100.0	80

Source: EICV3.



**Table A.23 User satisfaction with all-weather road and perceptions of changes in quality over last 12 months, by district**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	66.1	33.6	0.3	100.0	5.7	59.3	34.5	0.5	100.0	2,089
Nyarugenge	87.7	12.3	0.0	100.0	2.6	84.7	12.7	0.0	100.0	60
Gasabo	75.2	24.8	0.0	100.0	4.6	50.3	44.8	0.3	100.0	99
Kicukiro	68.0	32.0	0.0	100.0	6.3	70.4	23.3	0.0	100.0	64
Nyanza	89.3	10.5	0.2	100.0	2.2	13.6	83.4	0.7	100.0	65
Gisagara	82.7	17.3	0.0	100.0	5.2	30.5	64.2	0.0	100.0	73
Nyaruguru	52.9	46.7	0.4	100.0	3.9	61.3	34.2	0.5	100.0	60
Huye	72.7	27.3	0.0	100.0	10.4	67.3	21.9	0.4	100.0	66
Nyamagabe	49.1	50.4	0.5	100.0	11.2	52.0	36.3	0.5	100.0	63
Ruhango	79.6	20.2	0.2	100.0	4.0	59.1	36.7	0.2	100.0	64
Muhanga	67.5	32.3	0.2	100.0	8.5	71.9	19.4	0.2	100.0	60
Kamonyi	20.3	79.5	0.3	100.0	3.8	71.7	24.2	0.3	100.0	71
Karongi	57.5	41.6	0.9	100.0	15.4	49.4	35.2	0.0	100.0	50
Rutsiro	48.3	51.3	0.4	100.0	1.6	60.8	37.2	0.4	100.0	41
Rubavu	87.9	12.1	0.0	100.0	1.8	48.0	48.6	1.6	100.0	79
Nyabihu	51.2	48.2	0.6	100.0	8.1	71.7	19.6	0.6	100.0	65
Ngororero	70.5	29.3	0.2	100.0	4.6	60.2	34.8	0.4	100.0	69
Rusizi	66.8	33.0	0.2	100.0	1.0	57.5	41.5	0.0	100.0	75
Nyamasheke	15.1	84.9	0.0	100.0	10.2	79.0	10.8	0.0	100.0	60
Rulindo	61.0	39.0	0.0	100.0	10.9	53.0	36.1	0.0	100.0	60
Gakenke	58.6	41.0	0.4	100.0	16.3	31.7	51.5	0.4	100.0	74
Musanze	56.2	43.6	0.2	100.0	1.0	83.0	16.0	0.0	100.0	87
Burera	69.7	29.6	0.6	100.0	9.3	61.5	28.6	0.6	100.0	57
Gicumbi	70.8	29.0	0.2	100.0	2.7	70.4	25.5	1.5	100.0	98
Rwamagana	69.3	30.4	0.2	100.0	6.6	65.1	27.2	1.1	100.0	66
Nyagatare	77.7	20.2	2.1	100.0	3.5	71.1	23.3	2.1	100.0	77
Gatsibo	58.6	41.4	0.0	100.0	4.8	69.7	25.5	0.0	100.0	99
Kayanza	70.6	29.2	0.2	100.0	3.1	42.3	54.6	0.0	100.0	70
Kirehe	85.8	13.2	1.0	100.0	4.7	44.5	49.8	1.0	100.0	70
Ngoma	74.9	25.1	0.0	100.0	7.6	55.3	37.1	0.0	100.0	68
Bugesera	69.3	30.7	0.0	100.0	2.7	67.8	29.2	0.3	100.0	78

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

**Table A.24 Usage rates for public transport stage, by district**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	24.0	25.8	36.5	13.5	0.2	100.0	2,253
Nyarugenge	82.6	8.2	7.5	1.5	0.2	100.0	60
Gasabo	40.4	26.1	25.9	7.7	0.0	100.0	99
Kicukiro	74.1	22.0	2.7	1.3	0.0	100.0	64
Nyanza	64.6	22.3	6.8	6.4	0.0	100.0	67
Gisagara	0.7	13.8	43.8	41.5	0.2	100.0	74
Nyaruguru	21.2	40.8	26.1	11.6	0.2	100.0	61
Huye	9.2	45.6	37.5	7.7	0.0	100.0	70
Nyamagabe	5.4	17.8	46.3	30.5	0.0	100.0	71
Ruhango	1.5	8.6	72.9	17.1	0.0	100.0	71
Muhanga	1.3	19.9	63.2	15.5	0.2	100.0	63
Kamonyi	29.9	41.3	23.9	4.9	0.0	100.0	72
Karongi	2.1	12.7	51.5	33.6	0.2	100.0	76
Rutsiro	7.9	17.1	41.7	32.8	0.5	100.0	69
Rubavu	7.1	43.9	44.3	4.7	0.0	100.0	82
Nyabihu	15.5	26.6	49.9	8.1	0.0	100.0	68
Ngororero	46.6	13.8	26.4	12.7	0.5	100.0	74
Rusizi	2.8	11.8	70.4	15.1	0.0	100.0	78
Nyamasheke	6.3	11.7	61.7	19.0	1.2	100.0	80
Rulindo	13.1	11.9	62.3	12.7	0.0	100.0	63
Gakenke	65.4	6.1	19.7	8.7	0.0	100.0	76
Musanze	10.1	51.3	31.0	7.6	0.0	100.0	87
Burera	2.5	19.1	56.1	21.3	1.0	100.0	71
Gicumbi	16.3	32.1	26.4	24.5	0.6	100.0	113
Rwamagana	34.8	29.4	32.2	3.6	0.0	100.0	68
Nyagatare	16.1	39.8	35.2	8.9	0.0	100.0	84
Gatsibo	67.7	4.7	16.3	11.0	0.2	100.0	100
Kayanza	15.2	73.1	8.7	3.0	0.0	100.0	70
Kirehe	39.4	34.8	23.6	2.2	0.0	100.0	72
Ngoma	15.3	35.7	35.4	13.7	0.0	100.0	68
Bugesera	9.2	29.6	51.2	8.8	1.2	100.0	80

Source: EICV3.

**Table A.25 Walking distance to nearest public transport stage, by district**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	24.2	26.4	25.5	23.7	0.2	100.0	2,253
Nyarugenge	61.9	29.4	7.1	1.5	0.2	100.0	60
Gasabo	50.1	27.0	12.8	10.2	0.0	100.0	99
Kicukiro	48.5	41.7	7.9	1.9	0.0	100.0	64
Nyanza	24.2	30.9	26.8	18.1	0.0	100.0	67
Gisagara	10.9	22.8	32.9	33.3	0.2	100.0	74
Nyaruguru	23.1	33.6	30.8	12.3	0.2	100.0	61
Huye	26.8	32.6	27.9	12.7	0.0	100.0	70
Nyamagabe	6.8	10.1	41.8	41.4	0.0	100.0	71
Ruhango	9.3	28.5	37.4	24.8	0.0	100.0	71
Muhanga	13.4	34.7	28.2	23.5	0.2	100.0	63
Kamonyi	21.4	36.4	29.6	12.6	0.0	100.0	72
Karongi	16.0	19.7	20.6	43.5	0.2	100.0	77
Rutsiro	7.7	14.7	30.2	46.9	0.5	100.0	69
Rubavu	24.8	30.3	22.3	22.6	0.0	100.0	82
Nyabihu	31.9	22.3	27.2	18.6	0.0	100.0	68
Ngororero	11.9	15.8	27.0	44.9	0.5	100.0	74
Rusizi	29.3	25.1	22.8	22.9	0.0	100.0	78
Nyamasheke	21.8	18.2	27.9	30.9	1.2	100.0	80
Rulindo	9.6	24.3	26.6	39.4	0.0	100.0	63
Gakenke	8.1	25.9	36.6	29.4	0.0	100.0	76
Musanze	43.1	37.7	17.3	1.9	0.0	100.0	87
Burera	18.7	40.3	25.3	14.8	1.0	100.0	71
Gicumbi	25.6	25.2	20.5	28.2	0.6	100.0	113
Rwamagana	25.7	28.8	26.1	19.4	0.0	100.0	68
Nyagatare	30.9	22.8	27.4	18.8	0.0	100.0	84
Gatsibo	14.4	28.6	27.8	29.0	0.2	100.0	100
Kayanza	30.8	20.2	23.4	25.6	0.0	100.0	70
Kirehe	19.1	18.0	26.3	36.6	0.0	100.0	72
Ngoma	43.3	27.1	23.5	6.0	0.0	100.0	68
Bugesera	13.0	23.3	27.9	34.6	1.2	100.0	80

Source: EICV3.

**Table A.26 User satisfaction with public transport stage and perceptions of changes in quality over last 12 months, by district**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	77.5	22.1	0.3	100.0	1.7	54.0	43.7	0.6	100.0	1,123
Nyarugenge	92.7	7.3	0.0	100.0	0.7	70.3	29.0	0.0	100.0	55
Gasabo	90.6	9.4	0.0	100.0	1.0	49.9	48.4	0.6	100.0	66
Kicukiro	94.0	6.0	0.0	100.0	2.3	51.9	45.6	0.2	100.0	61
Nyanza	85.0	15.0	0.0	100.0	2.5	11.7	85.0	0.8	100.0	58
Gisagara	98.7	1.3	0.0	100.0	0.0	19.9	80.1	0.0	100.0	11
Nyaruguru	54.2	45.2	0.6	100.0	0.0	60.7	38.7	0.6	100.0	38
Huye	96.5	3.1	0.4	100.0	0.7	56.5	41.9	0.8	100.0	38
Nyamagabe	71.8	27.3	0.9	100.0	0.9	65.0	33.1	0.9	100.0	17
Ruhango	87.0	10.4	2.6	100.0	0.0	56.7	40.7	2.6	100.0	7
Muhanga	82.7	17.3	0.0	100.0	1.0	66.3	32.7	0.0	100.0	13
Kamonyi	9.0	90.6	0.4	100.0	0.5	82.4	16.6	0.4	100.0	51
Karongi	85.5	14.5	0.0	100.0	0.0	14.2	85.8	0.0	100.0	11
Rutsiro	43.5	56.5	0.0	100.0	3.8	47.7	48.5	0.0	100.0	17
Rubavu	85.3	14.2	0.5	100.0	3.0	41.3	54.8	0.9	100.0	42
Nyabihu	70.4	27.7	1.9	100.0	2.5	45.1	50.4	1.9	100.0	29
Ngororero	87.4	12.6	0.0	100.0	1.1	45.7	52.3	1.0	100.0	45
Rusizi	96.4	3.6	0.0	100.0	0.0	63.7	36.3	0.0	100.0	11
Nyamasheke	21.8	78.2	0.0	100.0	1.8	84.7	13.5	0.0	100.0	15
Rulindo	82.0	18.0	0.0	100.0	1.6	65.8	32.6	0.0	100.0	16
Gakenke	84.8	13.8	1.4	100.0	1.2	15.3	81.5	2.0	100.0	55
Musanze	80.0	19.5	0.5	100.0	0.6	66.3	32.5	0.6	100.0	54
Burera	85.6	12.0	2.3	100.0	9.5	36.7	52.4	1.3	100.0	15
Gicumbi	76.8	23.2	0.0	100.0	1.9	85.2	12.9	0.0	100.0	55
Rwamagana	78.0	21.7	0.3	100.0	3.3	68.7	26.0	2.0	100.0	44
Nyagatare	77.0	23.0	0.0	100.0	2.0	74.3	23.7	0.0	100.0	47
Gatsibo	68.2	31.8	0.0	100.0	2.0	53.6	44.2	0.3	100.0	73
Kayonza	66.7	32.4	0.9	100.0	1.0	51.0	47.2	0.9	100.0	62
Kirehe	93.9	6.1	0.0	100.0	1.4	47.9	50.8	0.0	100.0	53
Ngoma	89.1	10.9	0.0	100.0	5.2	57.0	37.8	0.0	100.0	35
Bugesera	83.7	16.3	0.0	100.0	2.1	52.2	44.6	1.2	100.0	31

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

**Table A.27 Reasons for not using public transport stage, by district**

EICV3	Too far	Too expensive	Poor quality of service	Too few staff	Lack of equipment	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	18.7	25.3	0.9	0.1	0.2	50.1	4.3	0.4	100.0	1,126
Nyarugenge	52.7	2.4	0.0	0.0	0.0	42.9	0.0	2.0	100.0	5
Gasabo	29.3	3.0	0.7	0.0	0.0	67.0	0.0	0.0	100.0	33
Kicukiro	14.7	18.1	0.0	0.0	0.0	67.2	0.0	0.0	100.0	3
Nyanza	40.5	21.3	0.0	0.0	0.0	38.2	0.0	0.0	100.0	9
Gisagara	11.5	17.6	0.0	0.0	0.0	68.9	1.7	0.2	100.0	63
Nyaruguru	8.4	53.9	0.0	0.0	0.0	36.6	0.6	0.5	100.0	22
Huye	34.9	34.4	0.0	0.0	0.0	27.0	3.8	0.0	100.0	32
Nyamagabe	31.7	28.7	0.3	0.0	1.2	37.6	0.6	0.0	100.0	55
Ruhango	10.3	17.6	0.0	0.0	0.0	70.9	1.2	0.0	100.0	64
Muhanga	6.5	11.1	0.5	0.0	0.0	80.7	0.9	0.2	100.0	50
Kamonyi	69.7	11.7	0.0	1.3	0.0	17.4	0.0	0.0	100.0	21
Karongi	12.3	10.4	0.0	0.2	0.0	76.2	0.7	0.2	100.0	65
Rutsiro	23.4	20.9	5.7	0.3	0.2	45.4	3.4	0.6	100.0	51
Rubavu	29.7	40.8	0.5	0.0	0.0	26.9	2.1	0.0	100.0	40
Nyabihu	8.4	87.1	0.3	0.0	0.0	3.8	0.4	0.0	100.0	40
Ngororero	26.3	46.7	0.0	0.5	0.0	24.3	1.1	1.2	100.0	29
Rusizi	14.0	10.6	0.0	0.2	0.0	74.9	0.3	0.0	100.0	66
Nyamasheke	14.8	6.9	0.5	0.0	0.0	73.8	2.6	1.5	100.0	66
Rulindo	16.5	6.8	0.0	0.0	0.0	74.8	1.9	0.0	100.0	47
Gakenke	23.6	52.6	5.0	0.0	0.7	18.1	0.0	0.0	100.0	22
Musanze	9.7	84.6	2.1	0.0	0.0	3.6	0.0	0.0	100.0	33
Burera	5.1	5.7	0.3	0.0	0.3	84.6	2.7	1.3	100.0	55
Gicumbi	20.4	13.4	0.6	0.0	0.0	7.4	57.0	1.1	100.0	58
Rwamagana	33.2	12.1	0.0	0.0	0.0	52.8	1.9	0.0	100.0	24
Nyagatare	25.0	48.0	4.7	0.0	0.0	19.7	2.5	0.0	100.0	37
Gatsibo	18.6	45.4	2.0	0.0	0.0	28.9	4.6	0.6	100.0	28
Kayanza	46.1	19.4	5.4	0.0	0.0	26.0	3.2	0.0	100.0	8
Kirehe	32.8	58.1	1.7	0.0	0.0	4.8	2.6	0.0	100.0	19
Ngoma	6.3	30.0	1.3	0.0	1.4	61.0	0.0	0.0	100.0	33
Bugesera	11.8	19.1	0.0	0.0	0.4	66.0	0.8	1.9	100.0	49

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.

**Table A.28 Ownership of vehicles (bicycle, motorcycle, car), by district**

EICV3	Bicycle	Motorcycle	Car	Total no. of HHs (000s)
All Rwanda	13.4	0.7	0.8	2,253
Nyarugenge	1.2	0.2	7.5	60
Gasabo	6.4	0.8	5.3	99
Kicukiro	5.5	0.6	6.1	64
Nyanza	11.4	0.2	0.0	67
Gisagara	21.3	0.0	0.0	74
Nyaruguru	4.7	0.7	0.0	61
Huye	12.5	1.2	0.4	70
Nyamagabe	5.8	0.6	0.0	71
Ruhango	12.3	0.5	0.0	71
Muhanga	7.4	0.5	0.7	63
Kamonyi	9.5	0.7	0.2	72
Karongi	1.2	0.4	0.1	77
Rutsiro	2.6	0.4	0.0	69
Rubavu	3.9	0.7	0.9	82
Nyabihu	1.8	0.2	0.0	68
Ngororero	3.3	0.2	0.0	74
Rusizi	3.3	0.2	0.5	78
Nyamasheke	1.3	0.5	0.2	80
Rulindo	12.8	0.4	0.0	63
Gakenke	6.3	0.2	0.0	76
Musanze	9.2	0.1	0.8	87
Burera	8.4	0.0	0.0	71
Gicumbi	11.1	1.9	0.0	113
Rwamagana	31.0	2.0	0.5	68
Nyagatare	44.7	2.8	0.6	84
Gatsibo	28.0	1.8	0.6	100
Kayonza	27.8	0.4	0.5	70
Kirehe	29.3	0.5	0.0	72
Ngoma	26.1	0.5	0.1	68
Bugesera	42.1	0.5	0.3	80

Source: EICV3.

**Table A.29 % of working individuals (16+) engaged in transport and road construction sectors, by district**

EICV3	% of working people 16+ with main job in transport sector	% of working people 16+ with main job in road construction sector	Total no. of working people 16+ (000s)
All Rwanda	1.6	0.2	4,767
Nyarugenge	5.2	0.3	113
Gasabo	4.3	0.7	202
Kicukiro	5.7	0.8	128
Nyanza	2.0	0.1	133
Gisagara	0.5	0.2	157
Nyaruguru	1.1	0.0	133
Huye	1.4	0.1	143
Nyamagabe	0.5	0.5	146
Ruhango	2.1	0.3	134
Muhanga	1.2	0.2	139
Kamonyi	2.3	0.0	147
Karongi	1.2	0.2	162
Rutsiro	0.9	0.4	144
Rubavu	3.4	0.2	163
Nyabihu	0.3	0.4	139
Ngororero	1.3	0.2	161
Rusizi	2.2	0.3	182
Nyamasheke	0.1	0.3	174
Rulindo	1.3	0.0	139
Gakenke	1.0	0.1	172
Musanze	2.8	0.1	186
Burera	0.4	0.1	155
Gicumbi	0.5	0.0	272
Rwamagana	0.8	0.0	143
Nyagatare	1.2	0.0	176
Gatsibo	0.8	0.1	214
Kayonza	1.4	0.0	143
Kirehe	0.7	0.1	151
Ngoma	1.3	0.0	148
Bugesera	1.8	0.0	167

Source: EICV3

**Table A.30 Ownership of ICT devices (mobile phone, landline phone, computer, radio, TV set, Video/DVD player), by district**

EICV3	Mobile phone	Landline phone	Computer	Radio	TV set	Video/DVD player	Total no. of HHs (000s)
All Rwanda	45.2	0.8	1.7	60.3	6.4	1.7	2,253
Nyarugenge	80.7	3.0	11.9	54.0	39.8	11.9	60
Gasabo	75.5	3.9	9.8	57.5	27.1	9.8	99
Kicukiro	85.0	1.2	10.3	60.0	45.5	10.3	64
Nyanza	39.1	0.8	0.3	58.8	1.8	0.3	67
Gisagara	26.1	0.0	0.0	59.3	0.7	0	74
Nyaruguru	29.9	0.3	0.2	58.3	0.3	0.2	61
Huye	37.5	0.1	1.8	62.2	4.9	1.8	70
Nyamagabe	23.4	0.2	0.2	55.9	1.6	0.2	71
Ruhango	33.6	0.0	0.0	63.3	1.7	0	71
Muhanga	45.8	0.8	1.4	64.0	4.3	1.4	63
Kamonyi	45.3	0.2	0.5	61.7	2.0	0.5	72
Karongi	30.9	0.4	0.3	48.3	1.0	0.3	77
Rutsiro	34.6	0.7	0.0	51.8	0.4	0	69
Rubavu	47.4	1.3	2.6	45.9	12.1	2.6	82
Nyabihu	42.1	0.6	0.4	54.8	2.7	0.4	68
Ngororero	32.1	1.6	0.0	55.8	0.0	0	74
Rusizi	48.7	0.6	0.6	54.0	8.3	0.6	78
Nyamasheke	45.4	0.0	0.3	52.3	2.8	0.3	80
Rulindo	43.1	0.0	0.2	67.9	1.5	0.2	63
Gakenke	41.1	1.0	0.2	65.3	1.0	0.2	76
Musanze	48.6	0.7	1.9	59.4	6.7	1.9	87
Burera	38.9	0.2	0.4	66.3	1.0	0.4	71
Gicumbi	38.2	2.4	3.2	62.3	9.2	3.2	113
Rwamagana	58.3	0.6	1.3	69.3	4.2	1.3	68
Nyagatare	53.3	0.6	0.6	69.5	3.4	0.6	84
Gatsibo	42.5	0.2	0.2	65.4	0.9	0.2	100
Kayanza	50.1	0.8	0.3	65.0	3.9	0.3	70
Kirehe	42.7	0.0	0.0	63.3	0.6	0	72
Ngoma	45.0	0.5	0.6	69.0	2.4	0.6	68
Bugesera	49.0	0.2	0.7	67.3	1.5	0.7	80

Source: EICV3.



**Table A.31 Computer literacy: % of population (6+) that have used a computer and that would feel confident about using a computer again, by district**

EICV3	Never used computer before	Used computer before but not confident to use it again	Used computer before and confident to use it again (computer literate)	Total	Total no. of persons 6+ (000s)
All Rwanda	93.5	2.6	3.9	100.0	8,820
Nyarugenge	75.4	6.7	17.8	100.0	235
Gasabo	78.2	7.8	14.0	100.0	385
Kicukiro	71.6	8.1	20.3	100.0	250
Nyanza	96.1	2.5	1.4	100.0	252
Gisagara	97.6	1.1	1.3	100.0	268
Nyaruguru	97.0	1.9	1.1	100.0	251
Huye	92.2	3.8	4.0	100.0	267
Nyamagabe	96.9	1.4	1.7	100.0	272
Ruhango	96.2	3.0	0.8	100.0	250
Muhanga	94.6	2.2	3.2	100.0	248
Kamonyi	96.1	1.5	2.4	100.0	274
Karongi	96.9	1.7	1.3	100.0	294
Rutsiro	97.8	1.6	0.7	100.0	265
Rubavu	90.9	3.1	6.0	100.0	332
Nyabihu	95.5	2.6	1.9	100.0	274
Ngororero	97.8	1.1	1.2	100.0	275
Rusizi	94.8	2.2	3.1	100.0	352
Nyamasheke	97.7	1.2	1.1	100.0	321
Rulindo	96.9	1.5	1.5	100.0	244
Gakenke	96.9	1.0	2.1	100.0	279
Musanze	93.3	2.1	4.6	100.0	342
Burera	96.0	1.4	2.6	100.0	299
Gicumbi	89.7	3.1	7.2	100.0	483
Rwamagana	93.6	2.4	4.0	100.0	263
Nyagatare	95.6	2.8	1.6	100.0	339
Gatsibo	97.1	1.7	1.3	100.0	400
Kayanza	96.4	1.8	1.7	100.0	268
Kirehe	97.1	1.4	1.4	100.0	267
Ngoma	96.4	1.7	1.8	100.0	260
Bugesera	95.0	1.9	3.1	100.0	311

Source: EICV3. Notes: Calculated only for persons aged 6 and above. The EICV3 survey assumes that illiterate persons do not use computers.

**Table A.32 Usage rates for internet service facility, by district**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	1.4	2.7	3.6	16.8	75.5	100.0	2,253
Nyarugenge	16.6	8.8	11.4	52.8	10.4	100.0	60
Gasabo	4.3	9.7	11.2	41.4	33.3	100.0	99
Kicukiro	5.1	12.5	14.0	55.7	12.7	100.0	64
Nyanza	2.0	0.5	0.5	14.6	82.5	100.0	67
Gisagara	0.3	0.2	1.4	5.8	92.4	100.0	74
Nyaruguru	0.0	0.4	1.2	9.3	89.0	100.0	61
Huye	0.6	4.6	4.5	15.0	75.3	100.0	70
Nyamagabe	0.1	0.6	3.3	9.1	86.8	100.0	71
Ruhango	0.0	0.4	1.5	10.3	87.8	100.0	71
Muhanga	0.0	1.3	1.7	11.3	85.7	100.0	63
Kamonyi	0.2	1.1	0.2	5.7	92.9	100.0	72
Karongi	0.0	0.2	1.9	11.5	86.4	100.0	77
Rutsiro	0.7	0.1	0.9	21.9	76.4	100.0	69
Rubavu	2.0	7.5	10.3	42.9	37.2	100.0	82
Nyabihu	0.3	2.5	2.8	8.9	85.5	100.0	68
Ngororero	0.4	0.6	0.6	9.2	89.1	100.0	74
Rusizi	0.0	1.9	9.4	24.8	63.9	100.0	78
Nyamasheke	0.0	0.6	0.2	10.0	89.2	100.0	80
Rulindo	0.2	1.7	1.5	23.0	73.5	100.0	63
Gakenke	1.3	0.2	1.1	5.3	92.2	100.0	76
Musanze	1.3	6.2	3.9	15.0	73.6	100.0	87
Burera	0.0	0.7	1.7	5.3	92.3	100.0	71
Gicumbi	2.6	4.3	1.8	13.7	77.6	100.0	113
Rwamagana	0.7	2.9	4.1	10.5	81.8	100.0	68
Nyagatare	0.8	1.5	3.1	14.9	79.6	100.0	84
Gatsibo	2.6	0.0	1.4	5.5	90.5	100.0	100
Kayanza	0.2	3.1	1.8	14.9	79.9	100.0	70
Kirehe	0.9	0.6	2.2	12.8	83.5	100.0	72
Ngoma	0.0	0.7	2.7	9.9	86.7	100.0	68
Bugesera	0.3	2.2	5.1	16.5	75.9	100.0	80

Source: EICV3.

**Table A.33 Walking distance to nearest internet service facility, by district**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	5.6	6.6	4.5	7.8	75.5	100.0	2,253
Nyarugenge	45.4	30.8	8.5	4.9	10.4	100.0	60
Gasabo	21.7	26.5	10.5	7.9	33.3	100.0	99
Kicukiro	30.8	40.9	11.2	4.4	12.7	100.0	64
Nyanza	2.0	4.4	3.1	8.0	82.5	100.0	67
Gisagara	0.4	0.9	1.1	5.3	92.4	100.0	74
Nyaruguru	0.2	0.2	1.1	9.5	89.0	100.0	61
Huye	2.0	5.2	7.1	10.3	75.3	100.0	70
Nyamagabe	1.2	0.6	1.8	9.5	86.8	100.0	71
Ruhango	1.2	1.8	3.8	5.4	87.8	100.0	71
Muhanga	2.0	4.0	3.1	5.1	85.7	100.0	63
Kamonyi	1.3	2.4	2.0	1.4	92.9	100.0	72
Karongi	1.5	1.3	1.9	8.9	86.4	100.0	77
Rutsiro	0.0	3.0	4.0	16.7	76.4	100.0	69
Rubavu	10.8	21.5	12.3	18.2	37.2	100.0	82
Nyabihu	0.6	5.8	2.8	5.3	85.5	100.0	68
Ngororero	0.4	1.8	2.9	5.8	89.1	100.0	74
Rusizi	9.4	6.0	10.7	9.9	63.9	100.0	78
Nyamasheke	0.5	4.2	2.0	4.1	89.2	100.0	80
Rulindo	1.9	4.6	4.6	15.3	73.5	100.0	63
Gakenke	0.2	0.8	1.2	5.5	92.2	100.0	76
Musanze	7.1	8.7	6.3	4.4	73.6	100.0	87
Burera	1.7	1.4	2.2	2.7	92.0	100.0	71
Gicumbi	8.5	1.9	3.0	9.0	77.6	100.0	113
Rwamagana	2.4	3.3	6.8	5.6	81.8	100.0	68
Nyagatare	4.5	1.6	1.4	12.9	79.6	100.0	84
Gatsibo	1.1	1.5	1.2	5.8	90.5	100.0	100
Kayanza	4.5	2.2	5.1	8.2	79.9	100.0	70
Kirehe	1.6	2.1	2.0	10.8	83.5	100.0	72
Ngoma	1.6	4.4	3.0	4.4	86.7	100.0	68
Bugesera	3.0	7.2	6.9	7.0	75.9	100.0	80

Source: EICV3.

**Table A.34 Reasons for not using internet service facility, by district**

EICV3	Too far	Too expensive	Poor quality of service	Too few staff	Lack of equipment	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	3.1	2.1	0.1	0.0	0.1	15.5	0.4	78.7	100.0	2,160
Nyarugenge	1.6	0.0	0.3	0.0	0.0	84.0	0.2	13.9	100.0	45
Gasabo	2.1	0.2	0.2	0.0	0.0	58.5	0.3	38.8	100.0	85
Kicukiro	2.9	11.5	1.6	0.0	1.3	67.0	0.3	15.4	100.0	53
Nyanza	2.5	4.9	0.0	0.0	0.0	8.0	0.0	84.6	100.0	65
Gisagara	2.5	0.2	0.0	0.0	0.0	4.3	0.2	92.8	100.0	73
Nyaruguru	6.0	1.3	0.0	0.0	0.0	3.1	0.0	89.5	100.0	61
Huye	6.3	3.4	0.2	0.0	0.0	10.7	0.0	79.4	100.0	66
Nyamagabe	2.9	2.8	0.0	0.0	0.0	6.7	0.0	87.5	100.0	71
Ruhango	1.8	1.0	0.0	0.0	0.0	8.9	0.2	88.1	100.0	71
Muhanga	1.8	0.4	0.0	0.0	0.0	10.4	0.5	86.9	100.0	62
Kamonyi	1.3	0.6	0.2	0.0	0.0	3.8	0.0	94.1	100.0	71
Karongi	1.3	0.2	0.0	0.0	0.0	11.9	0.0	86.5	100.0	76
Rutsiro	7.5	3.2	0.2	0.0	0.1	11.8	0.0	77.2	100.0	68
Rubavu	3.2	11.6	0.0	0.2	0.0	41.0	2.9	41.1	100.0	74
Nyabihu	2.1	3.5	0.0	0.0	0.0	6.5	0.0	87.9	100.0	66
Ngororero	2.1	1.9	0.0	0.0	0.0	6.0	0.0	90.0	100.0	73
Rusizi	2.3	0.7	0.0	0.0	0.0	31.9	0.0	65.1	100.0	76
Nyamasheke	1.5	0.2	0.0	0.0	0.0	8.4	0.2	89.7	100.0	80
Rulindo	2.9	0.8	0.0	0.0	0.0	21.0	0.2	75.0	100.0	62
Gakenke	3.2	0.8	0.0	0.0	0.2	2.1	0.0	93.6	100.0	75
Musanze	1.4	7.4	0.0	0.0	0.0	11.7	0.0	79.5	100.0	81
Burera	2.0	0.2	0.0	0.0	0.2	4.5	0.2	92.9	100.0	71
Gicumbi	5.8	1.4	0.0	0.0	0.0	4.7	4.8	83.4	100.0	105
Rwamagana	3.9	0.9	0.0	0.0	0.0	10.3	0.0	84.9	100.0	66
Nyagatare	4.7	1.7	0.0	0.0	0.0	12.1	0.0	81.5	100.0	82
Gatsibo	1.7	0.8	0.4	0.0	0.2	4.0	0.0	92.9	100.0	97
Kayanza	4.7	0.2	0.2	0.0	0.0	11.7	0.4	82.7	100.0	68
Kirehe	5.9	1.0	0.3	0.0	0.0	8.0	0.0	84.8	100.0	71
Ngoma	3.8	0.6	0.1	0.0	0.1	8.1	0.0	87.3	100.0	67
Bugesera	1.5	1.3	0.0	0.0	0.0	19.0	0.5	77.8	100.0	78

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.

**Table A.35 Usage rates for public telephone, by district**

EICV3	Regularly	Often	Sometimes	Not at all	Don't know about this service	Total	Total no. of HHs (000s)
All Rwanda	8.4	10.3	22.1	45.9	13.2	100.0	2,253
Nyarugenge	21.7	8.2	21.8	47.8	0.4	100.0	60
Gasabo	36.5	15.9	19.4	26.9	1.3	100.0	99
Kicukiro	7.9	14.2	21.4	55.3	1.1	100.0	64
Nyanza	26.7	17.1	14.6	33.1	8.5	100.0	67
Gisagara	0.0	3.0	16.4	35.9	44.8	100.0	74
Nyaruguru	0.8	10.5	30.4	32.1	26.2	100.0	61
Huye	1.1	14.2	30.0	42.1	12.6	100.0	70
Nyamagabe	2.0	5.1	20.5	56.0	16.4	100.0	71
Ruhango	0.3	4.0	41.4	47.4	7.0	100.0	71
Muhanga	1.0	4.4	20.1	63.2	11.3	100.0	63
Kamonyi	12.0	13.6	13.1	40.9	20.4	100.0	72
Karongi	0.1	1.9	24.9	42.1	30.9	100.0	77
Rutsiro	5.4	15.4	14.3	53.8	11.1	100.0	69
Rubavu	8.8	24.2	27.5	38.6	0.9	100.0	82
Nyabihu	8.0	11.5	39.4	36.9	4.2	100.0	68
Ngororero	19.8	6.3	25.0	42.8	6.0	100.0	74
Rusizi	0.0	2.6	31.6	53.8	12.1	100.0	78
Nyamasheke	1.3	4.8	22.0	37.6	34.4	100.0	80
Rulindo	1.2	1.7	27.9	56.9	12.3	100.0	63
Gakenke	28.3	8.1	21.6	34.5	7.4	100.0	76
Musanze	6.1	27.7	21.1	26.0	19.1	100.0	87
Burera	4.4	8.3	17.5	45.2	24.6	100.0	71
Gicumbi	2.1	11.0	12.9	56.3	17.7	100.0	113
Rwamagana	4.6	12.6	29.2	41.2	12.4	100.0	68
Nyagatare	5.2	12.2	21.9	55.4	5.3	100.0	84
Gatsibo	18.0	1.5	13.5	62.1	4.9	100.0	100
Kayanza	1.3	11.9	7.9	70.9	7.9	100.0	70
Kirehe	15.3	17.8	16.4	42.9	7.6	100.0	72
Ngoma	1.2	7.6	18.5	65.4	7.3	100.0	68
Bugesera	1.5	9.5	30.9	38.4	19.6	100.0	80

Source: EICV3.

**Table A.36 Walking distance to nearest public telephone, by district**

EICV3	0–19 minutes' walk	20–59 minutes' walk	60–119 minutes' walk	120+ minutes' walk	Don't know of facility	Total	Total no. of HHs (000s)
All Rwanda	30.4	26.9	18.5	11.0	13.2	100.0	2,253
Nyarugenge	67.1	22.2	7.5	2.8	0.4	100.0	60
Gasabo	72.5	19.2	5.0	2.0	1.3	100.0	99
Kicukiro	68.6	22.4	5.5	2.4	1.1	100.0	64
Nyanza	24.4	38.5	22.1	6.5	8.5	100.0	67
Gisagara	6.5	15.7	17.7	15.2	44.8	100.0	74
Nyaruguru	18.7	17.1	21.4	16.7	26.2	100.0	61
Huye	20.2	35.5	24.5	7.2	12.6	100.0	70
Nyamagabe	11.2	14.5	31.7	26.2	16.4	100.0	71
Ruhango	28.4	30.9	24.1	9.6	7.0	100.0	71
Muhanga	14.8	36.4	24.0	13.5	11.3	100.0	63
Kamonyi	26.6	33.9	13.6	5.6	20.4	100.0	72
Karongi	8.0	15.6	22.9	22.6	30.9	100.0	77
Rutsiro	16.6	24.9	21.8	25.6	11.1	100.0	69
Rubavu	55.6	28.0	11.1	4.4	0.9	100.0	82
Nyabihu	32.7	30.8	23.7	8.5	4.2	100.0	68
Ngororero	20.9	23.6	21.7	27.8	6.0	100.0	74
Rusizi	27.5	23.2	20.8	16.4	12.1	100.0	78
Nyamasheke	20.2	21.0	15.8	8.6	34.4	100.0	80
Rulindo	13.1	32.5	27.6	14.5	12.3	100.0	63
Gakenke	15.6	33.3	30.2	13.5	7.4	100.0	76
Musanze	43.0	30.2	7.2	0.5	19.1	100.0	87
Burera	19.7	35.7	15.6	4.5	24.6	100.0	71
Gicumbi	23.2	23.8	22.4	13.0	17.7	100.0	113
Rwamagana	31.8	29.2	14.2	12.5	12.4	100.0	68
Nyagatare	42.7	24.6	19.9	7.5	5.3	100.0	84
Gatsibo	26.0	47.1	17.1	4.9	4.9	100.0	100
Kayanza	36.6	16.2	25.9	13.5	7.9	100.0	70
Kirehe	46.9	21.0	9.4	15.0	7.6	100.0	72
Ngoma	41.1	29.2	17.6	4.8	7.3	100.0	68
Bugesera	21.9	29.6	18.1	10.8	19.6	100.0	80

Source: EICV3.

**Table A.37 User satisfaction with public telephone and perceptions of changes in quality over last 12 months, by district**

EICV3	Satisfaction			Total	Changes in quality, last 12 months				Total	Total no. of HHs that used this service (000s)
	Satis-fied	Not satis-fied	NA / Don't know		Decli-ning	Same	Impro-ving	Don't know		
All Rwanda	89.2	9.3	1.5	100.0	3.1	43.7	51.2	2.0	100.0	422
Nyarugenge	96.0	0.7	3.3	100.0	4.0	83.3	7.3	5.5	100.0	18
Gasabo	94.1	2.5	3.4	100.0	1.0	43.1	51.1	4.8	100.0	52
Kicukiro	87.7	12.3	0.0	100.0	8.4	65.8	24.7	1.1	100.0	14
Nyanza	96.0	4.0	0.0	100.0	3.1	3.1	93.4	0.5	100.0	29
Gisagara	79.9	20.1	0.0	100.0	0.0	43.9	56.1	0.0	100.0	2
Nyaruguru	66.9	31.9	1.2	100.0	0.0	72.1	26.7	1.2	100.0	7
Huye	74.3	25.7	0.0	100.0	21.7	39.0	39.3	0.0	100.0	11
Nyamagabe	93.6	3.1	3.3	100.0	0.0	45.8	50.9	3.3	100.0	5
Ruhango	78.2	16.1	5.7	100.0	0.0	43.0	51.3	5.7	100.0	3
Muhanga	80.0	16.3	3.7	100.0	0.0	70.4	25.9	3.7	100.0	3
Kamonyi	70.0	28.6	1.4	100.0	3.3	43.5	51.1	2.1	100.0	18
Karongi	82.5	8.3	9.2	100.0	0.0	45.9	54.1	0.0	100.0	2
Rutsiro	84.7	14.2	1.2	100.0	10.1	35.6	54.3	0.0	100.0	14
Rubavu	95.5	3.8	0.7	100.0	3.6	33.4	61.6	1.3	100.0	27
Nyabihu	88.7	11.3	0.0	100.0	3.4	26.7	68.9	1.1	100.0	13
Ngororero	94.2	5.8	0.0	100.0	0.7	56.3	42.3	0.7	100.0	19
Rusizi	100.0	0.0	0.0	100.0	0.0	32.1	67.9	0.0	100.0	2
Nyamasheke	80.1	19.9	0.0	100.0	0.0	27.9	72.1	0.0	100.0	5
Rulindo	85.3	14.7	0.0	100.0	0.0	50.1	49.9	0.0	100.0	2
Gakenke	92.0	6.2	1.8	100.0	1.6	8.6	88.1	1.8	100.0	28
Musanze	84.2	13.7	2.1	100.0	0.4	54.4	43.1	2.1	100.0	30
Burera	90.5	6.5	3.1	100.0	8.0	58.8	28.5	4.7	100.0	9
Gicumbi	86.4	13.6	0.0	100.0	4.7	68.4	26.9	0.0	100.0	15
Rwamagana	95.5	4.5	0.0	100.0	1.0	54.4	43.5	1.1	100.0	12
Nyagatare	88.3	10.6	1.1	100.0	0.0	73.9	23.8	2.2	100.0	15
Gatsibo	96.8	3.2	0.0	100.0	2.2	29.5	68.3	0.0	100.0	19
Kayanza	81.8	16.9	1.3	100.0	3.0	54.3	41.4	1.3	100.0	9
Kirehe	92.6	3.6	3.8	100.0	0.8	34.1	61.3	3.8	100.0	24
Ngoma	90.0	10.0	0.0	100.0	0.0	65.3	34.7	0.0	100.0	6
Bugesera	77.1	21.2	1.7	100.0	10.4	76.1	11.8	1.7	100.0	9

Source: EICV3. Notes: Calculated only on the basis of HHs that used this service regularly or often.

**Table A.38 Reasons for not using public telephone, by district**

EICV3	Too far	Too expensive	Poor quality of service	Too few staff	Lack of equipment	Do not need it	Other	Don't know about it	Total	Total no. of HHs that did not use service (000s)
All Rwanda	9.8	14.8	1.1	0.0	0.1	55.2	2.7	16.3	100.0	1,827
Nyarugenge	3.2	0.8	0.0	0.0	0.0	95.4	0.0	0.6	100.0	42
Gasabo	3.9	1.9	0.0	0.4	0.0	91.1	0.0	2.7	100.0	47
Kicukiro	0.7	1.9	0.8	0.3	0.0	94.9	0.0	1.4	100.0	50
Nyanza	17.1	20.9	0.4	0.0	0.0	46.0	0.4	15.1	100.0	38
Gisagara	5.2	5.7	0.2	0.0	0.0	41.9	0.8	46.2	100.0	72
Nyaruguru	15.8	31.5	1.2	0.5	0.3	20.7	0.5	29.6	100.0	54
Huye	18.4	14.8	4.8	0.0	0.2	46.7	0.0	15.0	100.0	59
Nyamagabe	14.8	23.7	0.0	0.0	0.2	42.8	0.7	17.7	100.0	66
Ruhango	4.5	11.4	0.2	0.0	0.0	75.8	0.8	7.3	100.0	68
Muhanga	4.7	3.7	0.0	0.0	0.0	78.8	0.9	11.9	100.0	60
Kamonyi	19.8	14.8	1.7	0.0	0.0	36.3	0.0	27.4	100.0	54
Karongi	6.2	2.3	0.2	0.0	0.2	59.1	0.4	31.7	100.0	75
Rutsiro	12.5	23.7	1.2	0.0	0.0	47.8	0.8	14.0	100.0	54
Rubavu	1.5	41.6	0.5	0.0	0.0	53.2	1.8	1.4	100.0	55
Nyabihu	12.6	38.0	14.9	0.0	0.0	28.7	0.5	5.2	100.0	55
Ngororero	22.4	36.4	0.9	0.0	0.6	31.7	0.0	8.1	100.0	55
Rusizi	7.8	1.5	0.0	0.0	0.0	77.6	0.7	12.4	100.0	76
Nyamasheke	3.3	2.5	0.5	0.0	0.0	56.8	0.2	36.6	100.0	76
Rulindo	5.7	3.2	0.5	0.0	0.0	77.1	0.8	12.6	100.0	61
Gakenke	18.2	44.6	1.3	0.0	0.6	23.6	0.0	11.7	100.0	49
Musanze	4.5	33.2	2.5	0.0	0.0	31.1	0.0	28.8	100.0	58
Burera	1.0	2.2	0.0	0.0	0.0	67.8	0.9	28.2	100.0	62
Gicumbi	19.9	7.3	0.9	0.0	0.0	9.6	42.0	20.4	100.0	98
Rwamagana	13.3	5.5	0.2	0.0	0.0	65.3	0.7	15.0	100.0	56
Nyagatare	6.2	21.0	0.4	0.0	0.0	65.3	0.5	6.5	100.0	69
Gatsibo	8.2	22.5	0.2	0.0	0.0	62.8	0.2	6.1	100.0	80
Kayanza	10.5	4.9	0.9	0.0	0.0	74.0	0.4	9.2	100.0	61
Kirehe	22.1	37.1	0.3	0.0	0.5	28.5	0.0	11.5	100.0	48
Ngoma	10.7	8.3	1.4	0.0	0.9	70.7	0.0	8.0	100.0	62
Bugesera	3.6	3.9	0.0	0.2	0.0	70.2	0.0	22.1	100.0	71

Source: EICV3. Notes: Calculated only on the basis of HHs that did not use the service at all, did not know about it or used it only sometimes.



## Annex B Confidence Intervals for selected indicators, EICV3

**Table B.1 % of HH whose main water source is improved**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	74.20	0.88	72.47	75.93	14,308
Kigali City	82.70	2.04	78.69	86.71	1,348
Southern Province	74.78	1.39	72.05	77.50	3,840
Western Province	74.16	1.67	70.88	77.44	3,360
Northern Province	78.94	2.09	74.84	83.03	2,400
Eastern Province	66.57	2.34	61.97	71.17	3,360
Kigali City Urban	83.70	2.15	79.47	87.92	1,177
Kigali City Rural	77.84	5.56	66.93	88.74	171
Southern Province Urban	88.27	3.38	81.64	94.91	492
Southern Province Rural	72.87	1.53	69.86	75.87	3,348
Western Province Urban	89.99	3.64	82.84	97.14	204
Western Province Rural	73.08	1.76	69.62	76.54	3,156
Northern Province Urban	92.17	5.31	81.75	102.58	132
Northern Province Rural	78.12	2.20	73.81	82.42	2,268
Eastern Province Urban	92.46	4.01	84.60	100.32	144
Eastern Province Rural	65.57	2.42	60.82	70.31	3,216
Urban	86.42	1.53	83.43	89.42	2,149
Rural	72.10	1.01	70.12	74.07	12,159
Q1	68.43	1.44	65.60	71.25	2,449
Q2	71.42	1.27	68.93	73.91	2,699
Q3	71.50	1.25	69.05	73.95	2,849
Q4	73.18	1.20	70.83	75.53	3,103
Q5	83.96	0.98	82.04	85.89	3,208
Nyarugenge	94.02	1.87	90.34	97.69	449
Gasabo	84.68	3.63	77.56	91.81	450
Kicukiro	68.95	4.01	61.09	76.81	449
Nyanza	82.09	4.13	73.98	90.20	480
Gisagara	82.06	3.63	74.94	89.19	480
Nyaruguru	66.08	4.03	58.17	73.99	480
Huye	91.05	2.19	86.76	95.34	480
Nyamagabe	68.38	3.93	60.68	76.08	480
Ruhango	58.73	4.86	49.19	68.27	480
Muhanga	84.38	3.12	78.26	90.51	480
Kamonyi	65.90	4.39	57.28	74.51	480
Karongi	74.72	6.24	62.48	86.97	480
Rutsiro	59.88	4.26	51.53	68.23	480
Rubavu	93.37	2.38	88.69	98.05	480
Nyabihu	79.64	4.07	71.67	87.62	480
Ngororero	63.75	4.08	55.75	71.74	480
Rusizi	72.82	4.48	64.04	81.61	480
Nyamasheke	72.57	4.39	63.96	81.19	480
Rulindo	74.63	3.77	67.23	82.03	480
Gakenke	74.60	3.89	66.98	82.22	480
Musanze	73.96	5.61	62.95	84.97	480
Burera	76.82	4.82	67.37	86.27	480
Gicumbi	89.42	2.96	83.61	95.24	480
Rwamagana	81.96	4.50	73.12	90.79	480
Nyagatare	42.31	5.09	32.33	52.29	480
Gatsibo	72.30	6.01	60.51	84.09	480
Kayanza	72.04	6.55	59.19	84.89	480
Kirehe	61.51	7.28	47.23	75.79	480
Ngoma	67.56	6.65	54.51	80.61	480
Bugesera	70.64	5.59	59.67	81.61	480

**Table B.2 % of population whose main water source is improved**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	74.65	0.90	72.88	76.43	68,398
Kigali City	84.26	1.94	80.45	88.07	6,516
Southern Province	74.35	1.42	71.58	77.13	17,741
Western Province	75.08	1.68	71.79	78.37	16,534
Northern Province	79.64	2.15	75.41	83.86	11,425
Eastern Province	66.82	2.40	62.12	71.52	16,182
Kigali City Urban	85.50	1.99	81.60	89.40	5,744
Kigali City Rural	77.83	5.69	66.66	89.00	772
Southern Province Urban	88.67	3.29	82.22	95.12	2,318
Southern Province Rural	72.28	1.56	69.23	75.34	15,423
Western Province Urban	91.69	3.07	85.67	97.72	1,039
Western Province Rural	73.89	1.78	70.41	77.38	15,495
Northern Province Urban	93.01	4.79	83.61	102.41	673
Northern Province Rural	78.77	2.28	74.30	83.24	10,752
Eastern Province Urban	92.55	4.18	84.35	100.75	674
Eastern Province Rural	65.87	2.47	61.01	70.72	15,508
Urban	87.79	1.42	85.01	90.57	10,448
Rural	72.37	1.04	70.33	74.40	57,950
Q1	68.63	1.48	65.72	71.54	13,541
Q2	72.13	1.31	69.56	74.71	13,773
Q3	72.22	1.29	69.69	74.74	13,535
Q4	73.65	1.26	71.18	76.12	13,606
Q5	85.91	1.05	83.84	87.98	13,943
Nyarugenge	94.03	1.82	90.47	97.60	2,142
Gasabo	85.92	3.49	79.07	92.76	2,209
Kicukiro	72.45	3.63	65.33	79.57	2,165
Nyanza	82.10	4.19	73.88	90.32	2,202
Gisagara	80.97	3.80	73.52	88.42	2,190
Nyaruguru	64.47	4.32	56.00	72.94	2,381
Huye	90.07	2.55	85.06	95.08	2,198
Nyamagabe	68.44	3.82	60.95	75.93	2,257
Ruhango	58.15	5.05	48.24	68.07	2,053
Muhanga	84.06	3.25	77.69	90.43	2,258
Kamonyi	66.41	4.22	58.13	74.69	2,202
Karongi	76.59	5.85	65.11	88.07	2,247
Rutsiro	59.03	4.41	50.37	67.69	2,292
Rubavu	94.74	2.03	90.75	98.72	2,489
Nyabihu	80.82	4.15	72.68	88.97	2,346
Ngororero	63.21	4.22	54.93	71.49	2,214
Rusizi	73.65	4.73	64.37	82.93	2,586
Nyamasheke	72.92	4.80	63.51	82.33	2,360
Rulindo	74.93	3.65	67.77	82.09	2,243
Gakenke	74.70	3.94	66.98	82.42	2,171
Musanze	75.12	5.42	64.49	85.75	2,326
Burera	77.64	4.80	68.21	87.06	2,385
Gicumbi	89.55	3.18	83.32	95.78	2,300
Rwamagana	81.84	4.76	72.49	91.19	2,257
Nyagatare	41.67	5.17	31.53	51.82	2,443
Gatsibo	73.38	6.14	61.32	85.43	2,343
Kayanza	71.51	6.74	58.28	84.73	2,273
Kirehe	62.79	7.32	48.42	77.16	2,226
Ngoma	69.13	6.48	56.41	81.84	2,287
Bugesera	71.16	5.67	60.02	82.29	2,353

**Table B.3 Mean distance (meters) to nearest improved drinking water source**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	506.2	10.5	485.6	526.7	9,496
Kigali City	213.0	21.5	170.8	255.2	1,024
Southern Province	590.7	14.8	561.7	619.7	2,636
Western Province	443.1	16.2	411.2	475.0	2,243
Northern Province	560.7	31.9	498.1	623.3	1,706
Eastern Province	579.5	28.1	524.4	634.6	1,887
Kigali City Urban	174.3	20.7	133.7	215.0	930
Kigali City Rural	475.5	77.1	324.2	626.8	94
Southern Province Urban	433.1	43.2	348.4	517.7	405
Southern Province Rural	618.0	15.2	588.3	647.8	2,231
Western Province Urban	267.2	43.4	182.2	352.3	166
Western Province Rural	457.9	17.0	424.7	491.2	2,077
Northern Province Urban	397.0	113.3	174.7	619.4	117
Northern Province Rural	573.2	33.1	508.2	638.1	1,589
Eastern Province Urban	305.0	86.4	135.4	474.6	115
Eastern Province Rural	594.9	28.6	538.7	651.1	1,772
Urban	264.0	19.5	225.8	302.3	1,733
Rural	558.1	11.8	534.9	581.3	7,763
Q1	581.4	15.4	551.3	611.6	1,500
Q2	574.9	17.4	540.8	609.0	1,693
Q3	590.0	16.0	558.7	621.4	1,803
Q4	528.7	14.8	499.7	557.8	2,030
Q5	339.9	16.6	307.3	372.5	2,470
Nyarugenge	185.1	36.8	112.9	257.3	394
Gasabo	260.4	36.0	189.8	331.0	341
Kicukiro	162.3	38.9	85.9	238.7	289
Nyanza	594.8	30.6	534.9	654.7	362
Gisagara	777.8	48.7	682.2	873.3	382
Nyaruguru	623.3	41.5	541.8	704.9	286
Huye	686.1	51.8	584.5	787.7	402
Nyamagabe	551.2	34.4	483.7	618.7	309
Ruhango	571.4	43.3	486.5	656.4	240
Muhanga	395.1	27.1	342.0	448.2	386
Kamonyi	460.8	30.8	400.4	521.3	269
Karongi	513.5	38.9	437.1	589.8	354
Rutsiro	689.3	49.6	592.0	786.5	256
Rubavu	284.6	34.5	216.9	352.2	382
Nyabihu	569.8	48.7	474.3	665.3	372
Ngororero	347.8	23.6	301.5	394.1	256
Rusizi	432.8	43.0	348.4	517.2	297
Nyamasheke	359.6	28.3	304.1	415.0	326
Rulindo	537.8	48.7	442.2	633.3	325
Gakenke	459.0	30.4	399.4	518.6	340
Musanze	455.5	61.9	334.1	576.9	322
Burera	643.6	56.2	533.3	753.9	346
Gicumbi	650.7	90.1	473.9	827.4	373
Rwamagana	444.9	52.3	342.3	547.4	334
Nyagatare	551.5	106.5	342.5	760.4	180
Gatsibo	606.4	58.4	491.8	720.9	287
Kayanza	570.6	76.8	420.0	721.2	293
Kirehe	762.1	92.0	581.6	942.5	277
Ngoma	534.1	76.1	384.8	683.3	215
Bugesera	579.3	63.2	455.3	703.4	301

**Table B.4 Mean time (minutes) to improved water source**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	14.4	0.3	13.8	15.1	10,570
Kigali City	9.1	1.1	7.0	11.2	1,120
Southern Province	14.9	0.4	14.1	15.8	2,874
Western Province	13.1	0.6	11.9	14.3	2,499
Northern Province	16.2	0.9	14.4	17.9	1,838
Eastern Province	16.5	0.9	14.8	18.2	2,239
Kigali City Urban	7.1	0.9	5.2	8.9	987
Kigali City Rural	19.7	3.9	12.0	27.4	133
Southern Province Urban	10.6	1.1	8.5	12.7	435
Southern Province Rural	15.7	0.5	14.7	16.6	2,439
Western Province Urban	8.3	1.2	6.0	10.6	184
Western Province Rural	13.5	0.6	12.3	14.8	2,315
Northern Province Urban	11.8	3.9	4.1	19.4	121
Northern Province Rural	16.5	0.9	14.7	18.3	1,717
Eastern Province Urban	15.2	4.8	5.8	24.5	133
Eastern Province Rural	16.6	0.9	14.9	18.3	2,106
Urban	8.8	0.7	7.4	10.3	1,860
Rural	15.6	0.4	14.9	16.3	8,710
Q1	16.7	0.5	15.7	17.7	1,675
Q2	16.1	0.5	15.2	17.0	1,921
Q3	15.9	0.4	15.0	16.7	2,029
Q4	15.2	0.5	14.2	16.1	2,264
Q5	10.3	0.5	9.3	11.3	2,681
Nyarugenge	9.4	2.0	5.4	13.4	422
Gasabo	10.5	1.8	7.0	13.9	388
Kicukiro	6.2	1.6	3.1	9.3	310
Nyanza	13.6	1.0	11.6	15.6	394
Gisagara	22.7	1.9	19.0	26.5	398
Nyaruguru	14.2	1.4	11.4	17.0	319
Huye	13.9	1.1	11.8	16.0	432
Nyamagabe	15.7	1.0	13.7	17.7	331
Ruhango	12.2	1.0	10.1	14.2	286
Muhanga	9.6	0.7	8.2	11.0	398
Kamonyi	15.9	1.1	13.8	17.9	316
Karongi	14.1	1.7	10.8	17.3	386
Rutsiro	17.4	1.6	14.3	20.6	288
Rubavu	12.8	1.9	9.1	16.5	447
Nyabihu	12.0	1.1	9.9	14.1	378
Ngororero	14.4	0.9	12.7	16.1	303
Rusizi	10.6	1.8	7.0	14.2	350
Nyamasheke	11.9	1.0	10.0	13.8	347
Rulindo	14.7	1.1	12.5	16.8	358
Gakenke	15.3	1.0	13.4	17.2	359
Musanze	9.7	1.3	7.0	12.3	345
Burera	18.2	1.7	14.9	21.4	369
Gicumbi	20.4	2.7	15.2	25.7	407
Rwamagana	14.8	1.1	12.6	16.9	391
Nyagatare	17.6	3.0	11.7	23.4	211
Gatsibo	14.2	1.8	10.8	17.7	325
Kayanza	16.1	2.3	11.7	20.5	345
Kirehe	26.0	3.5	19.1	32.9	304
Ngoma	16.3	2.6	11.3	21.3	326
Bugsera	13.5	1.5	10.6	16.4	337

**Table B.5 % of HH with improved sanitation**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	74.47	0.52	73.45	75.50	14,308
Kigali City	83.28	2.05	79.25	87.31	1,348
Southern Province	66.19	0.93	64.36	68.02	3,840
Western Province	79.20	0.93	77.36	81.03	3,360
Northern Province	74.17	1.50	71.23	77.11	2,400
Eastern Province	74.87	1.00	72.90	76.84	3,360
Kigali City Urban	88.12	2.01	84.18	92.06	1,177
Kigali City Rural	59.75	6.03	47.91	71.58	171
Southern Province Urban	74.32	3.41	67.62	81.02	492
Southern Province Rural	65.04	1.00	63.08	67.00	3,348
Western Province Urban	78.09	3.64	70.95	85.23	204
Western Province Rural	79.27	0.97	77.37	81.17	3,156
Northern Province Urban	74.63	6.27	62.33	86.93	132
Northern Province Rural	74.14	1.55	71.11	77.17	2,268
Eastern Province Urban	76.71	6.04	64.86	88.55	144
Eastern Province Rural	74.80	1.03	72.77	76.83	3,216
Urban	82.59	1.50	79.64	85.54	2,149
Rural	73.07	0.56	71.98	74.17	12,159
Q1	64.72	1.11	62.53	66.90	2,449
Q2	72.12	1.02	70.11	74.13	2,699
Q3	71.85	1.01	69.88	73.83	2,849
Q4	74.66	1.01	72.68	76.63	3,103
Q5	85.61	0.90	83.84	87.37	3,208
Nyarugenge	92.05	2.04	88.04	96.05	449
Gasabo	74.31	3.99	66.47	82.14	450
Kicukiro	88.98	2.86	83.37	94.60	449
Nyanza	88.56	1.62	85.38	91.75	480
Gisagara	44.42	2.89	38.76	50.08	480
Nyaruguru	51.19	2.69	45.91	56.47	480
Huye	54.69	3.29	48.24	61.13	480
Nyamagabe	70.24	2.32	65.69	74.78	480
Ruhango	72.91	2.19	68.61	77.21	480
Muhanga	75.98	3.07	69.95	82.01	480
Kamonyi	72.33	2.44	67.55	77.12	480
Karongi	76.55	2.30	72.04	81.07	480
Rutsiro	63.36	2.99	57.50	69.23	480
Rubavu	80.14	3.08	74.10	86.17	480
Nyabihu	70.45	2.40	65.74	75.15	480
Ngororero	90.24	1.38	87.53	92.95	480
Rusizi	85.10	2.40	80.38	89.81	480
Nyamasheke	85.86	1.88	82.17	89.55	480
Rulindo	82.59	1.94	78.79	86.39	480
Gakenke	86.17	2.27	81.72	90.62	480
Musanze	51.74	3.76	44.36	59.12	480
Burera	78.43	2.14	74.24	82.62	480
Gicumbi	76.01	3.89	68.39	83.64	480
Rwamagana	61.96	3.25	55.59	68.33	480
Nyagatare	92.78	1.21	90.41	95.15	480
Gatsibo	67.40	3.24	61.05	73.76	480
Kayanza	66.26	3.15	60.08	72.44	480
Kirehe	75.15	2.44	70.36	79.95	480
Ngoma	78.65	2.22	74.30	83.01	480
Bugesera	80.51	2.55	75.51	85.50	480

**Table B.6 % of population with improved sanitation**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	77.01	0.55	75.93	78.09	68,398
Kigali City	85.10	2.04	81.10	89.11	6,516
Southern Province	68.50	1.00	66.54	70.47	17,741
Western Province	81.52	0.97	79.62	83.43	16,534
Northern Province	78.26	1.48	75.37	81.16	11,425
Eastern Province	76.55	1.13	74.33	78.76	16,182
Kigali City Urban	89.98	1.89	86.27	93.69	5,744
Kigali City Rural	59.84	6.17	47.73	71.96	772
Southern Province Urban	77.60	3.41	70.91	84.28	2,318
Southern Province Rural	67.19	1.07	65.08	69.29	15,423
Western Province Urban	79.98	3.73	72.65	87.30	1,039
Western Province Rural	81.63	1.00	79.67	83.60	15,495
Northern Province Urban	79.36	6.46	66.69	92.04	673
Northern Province Rural	78.19	1.51	75.23	81.16	10,752
Eastern Province Urban	79.31	5.02	69.46	89.17	674
Eastern Province Rural	76.44	1.17	74.15	78.73	15,508
Urban	84.98	1.45	82.15	87.82	10,448
Rural	75.63	0.60	74.45	76.80	57,950
Q1	67.09	1.17	64.80	69.39	13,541
Q2	73.91	1.07	71.80	76.01	13,773
Q3	74.69	1.06	72.61	76.76	13,535
Q4	77.94	1.01	75.97	79.92	13,606
Q5	90.55	0.77	89.05	92.05	13,943
Nyarugenge	93.00	2.13	88.83	97.18	2,142
Gasabo	76.62	3.98	68.80	84.43	2,209
Kicukiro	91.13	2.56	86.11	96.16	2,165
Nyanza	89.95	1.68	86.65	93.25	2,202
Gisagara	47.87	3.12	41.75	53.99	2,190
Nyaruguru	53.12	2.74	47.74	58.50	2,381
Huye	56.32	3.54	49.38	63.27	2,198
Nyamagabe	73.05	2.71	67.74	78.36	2,257
Ruhango	76.96	2.29	72.46	81.46	2,053
Muhanga	78.15	2.95	72.36	83.93	2,258
Kamonyi	74.58	2.57	69.53	79.63	2,202
Karongi	78.53	2.59	73.45	83.61	2,247
Rutsiro	66.40	3.16	60.21	72.59	2,292
Rubavu	83.33	3.06	77.34	89.33	2,489
Nyabihu	73.91	2.19	69.61	78.21	2,346
Ngororero	91.96	1.56	88.91	95.01	2,214
Rusizi	84.79	2.69	79.51	90.07	2,586
Nyamasheke	88.70	1.69	85.38	92.02	2,360
Rulindo	87.03	1.78	83.55	90.52	2,243
Gakenke	88.86	2.00	84.94	92.77	2,171
Musanze	54.91	4.29	46.48	63.33	2,326
Burera	80.99	2.14	76.80	85.19	2,385
Gicumbi	82.65	3.15	76.46	88.84	2,300
Rwamagana	63.57	3.03	57.62	69.51	2,257
Nyagatare	93.79	1.25	91.33	96.25	2,443
Gatsibo	67.06	3.98	59.26	74.86	2,343
Kayanza	68.10	3.26	61.72	74.49	2,273
Kirehe	78.26	2.41	73.53	82.99	2,226
Ngoma	81.52	2.18	77.23	85.81	2,287
Bugesera	81.96	2.66	76.73	87.18	2,353

**Table B.7 % of HH using electricity distributor as primary source of lighting**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	10.83	0.68	9.49	12.16	14,308
Kigali City	55.64	3.09	49.58	61.71	1,348
Southern Province	3.31	0.67	1.99	4.64	3,840
Western Province	8.23	1.19	5.90	10.55	3,360
Northern Province	6.67	2.54	1.68	11.66	2,400
Eastern Province	5.64	0.94	3.79	7.49	3,360
Kigali City Urban	65.37	2.75	59.98	70.77	1,177
Kigali City Rural	8.41	5.15	-1.70	18.52	171
Southern Province Urban	16.84	4.19	8.63	25.06	492
Southern Province Rural	1.40	0.39	0.62	2.17	3,348
Western Province Urban	23.31	6.96	9.65	36.97	204
Western Province Rural	7.20	1.16	4.92	9.47	3,156
Northern Province Urban	28.51	11.12	6.69	50.33	132
Northern Province Rural	5.32	2.58	0.25	10.38	2,268
Eastern Province Urban	26.18	9.43	7.68	44.67	144
Eastern Province Rural	4.85	0.87	3.15	6.55	3,216
Urban	46.06	2.42	41.32	50.81	2,149
Rural	4.75	0.66	3.46	6.05	12,159
Q1	0.45	0.14	0.16	0.73	2,449
Q2	0.80	0.20	0.40	1.20	2,699
Q3	2.19	0.35	1.51	2.86	2,849
Q4	5.55	0.50	4.57	6.54	3,103
Q5	38.89	1.92	35.13	42.66	3,208
Nyarugenge	61.64	5.17	51.50	71.77	449
Gasabo	47.31	5.42	36.68	57.93	450
Kicukiro	62.98	4.88	53.41	72.56	449
Nyanza	2.87	1.77	-0.59	6.33	480
Gisagara	0.26	0.25	-0.24	0.76	480
Nyaruguru	0.68	0.38	-0.07	1.43	480
Huye	8.35	3.07	2.33	14.37	480
Nyamagabe	2.75	1.62	-0.43	5.93	480
Ruhango	2.65	1.41	-0.13	5.42	480
Muhanga	5.45	3.26	-0.95	11.85	480
Kamonyi	3.54	1.50	0.59	6.48	480
Karongi	2.82	1.41	0.05	5.59	480
Rutsiro	0.40	0.28	-0.15	0.94	480
Rubavu	20.98	5.32	10.54	31.42	480
Nyabihu	10.02	2.92	4.29	15.76	480
Ngororero	0.43	0.30	-0.16	1.03	480
Rusizi	13.55	3.66	6.36	20.74	480
Nyamasheke	7.66	3.11	1.56	13.76	480
Rulindo	2.63	1.07	0.53	4.73	480
Gakenke	1.03	0.84	-0.62	2.68	480
Musanze	14.46	4.59	5.46	23.46	480
Burera	3.22	1.56	0.16	6.28	480
Gicumbi	8.87	8.32	-7.45	25.19	480
Rwamagana	9.83	3.05	3.85	15.80	480
Nyagatare	11.00	4.04	3.07	18.93	480
Gatsibo	2.49	1.56	-0.58	5.56	480
Kayanza	7.51	2.23	3.15	11.88	480
Kirehe	1.62	0.81	0.03	3.22	480
Ngoma	3.40	1.36	0.74	6.06	480
Bugesera	4.29	2.30	-0.23	8.80	480

**Table B.8 % of HH using firewood as primary source of cooking fuel**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	86.30	0.62	85.08	87.53	14,308
Kigali City	31.53	3.45	24.76	38.30	1,348
Southern Province	94.13	0.70	92.77	95.49	3,840
Western Province	92.18	1.20	89.82	94.53	3,360
Northern Province	90.94	1.76	87.50	94.39	2,400
Eastern Province	91.72	0.92	89.92	93.53	3,360
Kigali City Urban	20.28	2.95	14.49	26.08	1,177
Kigali City Rural	86.15	6.61	73.18	99.13	171
Southern Province Urban	82.62	3.44	75.86	89.37	492
Southern Province Rural	95.76	0.60	94.57	96.95	3,348
Western Province Urban	72.21	7.44	57.61	86.80	204
Western Province Rural	93.54	1.16	91.27	95.81	3,156
Northern Province Urban	69.30	11.61	46.52	92.08	132
Northern Province Rural	92.28	1.63	89.08	95.48	2,268
Eastern Province Urban	75.10	10.23	55.02	95.17	144
Eastern Province Rural	92.37	0.86	90.68	94.06	3,216
Urban	45.26	2.66	40.04	50.49	2,149
Rural	93.38	0.54	92.31	94.44	12,159
Q1	95.44	0.52	94.42	96.47	2,449
Q2	95.41	0.47	94.49	96.34	2,699
Q3	94.23	0.54	93.17	95.29	2,849
Q4	91.01	0.69	89.66	92.36	3,103
Q5	61.03	1.56	57.98	64.09	3,208
Nyarugenge	23.19	5.56	12.28	34.10	449
Gasabo	43.54	6.35	31.08	56.00	450
Kicukiro	20.69	4.63	11.61	29.77	449
Nyanza	96.26	1.44	93.44	99.09	480
Gisagara	99.34	0.37	98.62	100.07	480
Nyaruguru	99.78	0.22	99.35	100.21	480
Huye	93.34	2.81	87.82	98.86	480
Nyamagabe	96.83	1.20	94.48	99.17	480
Ruhango	76.39	3.44	69.65	83.13	480
Muhanga	95.76	1.58	92.66	98.86	480
Kamonyi	96.23	1.74	92.81	99.65	480
Karongi	97.89	1.25	95.44	100.34	480
Rutsiro	99.19	0.51	98.18	100.20	480
Rubavu	73.91	5.68	62.77	85.04	480
Nyabihu	88.72	3.97	80.93	96.52	480
Ngororero	98.84	0.45	97.95	99.73	480
Rusizi	91.02	3.08	84.98	97.06	480
Nyamasheke	97.17	2.23	92.79	101.55	480
Rulindo	85.99	1.46	83.13	88.86	480
Gakenke	99.36	0.36	98.65	100.07	480
Musanze	88.40	4.62	79.33	97.47	480
Burera	90.22	2.00	86.30	94.13	480
Gicumbi	90.43	5.04	80.55	100.31	480
Rwamagana	88.35	3.24	81.99	94.71	480
Nyagatare	75.38	3.98	67.58	83.19	480
Gatsibo	94.67	1.30	92.11	97.23	480
Kayanza	92.75	2.68	87.49	98.00	480
Kirehe	98.51	0.91	96.72	100.30	480
Ngoma	97.34	1.08	95.23	99.45	480
Bugesera	96.31	1.66	93.05	99.58	480



**Table B.9 % of HH using charcoal as primary source of cooking fuel**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	10.64	0.59	9.48	11.80	14,308
Kigali City	64.98	3.31	58.49	71.47	1,348
Southern Province	2.42	0.50	1.44	3.41	3,840
Western Province	7.56	1.17	5.26	9.86	3,360
Northern Province	4.45	1.78	0.97	7.94	2,400
Eastern Province	4.24	0.81	2.66	5.82	3,360
Kigali City Urban	75.69	2.86	70.08	81.29	1,177
Kigali City Rural	12.99	6.38	0.48	25.50	171
Southern Province Urban	11.43	3.14	5.27	17.59	492
Southern Province Rural	1.15	0.31	0.54	1.75	3,348
Western Province Urban	27.28	7.21	13.12	41.43	204
Western Province Rural	6.21	1.13	4.00	8.43	3,156
Northern Province Urban	28.93	11.64	6.09	51.77	132
Northern Province Rural	2.94	1.66	-0.32	6.20	2,268
Eastern Province Urban	22.78	10.38	2.42	43.15	144
Eastern Province Rural	3.52	0.69	2.18	4.87	3,216
Urban	50.95	2.62	45.80	56.09	2,149
Rural	3.69	0.50	2.70	4.68	12,159
Q1	0.49	0.15	0.19	0.79	2,449
Q2	1.59	0.31	0.98	2.20	2,699
Q3	2.96	0.41	2.16	3.75	2,849
Q4	6.61	0.62	5.40	7.82	3,103
Q5	35.75	1.55	32.70	38.79	3,208
Nyarugenge	70.72	5.30	60.32	81.13	449
Gasabo	53.67	6.06	41.79	65.55	450
Kicukiro	77.18	4.58	68.20	86.17	449
Nyanza	2.81	1.34	0.19	5.43	480
Gisagara	0.22	0.22	-0.21	0.65	480
Nyaruguru	0.00	0.00	0.00	0.00	480
Huye	5.88	2.74	0.51	11.25	480
Nyamagabe	2.57	1.18	0.25	4.89	480
Ruhango	1.44	0.58	0.31	2.57	480
Muhanga	2.49	1.35	-0.15	5.13	480
Kamonyi	3.77	1.74	0.35	7.19	480
Karongi	2.04	1.24	-0.39	4.46	480
Rutsiro	0.60	0.48	-0.34	1.53	480
Rubavu	25.48	5.59	14.51	36.44	480
Nyabihu	10.53	3.66	3.34	17.71	480
Ngororero	1.16	0.45	0.27	2.05	480
Rusizi	8.75	3.09	2.69	14.81	480
Nyamasheke	2.83	2.23	-1.55	7.21	480
Rulindo	0.42	0.29	-0.16	1.00	480
Gakenke	0.64	0.36	-0.07	1.35	480
Musanze	11.14	4.57	2.19	20.10	480
Burera	1.28	0.67	-0.04	2.61	480
Gicumbi	6.09	5.27	-4.25	16.43	480
Rwamagana	10.33	3.30	3.85	16.80	480
Nyagatare	7.19	3.41	0.50	13.87	480
Gatsibo	1.39	0.70	0.02	2.77	480
Kayanza	6.74	2.41	2.01	11.48	480
Kirehe	1.49	0.91	-0.30	3.28	480
Ngoma	1.73	0.84	0.08	3.37	480
Bugesera	1.93	1.10	-0.22	4.08	480

**Table B.10 % of HH residing in *Imidugudu***

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	37.45	0.86	35.77	39.13	14,308
Kigali City	7.76	2.04	3.76	11.76	1,348
Southern Province	18.22	1.10	16.07	20.38	3,840
Western Province	25.46	1.75	22.03	28.89	3,360
Northern Province	38.36	2.12	34.19	42.52	2,400
Eastern Province	80.17	1.93	76.39	83.96	3,360
Kigali City Urban	9.13	2.41	4.40	13.85	1,177
Kigali City Rural	1.10	0.75	-0.37	2.57	171
Southern Province Urban	8.17	2.88	2.51	13.82	492
Southern Province Rural	19.65	1.22	17.26	22.03	3,348
Western Province Urban	28.53	6.26	16.25	40.81	204
Western Province Rural	25.25	1.84	21.64	28.86	3,156
Northern Province Urban	22.04	8.61	5.14	38.93	132
Northern Province Rural	39.37	2.20	35.04	43.69	2,268
Eastern Province Urban	62.44	12.01	38.89	86.00	144
Eastern Province Rural	80.86	1.95	77.04	84.68	3,216
Urban	15.08	2.03	11.10	19.06	2,149
Rural	41.31	0.99	39.38	43.24	12,159
Q1	33.05	1.36	30.38	35.71	2,449
Q2	39.23	1.20	36.87	41.58	2,699
Q3	40.10	1.26	37.64	42.56	2,849
Q4	40.87	1.27	38.38	43.36	3,103
Q5	33.76	1.64	30.54	36.98	3,208
Nyarugenge	6.51	3.24	0.15	12.88	449
Gasabo	11.16	3.93	3.45	18.88	450
Kicukiro	3.62	2.12	-0.55	7.78	449
Nyanza	4.11	1.37	1.43	6.79	480
Gisagara	29.59	4.63	20.51	38.67	480
Nyaruguru	52.89	4.18	44.70	61.09	480
Huye	14.20	3.20	7.91	20.49	480
Nyamagabe	4.60	2.37	-0.05	9.24	480
Ruhango	6.29	1.95	2.47	10.11	480
Muhanga	5.62	1.53	2.62	8.63	480
Kamonyi	30.60	3.58	23.58	37.62	480
Karongi	5.84	1.88	2.15	9.53	480
Rutsiro	53.46	4.88	43.88	63.04	480
Rubavu	40.01	6.32	27.61	52.41	480
Nyabihu	20.71	4.14	12.59	28.84	480
Ngororero	8.54	2.70	3.25	13.83	480
Rusizi	28.69	3.71	21.40	35.97	480
Nyamasheke	21.95	4.92	12.29	31.61	480
Rulindo	23.65	3.41	16.97	30.33	480
Gakenke	71.01	3.66	63.83	78.19	480
Musanze	25.76	5.53	14.91	36.61	480
Burera	43.21	3.71	35.93	50.49	480
Gicumbi	31.14	4.41	22.49	39.79	480
Rwamagana	71.20	4.04	63.28	79.12	480
Nyagatare	64.31	5.92	52.70	75.92	480
Gatsibo	81.49	7.53	66.73	96.26	480
Kayanza	88.74	3.14	82.58	94.89	480
Kirehe	94.52	2.49	89.65	99.40	480
Ngoma	97.89	0.87	96.19	99.60	480
Bugesera	67.35	3.80	59.90	74.81	480

**Table B.11 % of HH with thatch roof**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	2.16	0.18	1.82	2.51	14,308
Kigali City	1.68	0.61	0.49	2.87	1,348
Southern Province	1.83	0.29	1.27	2.39	3,840
Western Province	3.05	0.43	2.21	3.90	3,360
Northern Province	1.96	0.40	1.18	2.73	2,400
Eastern Province	2.00	0.34	1.32	2.67	3,360
Kigali City Urban	0.57	0.30	-0.03	1.16	1,177
Kigali City Rural	7.09	3.08	1.06	13.13	171
Southern Province Urban	0.50	0.34	-0.17	1.17	492
Southern Province Rural	2.02	0.32	1.38	2.65	3,348
Western Province Urban	1.95	0.85	0.27	3.62	204
Western Province Rural	3.13	0.46	2.23	4.03	3,156
Northern Province Urban	1.34	0.88	-0.39	3.07	132
Northern Province Rural	1.99	0.42	1.18	2.81	2,268
Eastern Province Urban	0.00	0.00	0.00	0.00	144
Eastern Province Rural	2.07	0.36	1.37	2.78	3,216
Urban	0.71	0.21	0.29	1.13	2,149
Rural	2.41	0.20	2.01	2.81	12,159
Q1	4.80	0.55	3.72	5.88	2,449
Q2	2.58	0.38	1.84	3.32	2,699
Q3	1.42	0.23	0.97	1.87	2,849
Q4	1.69	0.27	1.16	2.22	3,103
Q5	0.98	0.24	0.52	1.45	3,208
Nyarugenge	0.00	0.00	0.00	0.00	449
Gasabo	3.45	1.34	0.83	6.07	450
Kicukiro	0.51	0.36	-0.20	1.22	449
Nyanza	1.41	0.53	0.37	2.44	480
Gisagara	4.36	1.36	1.68	7.03	480
Nyaruguru	5.36	1.30	2.82	7.91	480
Huye	1.74	0.95	-0.12	3.60	480
Nyamagabe	0.79	0.48	-0.16	1.74	480
Ruhango	0.73	0.41	-0.07	1.54	480
Muhanga	0.00	0.00	0.00	0.00	480
Kamonyi	0.45	0.31	-0.17	1.07	480
Karongi	3.04	1.12	0.85	5.23	480
Rutsiro	1.94	0.73	0.50	3.37	480
Rubavu	0.88	0.56	-0.22	1.97	480
Nyabihu	0.60	0.35	-0.08	1.29	480
Ngororero	0.63	0.46	-0.28	1.54	480
Rusizi	7.13	1.63	3.92	10.33	480
Nyamasheke	6.59	1.84	2.98	10.21	480
Rulindo	1.43	0.71	0.03	2.82	480
Gakenke	0.20	0.20	-0.20	0.61	480
Musanze	2.04	0.86	0.35	3.73	480
Burera	2.60	1.26	0.12	5.07	480
Gicumbi	2.96	1.00	1.01	4.92	480
Rwamagana	0.32	0.23	-0.14	0.77	480
Nyagatare	2.77	0.83	1.15	4.39	480
Gatsibo	1.56	0.84	-0.09	3.20	480
Kayanza	1.91	0.65	0.63	3.19	480
Kirehe	2.37	1.21	-0.01	4.74	480
Ngoma	0.62	0.46	-0.28	1.52	480
Bugesera	4.08	1.38	1.38	6.79	480

**Table B.12 % of HH owning bicycle**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	13.36	0.40	12.58	14.14	14,305
Kigali City	4.76	0.61	3.57	5.96	1,348
Southern Province	10.80	0.58	9.66	11.94	3,840
Western Province	2.50	0.30	1.92	3.08	3,360
Northern Province	9.60	0.74	8.16	11.05	2,399
Eastern Province	32.93	1.10	30.77	35.09	3,358
Kigali City Urban	3.71	0.60	2.54	4.88	1,177
Kigali City Rural	9.89	1.72	6.52	13.25	171
Southern Province Urban	9.89	1.63	6.70	13.08	492
Southern Province Rural	10.93	0.63	9.69	12.16	3,348
Western Province Urban	1.54	0.80	-0.04	3.12	204
Western Province Rural	2.57	0.31	1.96	3.18	3,156
Northern Province Urban	13.47	4.08	5.46	21.48	132
Northern Province Rural	9.36	0.73	7.93	10.79	2,267
Eastern Province Urban	20.25	5.22	10.00	30.50	143
Eastern Province Rural	33.42	1.12	31.22	35.61	3,215
Urban	6.47	0.75	5.00	7.94	2,148
Rural	14.55	0.46	13.65	15.45	12,157
Q1	4.24	0.44	3.36	5.11	2,448
Q2	10.17	0.66	8.87	11.47	2,699
Q3	14.22	0.75	12.75	15.68	2,849
Q4	18.46	0.78	16.92	19.99	3,102
Q5	17.06	0.86	15.37	18.74	3,207
Nyarugenge	1.24	0.54	0.18	2.30	449
Gasabo	6.40	1.06	4.32	8.47	450
Kicukiro	5.54	1.27	3.05	8.02	449
Nyanza	11.43	1.92	7.66	15.20	480
Gisagara	21.28	2.17	17.03	25.53	480
Nyaruguru	4.72	1.09	2.58	6.86	480
Huye	12.49	1.65	9.25	15.73	480
Nyamagabe	5.76	1.07	3.65	7.87	480
Ruhango	12.27	1.80	8.74	15.81	480
Muhanga	7.36	1.52	4.37	10.35	480
Kamonyi	9.53	1.46	6.66	12.40	480
Karongi	1.21	0.47	0.29	2.13	480
Rutsiro	2.57	0.81	0.98	4.17	480
Rubavu	3.93	1.10	1.76	6.09	480
Nyabihu	1.83	0.57	0.72	2.94	480
Ngororero	3.28	0.89	1.52	5.03	480
Rusizi	3.30	0.81	1.71	4.88	480
Nyamasheke	1.31	0.50	0.32	2.29	480
Rulindo	12.81	1.45	9.96	15.65	480
Gakenke	6.35	1.13	4.13	8.56	479
Musanze	9.16	1.52	6.18	12.14	480
Burera	8.41	1.23	6.00	10.83	480
Gicumbi	11.10	2.09	7.00	15.21	480
Rwamagana	30.98	2.83	25.42	36.53	478
Nyagatare	44.66	2.91	38.96	50.37	480
Gatsibo	28.00	3.64	20.85	35.15	480
Kayanza	27.76	2.38	23.10	32.42	480
Kirehe	29.30	2.84	23.73	34.86	480
Ngoma	26.08	2.26	21.65	30.51	480
Bugesera	42.06	2.77	36.62	47.49	480

**Table B.13 % of HH owning motorcycle (for private use only)**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.71	0.11	0.49	0.94	14,305
Kigali City	0.59	0.22	0.15	1.03	1,348
Southern Province	0.55	0.12	0.30	0.79	3,840
Western Province	0.38	0.11	0.17	0.60	3,360
Northern Province	0.66	0.44	-0.20	1.52	2,399
Eastern Province	1.30	0.26	0.78	1.81	3,358
Kigali City Urban	0.71	0.27	0.19	1.23	1,177
Kigali City Rural	0.00	0.00	0.00	0.00	171
Southern Province Urban	1.27	0.52	0.25	2.29	492
Southern Province Rural	0.44	0.12	0.21	0.68	3,348
Western Province Urban	0.81	0.57	-0.32	1.93	204
Western Province Rural	0.36	0.11	0.14	0.58	3,156
Northern Province Urban	0.51	0.51	-0.49	1.50	132
Northern Province Rural	0.67	0.46	-0.24	1.58	2,267
Eastern Province Urban	6.42	2.26	1.98	10.86	143
Eastern Province Rural	1.10	0.25	0.60	1.60	3,215
Urban	1.17	0.26	0.65	1.68	2,148
Rural	0.64	0.12	0.39	0.88	12,157
Q1	0.00	0.00	0.00	0.00	2,448
Q2	0.00	0.00	0.00	0.00	2,699
Q3	0.03	0.03	-0.03	0.09	2,849
Q4	0.29	0.22	-0.14	0.72	3,102
Q5	2.80	0.41	1.99	3.61	3,207
Nyarugenge	0.22	0.22	-0.21	0.66	449
Gasabo	0.82	0.41	0.01	1.62	450
Kicukiro	0.58	0.40	-0.21	1.37	449
Nyanza	0.25	0.25	-0.24	0.74	480
Gisagara	0.00	0.00	0.00	0.00	480
Nyaruguru	0.70	0.39	-0.07	1.47	480
Huye	1.18	0.50	0.20	2.17	480
Nyamagabe	0.60	0.43	-0.24	1.44	480
Ruhango	0.47	0.33	-0.17	1.12	480
Muhanga	0.48	0.33	-0.17	1.14	480
Kamonyi	0.71	0.35	0.03	1.39	480
Karongi	0.41	0.26	-0.10	0.93	480
Rutsiro	0.38	0.27	-0.15	0.90	480
Rubavu	0.73	0.41	-0.08	1.54	480
Nyabihu	0.16	0.16	-0.15	0.46	480
Ngororero	0.23	0.23	-0.22	0.68	480
Rusizi	0.21	0.21	-0.20	0.63	480
Nyamasheke	0.52	0.37	-0.20	1.23	480
Rulindo	0.43	0.30	-0.16	1.02	480
Gakenke	0.20	0.20	-0.20	0.61	479
Musanze	0.14	0.14	-0.14	0.41	480
Burera	0.00	0.00	0.00	0.00	480
Gicumbi	1.92	1.51	-1.04	4.88	480
Rwamagana	2.04	0.74	0.58	3.50	478
Nyagatare	2.82	0.78	1.30	4.34	480
Gatsibo	1.84	0.96	-0.04	3.72	480
Kayanza	0.41	0.30	-0.17	1.00	480
Kirehe	0.52	0.30	-0.07	1.10	480
Ngoma	0.54	0.32	-0.08	1.16	480
Bugesera	0.51	0.50	-0.48	1.50	480

**Table B.14 % of HH owning car (for private use only)**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.83	0.11	0.62	1.04	14,305
Kigali City	6.12	0.98	4.19	8.05	1,348
Southern Province	0.17	0.08	0.02	0.32	3,840
Western Province	0.25	0.11	0.03	0.46	3,360
Northern Province	0.17	0.10	-0.02	0.36	2,399
Eastern Province	0.38	0.16	0.07	0.69	3,358
Kigali City Urban	7.01	1.11	4.82	9.19	1,177
Kigali City Rural	1.83	1.79	-1.69	5.34	171
Southern Province Urban	1.12	0.55	0.05	2.20	492
Southern Province Rural	0.04	0.04	-0.04	0.11	3,348
Western Province Urban	1.33	1.04	-0.72	3.37	204
Western Province Rural	0.18	0.09	0.00	0.35	3,156
Northern Province Urban	1.91	1.35	-0.74	4.56	132
Northern Province Rural	0.06	0.06	-0.06	0.19	2,267
Eastern Province Urban	2.74	2.09	-1.37	6.85	143
Eastern Province Rural	0.29	0.14	0.02	0.56	3,215
Urban	4.59	0.67	3.27	5.91	2,148
Rural	0.18	0.06	0.06	0.30	12,157
Q1	0.00	0.00	0.00	0.00	2,448
Q2	0.00	0.00	0.00	0.00	2,699
Q3	0.07	0.05	-0.03	0.17	2,849
Q4	0.05	0.05	-0.05	0.15	3,102
Q5	3.49	0.46	2.60	4.39	3,207
Nyarugenge	7.50	1.59	4.38	10.62	449
Gasabo	5.32	1.74	1.91	8.74	450
Kicukiro	6.07	1.48	3.16	8.97	449
Nyanza	0.04	0.05	-0.04	0.13	480
Gisagara	0.00	0.00	0.00	0.00	480
Nyaruguru	0.00	0.00	0.00	0.00	480
Huye	0.44	0.32	-0.18	1.06	480
Nyamagabe	0.00	0.00	0.00	0.00	480
Ruhango	0.00	0.00	0.00	0.00	480
Muhanga	0.68	0.49	-0.29	1.65	480
Kamonyi	0.25	0.24	-0.23	0.72	480
Karongi	0.13	0.13	-0.13	0.38	480
Rutsiro	0.00	0.00	0.00	0.00	480
Rubavu	0.87	0.52	-0.15	1.89	480
Nyabihu	0.00	0.00	0.00	0.00	480
Ngororero	0.00	0.00	0.00	0.00	480
Rusizi	0.45	0.45	-0.43	1.33	480
Nyamasheke	0.20	0.20	-0.19	0.58	480
Rulindo	0.00	0.00	0.00	0.00	480
Gakenke	0.00	0.00	0.00	0.00	479
Musanze	0.80	0.46	-0.10	1.71	480
Burera	0.00	0.00	0.00	0.00	480
Gicumbi	0.00	0.00	0.00	0.00	480
Rwamagana	0.47	0.33	-0.18	1.11	478
Nyagatare	0.56	0.55	-0.53	1.64	480
Gatsibo	0.62	0.59	-0.54	1.78	480
Kayanza	0.51	0.35	-0.18	1.20	480
Kirehe	0.00	0.00	0.00	0.00	480
Ngoma	0.12	0.12	-0.12	0.36	480
Bugesera	0.25	0.25	-0.24	0.75	480

**Table B.15 % of HH owning mobile phone**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	45.16	0.66	43.87	46.46	14,305
Kigali City	79.63	2.03	75.65	83.61	1,348
Southern Province	34.97	1.03	32.95	36.99	3,840
Western Province	40.40	1.34	37.77	43.04	3,360
Northern Province	41.85	2.11	37.70	46.00	2,399
Eastern Province	48.43	1.24	46.00	50.87	3,358
Kigali City Urban	84.57	1.76	81.11	88.02	1,177
Kigali City Rural	55.64	5.94	43.99	67.30	171
Southern Province Urban	51.10	3.29	44.64	57.56	492
Southern Province Rural	32.68	1.04	30.65	34.72	3,348
Western Province Urban	53.93	6.19	41.80	66.07	204
Western Province Rural	39.48	1.36	36.81	42.14	3,156
Northern Province Urban	55.93	10.17	35.98	75.87	132
Northern Province Rural	40.98	2.15	36.77	45.19	2,267
Eastern Province Urban	68.69	6.19	56.55	80.83	143
Eastern Province Rural	47.65	1.24	45.22	50.09	3,215
Urban	71.53	1.76	68.08	74.99	2,148
Rural	40.62	0.72	39.22	42.03	12,157
Q1	17.57	0.88	15.85	19.28	2,448
Q2	32.16	1.00	30.20	34.13	2,699
Q3	40.77	1.13	38.56	42.98	2,849
Q4	50.74	1.04	48.70	52.79	3,102
Q5	74.35	1.18	72.03	76.67	3,207
Nyarugenge	80.72	2.93	74.98	86.47	449
Gasabo	75.53	3.73	68.22	82.84	450
Kicukiro	84.98	2.92	79.24	90.72	449
Nyanza	39.14	2.86	33.53	44.76	480
Gisagara	26.09	2.48	21.22	30.96	480
Nyaruguru	29.86	2.18	25.58	34.14	480
Huye	37.51	3.37	30.90	44.12	480
Nyamagabe	23.38	2.79	17.90	28.86	480
Ruhango	33.62	3.15	27.44	39.79	480
Muhanga	45.84	3.01	39.93	51.75	480
Kamonyi	45.33	2.89	39.65	51.01	480
Karongi	30.94	3.13	24.79	37.08	480
Rutsiro	34.57	2.30	30.05	39.09	480
Rubavu	47.44	4.28	39.05	55.83	480
Nyabihu	42.14	3.78	34.72	49.55	480
Ngororero	32.07	2.76	26.67	37.48	480
Rusizi	48.75	3.84	41.21	56.29	480
Nyamasheke	45.41	3.17	39.20	51.62	480
Rulindo	43.06	3.01	37.14	48.97	480
Gakenke	41.15	2.72	35.82	46.48	479
Musanze	48.64	4.73	39.35	57.93	480
Burera	38.94	2.29	34.45	43.43	480
Gicumbi	38.25	6.04	26.40	50.10	480
Rwamagana	58.25	3.15	52.07	64.44	478
Nyagatare	53.27	3.25	46.90	59.63	480
Gatsibo	42.54	3.04	36.57	48.50	480
Kayanza	50.13	3.05	44.14	56.12	480
Kirehe	42.65	3.02	36.73	48.58	480
Ngoma	45.00	3.17	38.77	51.23	480
Bugesera	49.02	3.46	42.22	55.82	480

**Table B.16 % of HH owning landline phone**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.81	0.11	0.60	1.02	14,305
Kigali City	2.88	0.47	1.95	3.81	1,348
Southern Province	0.30	0.09	0.12	0.47	3,840
Western Province	0.74	0.15	0.44	1.03	3,360
Northern Province	1.03	0.45	0.16	1.91	2,399
Eastern Province	0.38	0.10	0.18	0.58	3,358
Kigali City Urban	2.68	0.51	1.68	3.68	1,177
Kigali City Rural	3.86	1.27	1.37	6.35	171
Southern Province Urban	1.32	0.49	0.37	2.28	492
Southern Province Rural	0.15	0.07	0.02	0.29	3,348
Western Province Urban	1.01	0.67	-0.31	2.33	204
Western Province Rural	0.72	0.15	0.42	1.02	3,156
Northern Province Urban	2.68	1.21	0.31	5.06	132
Northern Province Rural	0.93	0.47	0.01	1.85	2,267
Eastern Province Urban	2.58	1.22	0.18	4.98	143
Eastern Province Rural	0.29	0.09	0.12	0.47	3,215
Urban	2.23	0.33	1.57	2.88	2,148
Rural	0.57	0.11	0.35	0.78	12,157
Q1	0.32	0.12	0.08	0.56	2,448
Q2	0.35	0.11	0.12	0.57	2,699
Q3	0.44	0.12	0.20	0.68	2,849
Q4	0.77	0.17	0.43	1.10	3,102
Q5	1.90	0.39	1.14	2.66	3,207
Nyarugenge	2.97	0.90	1.21	4.73	449
Gasabo	3.90	0.86	2.22	5.58	450
Kicukiro	1.21	0.48	0.27	2.16	449
Nyanza	0.78	0.41	-0.03	1.59	480
Gisagara	0.00	0.00	0.00	0.00	480
Nyaruguru	0.35	0.34	-0.32	1.02	480
Huye	0.13	0.13	-0.13	0.39	480
Nyamagabe	0.20	0.20	-0.20	0.60	480
Ruhango	0.00	0.00	0.00	0.00	480
Muhanga	0.83	0.40	0.04	1.63	480
Kamonyi	0.20	0.20	-0.19	0.58	480
Karongi	0.41	0.29	-0.16	0.98	480
Rutsiro	0.75	0.47	-0.17	1.67	480
Rubavu	1.26	0.49	0.31	2.21	480
Nyabihu	0.56	0.32	-0.07	1.19	480
Ngororero	1.57	0.59	0.41	2.72	480
Rusizi	0.62	0.35	-0.07	1.30	480
Nyamasheke	0.00	0.00	0.00	0.00	480
Rulindo	0.00	0.00	0.00	0.00	480
Gakenke	1.04	0.44	0.17	1.90	479
Musanze	0.73	0.37	0.00	1.45	480
Burera	0.19	0.19	-0.19	0.58	480
Gicumbi	2.36	1.50	-0.59	5.30	480
Rwamagana	0.59	0.34	-0.07	1.26	478
Nyagatare	0.56	0.35	-0.13	1.26	480
Gatsibo	0.18	0.18	-0.17	0.53	480
Kayanza	0.76	0.37	0.03	1.49	480
Kirehe	0.00	0.00	0.00	0.00	480
Ngoma	0.47	0.30	-0.12	1.06	480
Bugesera	0.17	0.17	-0.16	0.50	480



**Table B.17 % of HH owning computer**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	1.70	0.21	1.28	2.11	14,305
Kigali City	10.49	1.23	8.08	12.91	1,348
Southern Province	0.54	0.16	0.22	0.86	3,840
Western Province	0.62	0.21	0.21	1.02	3,360
Northern Province	1.44	0.89	-0.31	3.18	2,399
Eastern Province	0.50	0.15	0.20	0.79	3,358
Kigali City Urban	12.15	1.35	9.50	14.80	1,177
Kigali City Rural	2.44	2.39	-2.26	7.13	171
Southern Province Urban	3.26	1.14	1.03	5.49	492
Southern Province Rural	0.15	0.08	0.00	0.30	3,348
Western Province Urban	1.32	0.73	-0.11	2.75	204
Western Province Rural	0.57	0.22	0.15	0.99	3,156
Northern Province Urban	5.95	3.05	-0.03	11.93	132
Northern Province Rural	1.16	0.93	-0.66	2.97	2,267
Eastern Province Urban	7.05	2.35	2.43	11.66	143
Eastern Province Rural	0.24	0.09	0.06	0.42	3,215
Urban	8.46	0.86	6.78	10.15	2,148
Rural	0.53	0.20	0.13	0.93	12,157
Q1	0.00	0.00	0.00	0.00	2,448
Q2	0.03	0.03	-0.03	0.10	2,699
Q3	0.00	0.00	0.00	0.00	2,849
Q4	0.05	0.05	-0.05	0.14	3,102
Q5	7.30	0.80	5.72	8.87	3,207
Nyarugenge	11.85	2.14	7.65	16.05	449
Gasabo	9.77	2.09	5.67	13.87	450
Kicukiro	10.35	1.95	6.52	14.17	449
Nyanza	0.29	0.25	-0.19	0.77	480
Gisagara	0.00	0.00	0.00	0.00	480
Nyaruguru	0.24	0.24	-0.23	0.72	480
Huye	1.82	0.93	0.00	3.64	480
Nyamagabe	0.20	0.20	-0.20	0.61	480
Ruhango	0.00	0.00	0.00	0.00	480
Muhanga	1.36	0.82	-0.25	2.97	480
Kamonyi	0.46	0.32	-0.18	1.09	480
Karongi	0.26	0.19	-0.11	0.63	480
Rutsiro	0.00	0.00	0.00	0.00	480
Rubavu	2.65	1.24	0.21	5.08	480
Nyabihu	0.36	0.26	-0.14	0.86	480
Ngororero	0.00	0.00	0.00	0.00	480
Rusizi	0.56	0.33	-0.09	1.20	480
Nyamasheke	0.27	0.26	-0.25	0.79	480
Rulindo	0.22	0.22	-0.21	0.65	480
Gakenke	0.20	0.20	-0.19	0.59	479
Musanze	1.91	0.97	0.00	3.82	480
Burera	0.42	0.29	-0.16	1.00	480
Gicumbi	3.23	3.02	-2.71	9.16	480
Rwamagana	1.30	0.65	0.02	2.58	478
Nyagatare	0.56	0.55	-0.53	1.64	480
Gatsibo	0.18	0.18	-0.17	0.53	480
Kayanza	0.27	0.27	-0.26	0.80	480
Kirehe	0.00	0.00	0.00	0.00	480
Ngoma	0.59	0.43	-0.25	1.44	480
Bugesera	0.71	0.40	-0.08	1.50	480

**Table B.18 % of HH owning radio**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	60.25	0.50	59.27	61.23	14,305
Kigali City	57.29	1.74	53.89	60.70	1,348
Southern Province	60.43	0.90	58.66	62.19	3,840
Western Province	51.73	1.14	49.50	53.96	3,360
Northern Province	63.79	1.11	61.61	65.97	2,399
Eastern Province	66.91	0.88	65.18	68.64	3,358
Kigali City Urban	55.65	1.90	51.92	59.38	1,177
Kigali City Rural	65.29	3.53	58.36	72.22	171
Southern Province Urban	61.00	2.49	56.12	65.88	492
Southern Province Rural	60.35	0.96	58.46	62.23	3,348
Western Province Urban	51.04	2.85	45.45	56.63	204
Western Province Rural	51.78	1.20	49.42	54.14	3,156
Northern Province Urban	59.78	4.71	50.53	69.03	132
Northern Province Rural	64.04	1.14	61.80	66.28	2,267
Eastern Province Urban	73.72	3.84	66.19	81.25	143
Eastern Province Rural	66.65	0.90	64.88	68.41	3,215
Urban	57.67	1.32	55.09	60.26	2,148
Rural	60.70	0.54	59.63	61.76	12,157
Q1	42.90	1.17	40.61	45.20	2,448
Q2	58.13	0.99	56.20	60.07	2,699
Q3	63.65	1.06	61.57	65.72	2,849
Q4	66.35	0.93	64.53	68.17	3,102
Q5	66.00	1.07	63.91	68.10	3,207
Nyarugenge	54.02	2.63	48.86	59.19	449
Gasabo	57.54	3.10	51.46	63.62	450
Kicukiro	60.00	2.70	54.70	65.30	449
Nyanza	58.80	2.55	53.80	63.80	480
Gisagara	59.34	2.40	54.63	64.05	480
Nyaruguru	58.27	2.47	53.42	63.11	480
Huye	62.17	2.65	56.98	67.36	480
Nyamagabe	55.87	2.62	50.72	61.01	480
Ruhango	63.32	2.73	57.96	68.67	480
Muhanga	64.03	1.89	60.32	67.75	480
Kamonyi	61.71	2.71	56.39	67.03	480
Karongi	48.31	3.89	40.68	55.95	480
Rutsiro	51.84	2.92	46.12	57.56	480
Rubavu	45.88	2.93	40.14	51.62	480
Nyabihu	54.81	2.89	49.14	60.48	480
Ngororero	55.81	2.55	50.82	60.81	480
Rusizi	53.96	2.62	48.83	59.09	480
Nyamasheke	52.30	2.50	47.39	57.20	480
Rulindo	67.88	2.23	63.51	72.26	480
Gakenke	65.31	2.74	59.94	70.68	479
Musanze	59.40	2.84	53.84	64.97	480
Burera	66.32	2.00	62.39	70.25	480
Gicumbi	62.29	2.03	58.31	66.26	480
Rwamagana	69.30	2.45	64.49	74.11	478
Nyagatare	69.52	2.06	65.48	73.55	480
Gatsibo	65.36	2.19	61.05	69.66	480
Kayanza	64.97	2.31	60.45	69.49	480
Kirehe	63.27	2.21	58.93	67.62	480
Ngoma	68.99	2.68	63.72	74.25	480
Bugesera	67.27	2.39	62.59	71.95	480

**Table B.19 % of HH owning TV set**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	6.42	0.55	5.35	7.49	14,305
Kigali City	35.77	2.38	31.10	40.44	1,348
Southern Province	2.15	0.47	1.22	3.08	3,840
Western Province	4.08	0.78	2.55	5.62	3,360
Northern Province	4.55	2.43	-0.23	9.32	2,399
Eastern Province	2.32	0.40	1.54	3.10	3,358
Kigali City Urban	41.98	2.48	37.11	46.84	1,177
Kigali City Rural	5.64	4.19	-2.59	13.86	171
Southern Province Urban	10.73	3.22	4.42	17.04	492
Southern Province Rural	0.93	0.23	0.48	1.39	3,348
Western Province Urban	14.24	4.99	4.45	24.04	204
Western Province Rural	3.39	0.75	1.92	4.86	3,156
Northern Province Urban	17.67	7.79	2.39	32.95	132
Northern Province Rural	3.74	2.53	-1.23	8.70	2,267
Eastern Province Urban	15.21	4.22	6.94	23.49	143
Eastern Province Rural	1.83	0.34	1.16	2.49	3,215
Urban	29.35	1.84	25.74	32.95	2,148
Rural	2.47	0.57	1.35	3.58	12,157
Q1	0.10	0.07	-0.04	0.24	2,448
Q2	0.12	0.07	-0.01	0.25	2,699
Q3	0.62	0.16	0.32	0.93	2,849
Q4	1.44	0.23	0.99	1.88	3,102
Q5	25.79	1.85	22.15	29.42	3,207
Nyarugenge	39.75	4.29	31.34	48.16	449
Gasabo	27.10	3.86	19.52	34.67	450
Kicukiro	45.53	4.08	37.52	53.54	449
Nyanza	1.80	1.03	-0.22	3.82	480
Gisagara	0.70	0.54	-0.35	1.76	480
Nyaruguru	0.26	0.26	-0.25	0.78	480
Huye	4.88	2.25	0.48	9.29	480
Nyamagabe	1.61	0.88	-0.11	3.33	480
Ruhango	1.66	0.72	0.25	3.08	480
Muhanga	4.29	2.57	-0.74	9.33	480
Kamonyi	2.03	0.93	0.21	3.86	480
Karongi	0.97	0.59	-0.18	2.12	480
Rutsiro	0.44	0.31	-0.16	1.04	480
Rubavu	12.12	4.01	4.24	19.99	480
Nyabihu	2.74	0.91	0.96	4.53	480
Ngororero	0.00	0.00	0.00	0.00	480
Rusizi	8.33	2.62	3.19	13.47	480
Nyamasheke	2.81	1.40	0.06	5.56	480
Rulindo	1.50	0.61	0.31	2.69	480
Gakenke	1.02	0.67	-0.29	2.33	479
Musanze	6.74	2.71	1.43	12.05	480
Burera	1.02	0.52	0.00	2.03	480
Gicumbi	9.15	8.30	-7.14	25.44	480
Rwamagana	4.20	1.34	1.57	6.82	478
Nyagatare	3.38	1.41	0.62	6.15	480
Gatsibo	0.92	0.57	-0.20	2.04	480
Kayanza	3.90	1.19	1.57	6.24	480
Kirehe	0.59	0.34	-0.07	1.25	480
Ngoma	2.36	1.00	0.40	4.32	480
Bugesera	1.50	1.04	-0.54	3.54	480

## Annex C Confidence Intervals for selected indicators, EICV2

**Table C.1 % of HH whose main water source is improved**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	70.27	1.22	67.87	72.66	6,900
Kigali City	84.77	2.84	79.18	90.35	1,026
Southern Province	73.42	2.02	69.46	77.38	1,707
Western Province	67.80	2.25	63.37	72.22	1,653
Northern Province	76.74	2.87	71.10	82.39	1,059
Eastern Province	57.71	3.36	51.12	64.30	1,455
Kigali City Urban	86.74	2.58	81.67	91.82	954
Kigali City Rural	73.79	11.40	51.40	96.17	72
Southern Province Urban	83.50	4.41	74.83	92.17	279
Southern Province Rural	71.72	2.17	67.45	75.99	1,428
Western Province Urban	71.77	6.81	58.38	85.15	153
Western Province Rural	67.48	2.43	62.70	72.26	1,500
Northern Province Urban	81.58	7.20	67.44	95.73	135
Northern Province Rural	76.23	3.07	70.20	82.25	924
Eastern Province Urban	87.29	7.24	73.07	101.51	99
Eastern Province Rural	56.07	3.47	49.26	62.88	1,356
Urban	83.87	2.01	79.91	87.82	1,620
Rural	67.59	1.40	64.85	70.33	5,280
Q1	66.56	2.04	62.56	70.56	1,119
Q2	66.67	1.85	63.03	70.31	1,226
Q3	67.24	1.73	63.84	70.63	1,268
Q4	68.92	1.87	65.25	72.59	1,397
Q5	79.59	1.35	76.95	82.23	1,890

**Table C.2 % of population whose main water source is improved**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	70.68	1.22	68.28	73.07	34,785
Kigali City	85.95	2.82	80.41	91.50	5,333
Southern Province	74.00	2.05	69.96	78.03	8,314
Western Province	68.69	2.23	64.31	73.08	8,460
Northern Province	76.32	2.86	70.71	81.94	5,340
Eastern Province	57.79	3.35	51.21	64.36	7,338
Kigali City Urban	87.86	2.46	83.03	92.69	4,958
Kigali City Rural	75.46	11.83	52.22	98.70	375
Southern Province Urban	85.16	4.28	76.76	93.56	1,348
Southern Province Rural	72.13	2.22	67.76	76.50	6,966
Western Province Urban	72.31	7.09	58.37	86.24	780
Western Province Rural	68.40	2.41	63.67	73.13	7,680
Northern Province Urban	82.93	7.23	68.72	97.13	675
Northern Province Rural	75.61	3.05	69.62	81.60	4,665
Eastern Province Urban	88.64	6.51	75.87	101.42	494
Eastern Province Rural	56.09	3.45	49.31	62.87	6,844
Urban	85.10	1.97	81.23	88.97	8,255
Rural	67.82	1.40	65.06	70.57	26,530
Q1	66.27	2.10	62.14	70.40	6,257
Q2	68.27	1.89	64.56	71.98	6,455
Q3	67.54	1.82	63.96	71.11	6,407
Q4	69.36	1.93	65.57	73.14	6,689
Q5	80.82	1.36	78.16	83.49	8,977

**Table C.3 Mean time (minutes) to improved main water source**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	17.3	0.5	16.3	18.3	4,888
Kigali City	10.9	1.2	8.6	13.2	895
Southern Province	18.1	0.7	16.7	19.5	1,249
Western Province	15.8	0.9	14.1	17.5	1,107
Northern Province	19.1	1.4	16.3	21.8	807
Eastern Province	20	1.6	16.9	23	830
Kigali City Urban	9.5	0.9	7.7	11.3	843
Kigali City Rural	19.9	4.8	10.5	29.4	52
Southern Province Urban	13.7	1.3	11.1	16.2	227
Southern Province Rural	19	0.8	17.4	20.5	1,022
Western Province Urban	8.4	1.5	5.5	11.3	109
Western Province Rural	16.5	0.9	14.7	18.2	998
Northern Province Urban	9.8	2.5	4.8	14.8	106
Northern Province Rural	20.1	1.5	17.2	23	701
Eastern Province Urban	20.8	5.6	9.9	31.8	86
Eastern Province Rural	19.9	1.6	16.7	23.1	744
Urban	11.2	0.8	9.6	12.8	1,371
Rural	18.8	0.6	17.6	19.9	3,517
Q1	19.1	0.9	17.4	20.8	728
Q2	19.6	0.9	17.9	21.3	809
Q3	17.6	0.7	16.3	19	849
Q4	17.8	0.8	16.2	19.3	958
Q5	14	0.7	12.6	15.5	1,544

**Table C.4 % of HH with improved sanitation**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	58.52	0.86	56.83	60.21	6,900
Kigali City	78.54	3.31	72.05	85.04	1,026
Southern Province	56.16	1.60	53.03	59.30	1,707
Western Province	57.86	1.58	54.75	60.96	1,653
Northern Province	64.63	2.08	60.55	68.71	1,059
Eastern Province	48.55	2.03	44.56	52.53	1,455
Kigali City Urban	83.95	2.42	79.20	88.70	954
Kigali City Rural	48.51	11.01	26.89	70.13	72
Southern Province Urban	66.50	3.93	58.79	74.22	279
Southern Province Rural	54.42	1.72	51.03	57.81	1,428
Western Province Urban	69.50	7.17	55.41	83.59	153
Western Province Rural	56.91	1.59	53.79	60.03	1,500
Northern Province Urban	70.00	8.28	53.74	86.27	135
Northern Province Rural	64.06	2.09	59.96	68.16	924
Eastern Province Urban	55.92	7.74	40.71	71.13	99
Eastern Province Rural	48.14	2.10	44.01	52.27	1,356
Urban	74.87	2.00	70.94	78.80	1,620
Rural	55.30	0.94	53.46	57.14	5,280
Q1	42.41	1.66	39.15	45.68	1,119
Q2	51.09	1.72	47.71	54.47	1,226
Q3	55.59	1.54	52.56	58.62	1,268
Q4	60.95	1.64	57.73	64.17	1,397
Q5	76.62	1.27	74.12	79.12	1,890

**Table C.5 % of population with improved sanitation**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	61.49	0.88	59.76	63.22	34,785
Kigali City	81.36	2.91	75.64	87.08	5,333
Southern Province	59.32	1.66	56.05	62.58	8,314
Western Province	61.22	1.67	57.94	64.51	8,460
Northern Province	67.02	2.10	62.90	71.14	5,340
Eastern Province	51.14	2.12	46.98	55.31	7,338
Kigali City Urban	85.97	2.22	81.60	90.33	4,958
Kigali City Rural	55.99	10.51	35.36	76.63	375
Southern Province Urban	67.40	4.17	59.22	75.58	1,348
Southern Province Rural	57.96	1.81	54.40	61.53	6,966
Western Province Urban	71.62	8.04	55.82	87.42	780
Western Province Rural	60.39	1.68	57.09	63.68	7,680
Northern Province Urban	73.45	7.87	57.99	88.91	675
Northern Province Rural	66.32	2.11	62.18	70.47	4,665
Eastern Province Urban	54.59	9.92	35.11	74.08	494
Eastern Province Rural	50.95	2.17	46.69	55.22	6,844
Urban	76.74	2.08	72.66	80.83	8,255
Rural	58.47	0.97	56.57	60.36	26,530
Q1	44.93	1.79	41.42	48.45	6,257
Q2	55.55	1.76	52.09	59.02	6,455
Q3	59.31	1.62	56.14	62.49	6,407
Q4	63.97	1.66	60.70	67.23	6,689
Q5	81.37	1.21	78.99	83.75	8,977

**Table C.6 % of HH using electricity distributor as main source of lighting**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	4.34	0.35	3.66	5.02	6,900
Kigali City	29.67	2.85	24.06	35.28	1,026
Southern Province	2.08	0.65	0.80	3.36	1,707
Western Province	1.95	0.57	0.83	3.08	1,653
Northern Province	0.99	0.44	0.14	1.85	1,059
Eastern Province	1.66	0.62	0.44	2.88	1,455
Kigali City Urban	35.01	2.68	29.75	40.27	954
Kigali City Rural	0.00	0.00	0.00	0.00	72
Southern Province Urban	11.89	3.57	4.87	18.90	279
Southern Province Rural	0.43	0.26	-0.08	0.93	1,428
Western Province Urban	12.85	4.70	3.62	22.07	153
Western Province Rural	1.07	0.45	0.18	1.96	1,500
Northern Province Urban	9.13	3.91	1.45	16.80	135
Northern Province Rural	0.13	0.13	-0.12	0.37	924
Eastern Province Urban	14.85	7.11	0.88	28.82	99
Eastern Province Rural	0.92	0.50	-0.07	1.92	1,356
Urban	23.06	1.82	19.48	26.64	1,620
Rural	0.66	0.19	0.28	1.03	5,280
Q1	0.00	0.00	0.00	0.00	1,119
Q2	0.16	0.10	-0.03	0.35	1,226
Q3	0.13	0.09	-0.05	0.30	1,268
Q4	0.55	0.19	0.18	0.92	1,397
Q5	17.77	1.27	15.27	20.27	1,890

**Table C.7 % of HH using firewood as primary cooking fuel**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	88.20	0.68	86.87	89.52	6,900
Kigali City	38.92	4.78	29.54	48.30	1,026
Southern Province	96.52	1.09	94.39	98.66	1,707
Western Province	94.57	1.07	92.47	96.68	1,653
Northern Province	86.11	1.71	82.75	89.47	1,059
Eastern Province	94.00	1.38	91.30	96.70	1,455
Kigali City Urban	27.92	3.65	20.74	35.10	954
Kigali City Rural	100.00	0.00	100.00	100.00	72
Southern Province Urban	78.13	5.97	66.41	89.86	279
Southern Province Rural	99.62	0.23	99.16	100.08	1,428
Western Province Urban	64.62	8.40	48.13	81.11	153
Western Province Rural	97.00	0.74	95.54	98.46	1,500
Northern Province Urban	71.42	7.70	56.31	86.54	135
Northern Province Rural	87.67	1.63	84.48	90.87	924
Eastern Province Urban	72.81	11.90	49.45	96.18	99
Eastern Province Rural	95.17	1.24	92.74	97.61	1,356
Urban	51.35	2.91	45.63	57.07	1,620
Rural	95.45	0.50	94.47	96.43	5,280
Q1	93.56	0.90	91.80	95.33	1,119
Q2	94.12	0.70	92.76	95.49	1,226
Q3	96.12	0.60	94.93	97.30	1,268
Q4	92.66	0.83	91.03	94.29	1,397
Q5	68.94	1.75	65.50	72.38	1,890

**Table C.8 % of HH using charcoal as primary source of cooking fuel**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	7.93	0.55	6.84	9.02	6,900
Kigali City	57.09	4.54	48.18	66.00	1,026
Southern Province	2.39	0.97	0.48	4.31	1,707
Western Province	3.73	0.98	1.80	5.65	1,653
Northern Province	2.61	1.02	0.61	4.60	1,059
Eastern Province	2.68	0.99	0.73	4.63	1,455
Kigali City Urban	67.37	3.60	60.31	74.43	954
Kigali City Rural	0.00	0.00	0.00	0.00	72
Southern Province Urban	15.58	5.73	4.32	26.83	279
Southern Province Rural	0.17	0.10	-0.02	0.36	1,428
Western Province Urban	29.62	8.14	13.64	45.61	153
Western Province Rural	1.63	0.67	0.33	2.94	1,500
Northern Province Urban	23.25	8.03	7.49	39.02	135
Northern Province Rural	0.41	0.24	-0.05	0.88	924
Eastern Province Urban	12.48	5.98	0.75	24.22	99
Eastern Province Rural	2.14	0.99	0.20	4.08	1,356
Urban	42.68	2.77	37.23	48.13	1,620
Rural	1.09	0.31	0.49	1.70	5,280
Q1	0.34	0.14	0.06	0.63	1,119
Q2	0.95	0.23	0.50	1.39	1,226
Q3	0.93	0.25	0.43	1.42	1,268
Q4	4.91	0.68	3.58	6.24	1,397
Q5	27.63	1.66	24.36	30.90	1,890

**Table C.9 % of HH residing in *Imidugudu***

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	17.64	0.80	16.08	19.20	6,900
Kigali City	6.57	1.49	3.64	9.50	1,026
Southern Province	3.93	0.70	2.55	5.31	1,707
Western Province	5.46	1.00	3.50	7.42	1,653
Northern Province	13.65	2.18	9.37	17.93	1,059
Eastern Province	54.79	2.46	49.97	59.61	1,455
Kigali City Urban	6.23	1.66	2.98	9.49	954
Kigali City Rural	8.45	3.26	2.04	14.86	72
Southern Province Urban	2.79	1.50	-0.17	5.74	279
Southern Province Rural	4.13	0.77	2.61	5.65	1,428
Western Province Urban	14.44	5.88	2.89	25.99	153
Western Province Rural	4.73	0.96	2.85	6.61	1,500
Northern Province Urban	12.07	6.20	-0.11	24.25	135
Northern Province Rural	13.82	2.35	9.21	18.43	924
Eastern Province Urban	73.61	11.36	51.30	95.93	99
Eastern Province Rural	53.75	2.62	48.60	58.90	1,356
Urban	11.73	2.14	7.53	15.94	1,620
Rural	18.80	0.98	16.87	20.74	5,280
Q1	13.18	1.33	10.57	15.79	1,119
Q2	16.15	1.46	13.29	19.01	1,226
Q3	18.41	1.22	16.02	20.81	1,268
Q4	19.90	1.38	17.18	22.62	1,397
Q5	19.47	1.29	16.93	22.00	1,890

**Table C.10 % of HH with thatch roof**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	9.84	0.54	8.78	10.91	6,900
Kigali City	2.26	0.91	0.47	4.05	1,026
Southern Province	8.05	0.94	6.19	9.90	1,707
Western Province	5.84	0.62	4.61	7.06	1,653
Northern Province	9.69	1.33	7.07	12.31	1,059
Eastern Province	19.56	1.68	16.26	22.86	1,455
Kigali City Urban	0.53	0.27	0.01	1.05	954
Kigali City Rural	11.89	3.94	4.16	19.61	72
Southern Province Urban	1.69	0.86	0.00	3.38	279
Southern Province Rural	9.12	1.09	6.97	11.26	1,428
Western Province Urban	6.46	3.43	-0.28	13.20	153
Western Province Rural	5.78	0.61	4.58	6.99	1,500
Northern Province Urban	7.68	4.35	-0.85	16.22	135
Northern Province Rural	9.90	1.37	7.20	12.60	924
Eastern Province Urban	9.07	4.24	0.75	17.39	99
Eastern Province Rural	20.14	1.76	16.69	23.59	1,356
Urban	2.81	0.73	1.37	4.24	1,620
Rural	11.23	0.63	9.99	12.46	5,280
Q1	19.78	1.53	16.77	22.79	1,119
Q2	11.24	1.00	9.28	13.20	1,226
Q3	9.90	0.94	8.06	11.75	1,268
Q4	7.21	0.78	5.67	8.74	1,397
Q5	3.68	0.53	2.64	4.73	1,890



**Table C.11 % of HH owning bicycle**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	12.91	0.57	11.80	14.03	6,900
Kigali City	8.95	1.21	6.57	11.33	1,026
Southern Province	11.79	1.00	9.83	13.75	1,707
Western Province	4.67	0.74	3.21	6.13	1,653
Northern Province	9.00	0.94	7.15	10.84	1,059
Eastern Province	27.90	1.81	24.35	31.44	1,455
Kigali City Urban	7.00	0.94	5.15	8.86	954
Kigali City Rural	19.78	4.07	11.79	27.78	72
Southern Province Urban	11.24	2.07	7.18	15.30	279
Southern Province Rural	11.88	1.11	9.70	14.07	1,428
Western Province Urban	7.47	2.25	3.05	11.88	153
Western Province Rural	4.44	0.78	2.91	5.98	1,500
Northern Province Urban	16.04	3.51	9.14	22.93	135
Northern Province Rural	8.25	0.97	6.35	10.15	924
Eastern Province Urban	19.82	3.55	12.85	26.80	99
Eastern Province Rural	28.35	1.90	24.62	32.07	1,356
Urban	9.91	0.85	8.25	11.58	1,620
Rural	13.50	0.66	12.21	14.79	5,280
Q1	2.02	0.46	1.12	2.93	1,119
Q2	6.78	0.78	5.24	8.32	1,226
Q3	11.96	1.11	9.79	14.14	1,268
Q4	18.57	1.26	16.10	21.05	1,397
Q5	21.58	1.11	19.39	23.76	1,890

**Table C.12 % of HH owning motorcycles (for private use only)**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.48	0.08	0.32	0.64	6,900
Kigali City	1.70	0.40	0.91	2.48	1,026
Southern Province	0.26	0.12	0.02	0.49	1,707
Western Province	0.23	0.13	-0.03	0.49	1,653
Northern Province	0.45	0.21	0.03	0.87	1,059
Eastern Province	0.52	0.17	0.19	0.85	1,455
Kigali City Urban	1.70	0.39	0.93	2.47	954
Kigali City Rural	1.67	1.48	-1.24	4.57	72
Southern Province Urban	0.59	0.45	-0.29	1.48	279
Southern Province Rural	0.20	0.12	-0.03	0.44	1,428
Western Province Urban	1.03	0.75	-0.44	2.50	153
Western Province Rural	0.17	0.13	-0.09	0.42	1,500
Northern Province Urban	0.00	0.00	0.00	0.00	135
Northern Province Rural	0.50	0.24	0.03	0.96	924
Eastern Province Urban	2.26	1.05	0.20	4.31	99
Eastern Province Rural	0.42	0.17	0.10	0.75	1,356
Urban	1.23	0.25	0.75	1.71	1,620
Rural	0.33	0.08	0.17	0.50	5,280
Q1	0.00	0.00	0.00	0.00	1,119
Q2	0.00	0.00	0.00	0.00	1,226
Q3	0.00	0.00	0.00	0.00	1,268
Q4	0.07	0.06	-0.03	0.18	1,397
Q5	1.98	0.34	1.32	2.65	1,890

**Table C.13 % of HH owning cars (for private use only)**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.67	0.10	0.47	0.87	6,900
Kigali City	4.60	0.81	3.00	6.20	1,026
Southern Province	0.42	0.17	0.08	0.76	1,707
Western Province	0.15	0.08	-0.02	0.31	1,653
Northern Province	0.07	0.07	-0.07	0.21	1,059
Eastern Province	0.37	0.19	0.01	0.74	1,455
Kigali City Urban	5.18	0.91	3.40	6.95	954
Kigali City Rural	1.44	1.32	-1.16	4.03	72
Southern Province Urban	1.27	0.83	-0.36	2.90	279
Southern Province Rural	0.28	0.14	0.00	0.55	1,428
Western Province Urban	0.73	0.73	-0.71	2.17	153
Western Province Rural	0.10	0.07	-0.04	0.23	1,500
Northern Province Urban	0.00	0.00	0.00	0.00	135
Northern Province Rural	0.08	0.08	-0.08	0.23	924
Eastern Province Urban	0.00	0.00	0.00	0.00	99
Eastern Province Rural	0.39	0.20	0.01	0.78	1,356
Urban	2.87	0.48	1.93	3.81	1,620
Rural	0.24	0.07	0.10	0.38	5,280
Q1	0.25	0.15	-0.05	0.56	1,119
Q2	0.09	0.09	-0.09	0.27	1,226
Q3	0.30	0.15	0.00	0.60	1,268
Q4	0.00	0.00	0.00	0.00	1,397
Q5	2.35	0.39	1.60	3.11	1,890

**Table C.14 % of HH owning phone (mobile or landline)**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	6.23	0.33	5.58	6.89	6,900
Kigali City	33.18	2.39	28.48	37.88	1,026
Southern Province	3.10	0.51	2.10	4.10	1,707
Western Province	3.76	0.63	2.51	5.00	1,653
Northern Province	3.09	0.71	1.70	4.49	1,059
Eastern Province	3.84	0.67	2.51	5.16	1,455
Kigali City Urban	38.38	1.95	34.54	42.21	954
Kigali City Rural	4.32	2.57	-0.72	9.36	72
Southern Province Urban	15.10	2.58	10.04	20.16	279
Southern Province Rural	1.08	0.31	0.47	1.68	1,428
Western Province Urban	17.18	4.15	9.02	25.34	153
Western Province Rural	2.67	0.61	1.48	3.86	1,500
Northern Province Urban	13.54	5.85	2.04	25.03	135
Northern Province Rural	1.98	0.46	1.09	2.88	924
Eastern Province Urban	16.76	4.68	7.56	25.95	99
Eastern Province Rural	3.12	0.67	1.81	4.43	1,356
Urban	26.50	1.42	23.71	29.30	1,620
Rural	2.25	0.27	1.72	2.77	5,280
Q1	0.10	0.10	-0.09	0.28	1,119
Q2	0.34	0.21	-0.07	0.76	1,226
Q3	0.52	0.22	0.10	0.94	1,268
Q4	2.42	0.43	1.59	3.26	1,397
Q5	23.62	1.16	21.35	25.90	1,890

**Table C.15 % of HH owning computer**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	0.32	0.08	0.17	0.47	6,900
Kigali City	2.84	0.78	1.31	4.38	1,026
Southern Province	0.04	0.04	-0.04	0.12	1,707
Western Province	0.06	0.06	-0.05	0.17	1,653
Northern Province	0.06	0.06	-0.06	0.17	1,059
Eastern Province	0.07	0.05	-0.03	0.18	1,455
Kigali City Urban	3.35	0.90	1.59	5.12	954
Kigali City Rural	0.00	0.00	0.00	0.00	72
Southern Province Urban	0.00	0.00	0.00	0.00	279
Southern Province Rural	0.05	0.05	-0.05	0.15	1,428
Western Province Urban	0.00	0.00	0.00	0.00	153
Western Province Rural	0.06	0.06	-0.06	0.18	1,500
Northern Province Urban	0.61	0.61	-0.60	1.82	135
Northern Province Rural	0.00	0.00	0.00	0.00	924
Eastern Province Urban	1.35	1.06	-0.73	3.43	99
Eastern Province Rural	0.00	0.00	0.00	0.00	1,356
Urban	1.78	0.45	0.90	2.66	1,620
Rural	0.03	0.02	-0.01	0.07	5,280
Q1	0.00	0.00	0.00	0.00	1,119
Q2	0.00	0.00	0.00	0.00	1,226
Q3	0.00	0.00	0.00	0.00	1,268
Q4	0.00	0.00	0.00	0.00	1,397
Q5	1.35	0.32	0.72	1.98	1,890

**Table C.16 % of HH owning radio**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	46.65	0.73	45.22	48.08	6,900
Kigali City	53.54	1.69	50.23	56.86	1,026
Southern Province	46.18	1.49	43.25	49.12	1,707
Western Province	37.63	1.56	34.57	40.69	1,653
Northern Province	43.84	1.87	40.17	47.50	1,059
Eastern Province	56.22	1.38	53.52	58.93	1,455
Kigali City Urban	52.04	1.78	48.54	55.54	954
Kigali City Rural	61.91	4.05	53.97	69.86	72
Southern Province Urban	53.42	3.37	46.80	60.04	279
Southern Province Rural	44.96	1.66	41.70	48.23	1,428
Western Province Urban	42.17	3.96	34.40	49.95	153
Western Province Rural	37.26	1.65	34.01	40.51	1,500
Northern Province Urban	46.36	5.53	35.51	57.22	135
Northern Province Rural	43.57	1.98	39.68	47.46	924
Eastern Province Urban	51.92	6.46	39.22	64.61	99
Eastern Province Rural	56.46	1.40	53.71	59.21	1,356
Urban	50.68	1.43	47.86	53.49	1,620
Rural	45.86	0.83	44.24	47.48	5,280
Q1	27.54	1.45	24.70	30.38	1,119
Q2	40.00	1.57	36.91	43.09	1,226
Q3	46.91	1.49	43.98	49.84	1,268
Q4	55.80	1.48	52.89	58.71	1,397
Q5	57.71	1.38	55.00	60.41	1,890

**Table C.17 % of HH owning TV set**

	Estimate	Standard error	Lower	Upper	Unweighted count
All Rwanda	2.39	0.19	2.03	2.76	6,900
Kigali City	17.96	1.73	14.55	21.36	1,026
Southern Province	0.82	0.21	0.41	1.22	1,707
Western Province	0.98	0.35	0.30	1.66	1,653
Northern Province	0.21	0.13	-0.04	0.46	1,059
Eastern Province	1.02	0.33	0.37	1.66	1,455
Kigali City Urban	21.19	1.62	18.01	24.36	954
Kigali City Rural	0.00	0.00	0.00	0.00	72
Southern Province Urban	5.36	1.54	2.34	8.39	279
Southern Province Rural	0.05	0.05	-0.05	0.15	1,428
Western Province Urban	5.77	2.98	-0.08	11.61	153
Western Province Rural	0.59	0.28	0.03	1.15	1,500
Northern Province Urban	1.13	0.86	-0.55	2.81	135
Northern Province Rural	0.11	0.11	-0.11	0.33	924
Eastern Province Urban	9.28	4.14	1.15	17.41	99
Eastern Province Rural	0.56	0.27	0.03	1.09	1,356
Urban	12.87	1.04	10.83	14.90	1,620
Rural	0.33	0.10	0.13	0.54	5,280
Q1	0.00	0.00	0.00	0.00	1,119
Q2	0.00	0.00	0.00	0.00	1,226
Q3	0.06	0.06	-0.05	0.17	1,268
Q4	0.21	0.19	-0.16	0.58	1,397
Q5	9.96	0.75	8.49	11.44	1,890