



The Republic of Rwanda



Rwanda

Integrated Household Living Conditions Survey

[EICV]

2013/2014

Thematic Report



- Environment and natural resources -

National Institute of Statistics of Rwanda



THE REPUBLIC OF RWANDA



National Institute of Statistics of Rwanda

Integrated Household Living Conditions Survey

Enquête Intégrale sur les Conditions de Vie des Ménages
(EICV)

Thematic report

- Environment and natural resources -

March, 2016



Po Box 6139 Kigali Rwanda
www.statistics.gov.rw
info@statistics.gov.rw

The EICV4 - Environment and natural resources thematic Report, is produced based on the results of the Rwanda Integrated Household Living Conditions Survey – 2013/14 (EICV4) that was conducted by the National Institute of Statistics of Rwanda (NISR).

Additional information about the EICV4 - 2013/14, Environment and natural resources thematic Report may be obtained from the NISR:

P.O. Box 6139, Kigali, Rwanda; Telephone: (250) 252 571 035

E-mail: info@statistics.gov.rw; Website: <http://www.statistics.gov.rw>.

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Foreword

The Government of Rwanda needs updated information for monitoring progress on poverty reduction programmes and policies as stipulated in the second Economic Development and Poverty Reduction Strategy (EDPRS2), the Millennium Development Goals (MDGs) and Vision 2020.

The 2013/14 EICV is a follow-up to the 2000/01, 2005/06 and 2010/11 EICV surveys. Each survey provides information on monetary poverty measured in consumption expenditure terms, but also provides complementary socio-economic information that facilitates understanding changes in households living conditions.

The 2013/14 EICV was implemented by the National Institute of Statistics of Rwanda (NISR), in collaboration with different stakeholders in the country.

Results of the 2013/14 EICV indicate substantial progress in poverty reduction and improvement in other socio-economic and demographic indicators in the last three years. The survey shows that poverty is at 39.1% as of 2013/14, down from 44.9% as was reported in 2010/11. During the same period, extreme poverty dropped from 24.1% to 16.3%.

Generally the progress is impressive. However challenges remain; many Rwandans are still poor and for many others living conditions still need to be improved especially in areas of education and employment.

I find these findings very informative; the report is an important vehicle for addressing poverty concerns and informing policy makers and other stakeholders where to intervene. We should stay on course.

I urge all stakeholders: government, researchers, partners and the general public to optimize the use of these findings.

Finally, I congratulate the National Institute of Statistics of Rwanda and all those who contributed in one way or another in this exercise, for the job well done.



Claver Gatete
Minister of Finance and Economic Planning

Acknowledgements

While celebrating a decade since its establishment, the National Institute of Statistics of Rwanda (NISR) is honoured to present the results of EICV4 conducted in 2013/14.

Through the second National Strategy for the Development of Statistics (NSDS2), NISR has managed to increase the frequency of some surveys to provide timely and update statistics that will facilitate monitoring and evaluation of different policies and programmes at both national and international levels.

The frequency of EICV is now three years. This is an ambitious target that we are committed to achieve in collaboration with our stakeholders in order to support evidence-based decision and planning processes with more frequent and reliable statistics.

In this regard, we present our sincere appreciation to the Government of Rwanda for its support for statistics development in the country, the Ministry of Finance and Economic Planning, and other Government Ministries and Agencies for the facilitation that we received in this endeavour and in other similar efforts.

We express our gratitude to Development Partners that support statistics development in the country and especially EICV4; including: The African Development Bank (AfDB), World Bank, UK Aid, European Union, One UN and other UN agencies in the country. Their contribution was of immense importance to the effective accomplishments of the survey.

We also express our profound gratitude to the advisory team of national and international experts for their advice while constructing the survey, constructing the food basket and setting a new poverty line. Their technical advice contributed to the success of the analysis.

We would also like to thank the EICV management team for their effort throughout the planning and implementation stages of 2013/14 EICV; and also appreciate the valuable support provided by administrative and financial departments of the NISR. Their contribution allowed this exercise to be carried out smoothly.



Yusuf Murangwa
Director General, NISR



Important technical notes for data users

Revision of urban and rural classification in the EICV3 and EICV4 data

While preparing the 2012 Rwanda Population and Housing Census (RPHC), the urban and rural classification of all villages was revised, hence the 2012 RPHC embraced four classifications: (1) urban, (2) rural, (3) peri-urban, and (4) semi-urban. Depending on the characteristics of a given area, the NISR defines the urban domain as the combination of urban and semi-urban, whereas the rural domain is composed of rural and peri-urban. The EICV4 sample was designed and drawn using the sampling frame of enumeration areas from the 2012 Rwanda Population and Housing Census, and the corresponding new urban and rural classification was taken into consideration.

In order to ensure consistency with the Urban and Rural classification for EICV2 sample, which was built on the sampling frame from the 2002 Census, the EICV3 analysis was carried out based on the urban and rural classification from the 2002 Rwanda Population and Housing Census. Given the fact that prior to EICV3, Rwanda was divided into new administrative entities, the old administrative structure which was used in the 2002 Population and Housings Census had to be updated using GIS databases so as to appropriately classify the EICV3 sample villages by the Urban-rural 2002 code.

To allow a comparison between EICV4 and EICV3 estimates with respect to residence areas, it was essential to apply the same urban/rural classification to data from both survey rounds. This means using the new classification established in 2012 in both surveys (EICV3 and EICV4) for all tabulations by urban-rural location of the unit of analysis. This was done to make sure the current distribution of the population and population characteristics are correctly represented. Therefore, the EICV3 estimates disaggregated by urban/rural presented in this report reflect the new classification established in 2012.

However, it is noteworthy to mention that slight differences might be observed when comparing the distribution of households in EICV3 under the 2002 and 2012 Population and Housings Census classifications. This implies that due to some villages having changed their urban/rural status, the EICV3 data presented in this report might narrowly differ from estimates presented in previous EICV3 reports.. The following table shows a cross-tabulation of the two urban-rural classification variables for the EICV3 sample of households.

Table 0. 1: Classification of sample households (unweighted) in the EICV3 survey by 2002 and 2012 urban-rural classifications

	Urban (2002)	Rural (2002)	Total (2012)
Urban (2012)	1,357	705	2,062
Rural (2012)	792	11,454	12,246
Total (2002)	2,149	12,159	14,308

Source: EICV3; urban-rural classification from RPHC 2012.

Rounding of estimates

Estimates presented in the tables are expressed with one decimal place. However, to improve readability, estimates referred to in the interpretation of results have been rounded to the nearest integer, except for the discussion of relatively small percentages.

Consumption quintiles

Throughout the report results are also disaggregated by consumption quintiles. Quintiles are constructed by sorting the sample of households by annual consumption values, and dividing the population into five equal groups. 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 5.¹

EICV uses consumption as a proxy for income, as is common when estimating poverty. Quintiles are a relative measure of individuals' consumption in comparison to the rest of the population during a specific period. Therefore, comparisons between EICV3 and EICV4 do not inform about and are not comparable in terms of consumption levels as thresholds set to allocate population to the quintiles are not the same in both survey rounds.

¹ The shares in the tables at the individual level are slightly different from 20% in each quintile as domestic servants are excluded in the consumption aggregate estimation and hence the definition of thresholds for quintiles, but are included in most of the thematic analysis in this report. Moreover, tables at household level tend to show fewer households in the bottom quintiles and more households in the top quintiles, since quintiles are established at person-level and households in higher quintiles tend to have fewer household members.

Executive summary

Background to the study (EICV4)

This report presents and discusses results of EICV4 and compares them with the results that were generated in EICV3. It focuses on the areas of human settlement and the environment, energy and water resources, land management and environment related problems.

This survey was conducted over a period of 12 months between October 2013 and October 2014. Unlike other surveys that were conducted in the past, this survey included a panel survey methodology for the first time, using a subsample of EICV3 households. In addition to the cross-sectional and panel surveys, the NISR conducted an independent Survey of individuals and households sampled from the VUP (Vision 2020 Umurenge Programme) list of beneficiaries using the same questionnaire and field methodology. The VUP sample has been analysed in the report on Social Protection.

For the cross-sectional analysis, a new sample of 12,312 households was drawn using the 2012 Rwanda Population and Housing Census as sampling frame for enumeration areas as primary sampling units. Households and household members interviewed as part of the panel survey that remained in the same village as in EICV3 are also included in the cross-sectional sample, bringing the total number of households analysed to 14,419.

This study (EICV4) took place three years after a similar study (EICV3) that was conducted (October 2010 to October 2011) and aims to provide even more timely evidence to support policy-making and continuous evaluation of the EDPRS2.. A strong feature of the EICV series is that its methodology has remained relatively unchanged since 2000/01. This allows calculating indicators in a consistent way for more than one survey round in order to investigate trends and to inform the planning framework of the Economic Development and Poverty Reduction Strategy (EDPRS) as well as other target indicators of Millennium Development Goals, and upcoming Sustainable Development Goals.

In this report, the majorities of tables provide results both for EICV3 and EICV4 and highlight developments over time. They also discuss different patterns across the provinces in Rwanda and in urban and rural areas. Emphasis has been placed on including disaggregated results for men and women and male- and female-headed households to explore gender-related aspects in key social and economic characteristics of persons and households in Rwanda, and other disaggregations such age group, type of habitat, etc., where necessary. Districts tables have been provided in annex.

Population growth and the environment

According to 2012 Population Census, the population of Rwanda is projected to increase to almost 16.3 million people by 2032. In addition to the overall population growth, population density is a crucial indicator in relation to the environment. This is especially true in the case of Rwanda, which is one of the most densely populated countries in Africa.

Human settlement and waste management

The EICV4 data show a clear move from the traditional isolated habitat towards Imidugudu or other clustered forms of habitat, which is in line with the policy. However, isolated rural dwellings are still the most common form of housing for the poorest quintile (33%) and especially in the Northern Province (43%).

The study also shows that households that live in modern or planned settlement tend to be provided with better management of waste management and sewage. In urban areas provision of refuse collection services has increased from 33% to 36% and use of compost heaps has decreased from 64% to 56%.

In addition to solid waste management discussed above, the disposal of liquid wastes through improved sanitation facilities is also an important factor in preventing environmental damage. The percentage of households with access to improved sanitation has increased over the past three years in Rwanda, from 75% to 83%.

Looking at the new indicator introduced in EICV4, as percentage of households that are not sharing their own improved sanitation, 64% of households do not share their improved sanitation with others.

Considerable improvements can also be observed in construction materials used for dwellings, e.g. the increase in households with cement floors (17% in 2010/11 to 21% in 2013/14), the growing trend of using bricks for walls rather than tree trunks (households using bricks increased from 57% in 2010/11 to 63% in 2013/14), or the switching from thatched roofs to metal sheets (metal sheet usage increased from 54% to 61%) in 2010/11 and 2013/14 respectively.

Energy resources

Although fuels are an essential day-to-day environmental resource allowing Rwandan households to maintain and improve their standards of living, the human use of fuels has been identified as a major strain on the environment. On the other hand, there is therefore a need to strike a balance between an energy supply that ensures economic development and sustainable use of natural resources in the long run.

Firewood is still the fuel used for cooking by the vast majority of the rural population (94%) in 2013/14. In the urban areas, charcoal is used by 68% of households, followed by firewood (29%). While rural households have not changed the fuels they used for cooking in the last three years, a slow trend can be observed in the urban areas away from firewood (36% to 29%) and toward charcoal (61% to 68%) in 2010/11 and 2013/14 respectively.

The percentage of households using electricity as the main source for lighting has increased substantially over the last three years, especially in the urban areas (58% to 72%). At national level, the use of electricity for lighting changed from 11% to 20% 2010/11 and 2013/14 respectively.

Water resources

In addition to energy, another essential natural resource for human survival and development is water. In general, access to safe drinking water has a direct impact on the population's quality of life, health, and productivity.

Access to improved drinking water sources has increased in Rwanda, from 74% to 85% between 2010/11 and 2013/14. 85% of households in Kigali City use improved drinking water source, with 36% of households using a public standpipe and 37% having water piped into their dwellings/yards. Northern Province has the largest percentage of households using improved drinking water source (91%) and Eastern Province has the lowest percentage of households using improved drinking water source (81%). Rural households can now reach an improved drinking water source more quickly than they could three years ago.

Expenditure on water constitutes only a negligible proportion of household expenditure (0.5%). However, there is a clear trend that fewer households receive their water for free when compared to three years earlier (from 69% to 66%).

Land management and agricultural practices

Land in Rwanda is used for pasture or exploited as arable land. The growing population combined with strong reliance on agriculture make land one of the scarce resources in Rwanda.

The majority of Rwandan households cultivate at least one parcel of land, and most of them are directly reliant on agriculture as their main or only source of income, especially in rural areas (96%) in 2013/14. The average area cultivated per rural household is only 0.6 ha.

85% of cultivating households have the right to sell their land or use it as a guarantee for a loan. It was realised that among households that accessed a loan from a formal source of credit, 41% used land as collateral to obtain the loan. Comparison with three years earlier shows that the proportion of households that can sell their land or use it as a guarantee while is almost the same.

The use of chemical fertilisers has increased from 29% to 37% between 2010/11 and 2013/14. The land area under irrigation is at 4% and 78% of land is protected against soil erosion.

Economic dimensions of the environment and natural resources sector

It has been realised that without the environment and natural resources, no economic development would be possible.

The findings of this study showed that 65% of working individuals above the age of 16 have their main job in agriculture. This clearly shows that the natural resource of land is an important factor in the country's economy, especially in the rural areas, where agriculture provides main jobs for 74% of the working population.

Further sectors, but which are also related to natural resources, which provide jobs for the Rwandan population are tourism, forestry and mining, though these sectors have not reached the point of constituting major drivers of job creation in Rwanda.

Health problems related to environment

The study revealed that health problems are higher among people that use non-improved sanitation, and also slightly higher among those using non-improved drinking water sources (27%). Similarly, people lighting their homes with firewood have a higher incidence of health problems (31%) compared to others. It was also realised that health problems are higher among people living in rural areas (26%) than people living in urban areas (21%).

The study also revealed that the environment itself might originate human problems. It was found out that 20% of households in Rwanda have experienced cases of environmental destruction, most of them (11%) pertaining to destructive rains. In this regard, it was found out that rural households are more susceptible to environmental destruction than urban households. Similarly, it was found out that the poor households (Q1) are more likely affected by destructive rains (11%) than the richer households (Q5) (8%).

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Abbreviations

EDPRS	:	Economic Development and Poverty Reduction Strategy
EICV	:	Integrated Household Living Conditions Survey (Enquête Intégrale sur les Conditions de Vie des Ménages)
HHs	:	Households
ICT	:	Information and Communications Technology
NISR	:	National Institute of Statistics of Rwanda
RDHS	:	Rwandan Demographic and Health Survey
RPHC	:	Rwanda population and household census
REMA	:	Rwanda Environment Management Authority
RWF	:	Rwandan Franc
VUP	:	Vision 2020 Umurenge Programme

Chapter 1: Introduction

The second Economic Development and Poverty Reduction Strategy (EDPRS2: 2013-2018) mainstreams a system of monitoring and evaluation at national, sub-national and sectoral levels of the government's socio-economic performance vis-a-vis the country's long term development aspirations as embodied in Rwanda Vision 2020.

A key input into the mid-term evaluation of the EDPRS2 is the evidence collected through the EICV4 survey. Fieldwork for the survey was conducted by the NISR between October 2013 and October 2014. Three reports based on EICV4 data were released by the NISR in September 2015: The Main indicators report, Rwanda poverty profile report, and social protection and VUP report. Following from these initial publications, the NISR releases a series of seven (7) further reports that explore in depth seven (7) different topics that are of high importance to the mid-term evaluation of EDPRS2.

This report explores a wealth of evidence collected through the EICV4. It also makes use of the fact that the sample sizes of third and fourth rounds of are sufficient to provide estimates that are reliable at the district.

Following some short methodological notes in the following section, chapters 2 and 3 of this report discuss the interactions between a growing population in Rwanda and their human settlements with the environment. Chapters 4, 5, 6 and 7 present information on the natural resources that allow Rwandan households to maintain and develop their standard of living. Finally, chapters 8 and 9 discuss potential threats resulting from the environment and its deterioration. The annexes provide district-level estimates for selected indicators as well as confidence intervals.

Chapter 2: Population growth and the environment

With a fast-growing population of close to 10.5 million people (Rwanda Population and Housing Census, 2012), Rwanda exhibits cases of environmental degradation because of the pressure that its population puts on the environment. There is, therefore, a need of modern technologies and citizen awareness programmes to mitigate the increasing effects of population to the environment. To reach this end, it becomes imperative to first and foremost understand the population growth in Rwanda and related issues.

According to Rwanda Population and Housing Census 2012, the population of Rwanda is projected to increase to almost 16.3 million people by 2032. This is highlighted in the medium-level projections in Table 2.1.

Table 2. 1: Evolution of the population size, 2013-2032 by projection scenarios

Year	Medium projection			Lower projection			High projection		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
2013	10,736,772	5,178,353	5,558,419	10,730,761	5,175,336	5,555,425	10,738,653	5,179,372	5,559,281
2014	10,996,895	5,310,426	5,686,469	10,978,626	5,301,274	5,677,352	11,002,631	5,313,524	5,689,107
2015	11,262,565	5,445,205	5,817,360	11,225,544	5,426,645	5,798,899	11,274,218	5,451,494	5,822,724
2016	11,533,446	5,582,524	5,950,922	11,470,865	5,551,145	5,919,720	11,553,188	5,593,172	5,960,016
2017	11,809,295	5,722,258	6,087,037	11,713,994	5,674,491	6,039,503	11,839,420	5,738,490	6,100,930
2018	12,089,720	5,864,284	6,225,436	11,954,132	5,796,265	6,157,867	12,132,541	5,887,402	6,245,139
2019	12,374,398	6,008,388	6,366,010	12,190,637	5,916,114	6,274,523	12,432,365	6,039,753	6,392,612
2020	12,663,117	6,154,447	6,508,670	12,422,805	6,033,716	6,389,089	12,738,764	6,195,477	6,543,287
2021	12,955,768	6,302,428	6,653,340	12,658,536	6,153,127	6,505,409	13,051,778	6,354,595	6,697,183
2022	13,252,274	6,452,338	6,799,936	12,897,778	6,274,286	6,623,492	13,371,542	6,517,179	6,854,363
2023	13,552,034	6,603,858	6,948,176	13,140,148	6,397,013	6,743,135	13,697,803	6,682,963	7,014,840
2024	13,854,856	6,756,902	7,097,954	13,385,470	6,521,197	6,864,273	14,030,371	6,851,920	7,178,451
2025	14,160,550	6,911,352	7,249,198	13,633,585	6,646,779	6,986,806	14,369,180	7,024,008	7,345,172
2026	14,468,759	7,067,049	7,401,710	13,884,233	6,773,614	7,110,619	14,714,043	7,199,133	7,514,910
2027	14,779,043	7,223,769	7,555,274	14,137,063	6,901,529	7,235,534	15,064,600	7,377,135	7,687,465
2028	15,090,251	7,380,862	7,709,389	14,390,838	7,029,902	7,360,936	15,419,678	7,557,359	7,862,319
2029	15,401,596	7,537,916	7,863,680	14,644,828	7,158,364	7,486,464	15,778,593	7,739,445	8,039,148
2030	15,712,647	7,694,732	8,017,915	14,898,528	7,286,658	7,611,870	16,141,036	7,923,267	8,217,769
2031	16,022,992	7,851,095	8,171,897	15,151,387	7,414,476	7,736,911	16,506,665	8,108,643	8,398,022
2032	16,332,186	8,006,778	8,325,408	15,402,934	7,541,570	7,861,364	16,875,138	8,295,402	8,579,736

Source: Rwanda 4th population and housing census 2012 (Population Projection, 2013–2032).

Since Rwanda is one of the most densely populated countries in Africa, density itself adds to the overall population growth as a crucial indicator in relation to the environment. Table 2.2 portrays that as the population of Rwanda grows, a projected 645 persons will, on average, be sharing a square kilometre of the country in 2032.

Table 2. 2: Population density

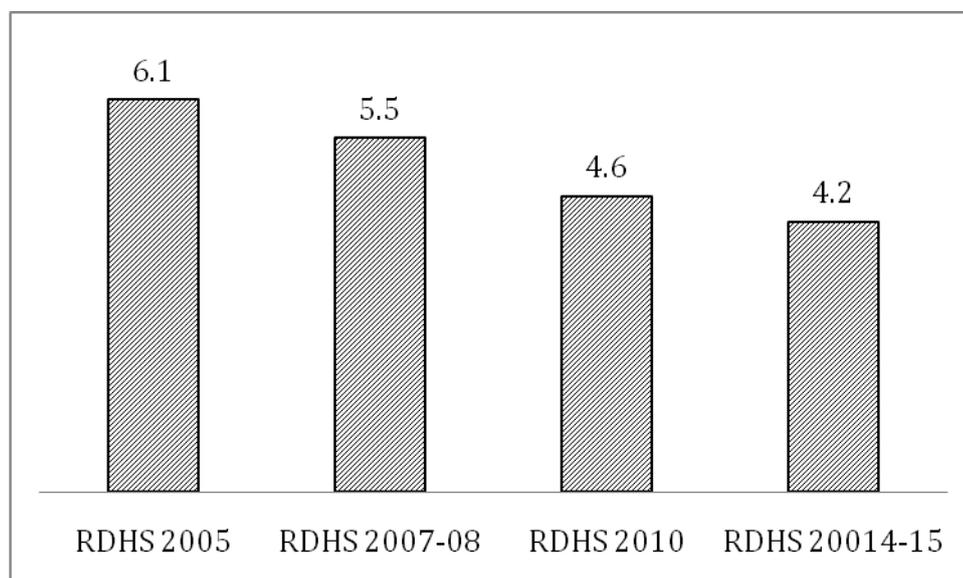
Year	Total population(medium projection scenario)	Density (persons per km2)
2012	10,482,641	414
2013	10,736,772	424
2014	10,996,895	434
2015	11,262,565	445
2016	11,533,446	456

2017	11,809,295	467
2018	12,089,720	477
2019	12,374,398	489
2020	12,663,117	500
2021	12,955,768	512
2022	13,252,274	524
2023	13,552,034	535
2024	13,854,856	547
2025	14,160,550	559
2026	14,468,759	571
2027	14,779,043	584
2028	15,090,251	596
2029	15,401,596	608
2030	15,712,647	621
2031	16,022,992	633
2032	16,332,186	645

Source: Rwanda 4th population and housing census 2012 (Population Projection, 2013–2032).

According to Rwanda Demographic and Health Survey (RDHS) reports (2005-2014/2015), the total fertility rate (TFR) in Rwanda declined from 6.1 (2005) to 4.2 (2014/2015). However, the increment of decline is smaller between 2010 and 2014/15 than in the previous period.

Figure 2. 1: Trends in total fertility rate, 2005 to 2014-15 (Births per women)



Source: RDHS 2014-2015.

Existing literature shows that population growth and population density can contribute to environmental degradation. It has also been established that the effects of the population on the environment can be mitigated through modern technologies and awareness programmes. It is in this perspective that EICV4 asked respondents whether they received any information on environmental issues and the sources from which they received that information as

presented in Table 2.3. The phrasing of this question was new in EICV4 and, consequently, no historical comparisons can be made.

As Table 2.3 shows, the findings revealed that 85% of households in Rwanda receive information on environmental issues. Northern Province has the highest percentage (89.5%) of households that reported to have received information on environmental issues whereas Western Province shows the lowest percentage (78%). The main sources of information were meetings and training (56%) and radio or TV (43%). As one would expect, radio and TV were more frequently stated as the main source in urban areas than in rural areas.

Fewer female-headed households had received information on environmental issues (79% of female-headed households compared to 87% for male-headed households). Whereas female-headed households that received environmental information through meetings are more than male-headed households, female-headed households that received environmental information from radio/TV are less than male-headed households.

Table 2. 3: % of HHs that received information about environmental issues, and main sources of Information, by province, urban/ rural, quintile and sex of head of Household

EICV4	% of HHs that received information about environmental issues, and main sources of information								Total no. of HHs(000s)
	% of HHs receiving any info. on environmental issues	Total number of HHs(000s)	Meetings / Trainings	School	Radio / TV	Other type of media	Others	Total	
All Rwanda	84.9	2493	56.2	0.6	42.9	0.1	0.2	100	2,115
Provinces									
Kigali City	87.3	295	34.9	1.0	63.3	0.6	0.2	100	258
Southern Province	82.9	597	58.0	0.6	41.3	0.1	0.0	100	495
Western Province	77.5	559	68.3	0.5	30.5	0.1	0.7	100	433
Northern Province	89.5	394	65.5	0.9	33.5	0.1	0.1	100	353
Eastern Province	89.0	647	49.3	0.5	50.1	0.1	0.0	100	576
Urban/ Rural									
Urban	85.7	426	36.1	1.1	62.2	0.4	0.1	100	365
Rural	84.7	2,067	60.4	0.6	38.8	0.1	0.2	100	1,750
Quintile									
Q1	79.0	421	72.1	0.4	27.1	0.0	0.4	100	332
Q2	84.4	458	65.5	0.6	33.7	0.1	0.2	100	386
Q3	85.3	489	60.7	0.7	38.3	0.1	0.2	100	417
Q4	85.8	532	55.3	0.5	44.0	0.1	0.1	100	456
Q5	88.2	593	36.3	1.0	62.3	0.3	0.1	100	523
Sex of head of household									
Male	87.0	1,857	53.6	0.6	45.5	0.2	0.2	100	1,615
Female	78.7	636	64.3	0.9	34.5	0.1	0.2	100	500

Source: EICV4. Base population: all households; households receiving information on environmental issues

EICV3	% of HHs that received information about environmental issues, and main sources of information							Total	Total no. of HHs(000s)
	% of HHs receiving any info on environmental issues	Total number of HHs(000s)	Meeting	School	Radio	Other Media	Others		
All Rwanda	96.7	2,253	56.9	0.7	40.7	1.3	0.3	100	2,179
Province									
Kigali City	97.1	223	32.7	1.9	55.2	9.1	1.1	100	217
Southern Province	96.7	549	56.2	0.6	42.2	0.3	0.6	100	531
Western Province	94.0	527	66.1	1.0	32.4	0.3	0.1	100	496
Northern Province	97.6	411	55.9	0.2	42.7	1.0	0.2	100	401
Eastern Province	98.6	541	59.8	0.5	39.6	0.2	0.0	100	534
Urban/Rural									
Urban	97.4	334	34.4	1.4	56.1	7.2	1.0	100	326
Rural	96.6	1,917	60.9	0.6	38.0	0.2	0.2	100	1,853
Quintile									
Q1	95.0	381	72.6	0.4	26.6	0.1	0.3	100	363
Q2	96.6	414	64.0	0.7	34.8	0.3	0.2	100	401
Q3	97.2	447	59.1	0.5	39.9	0.3	0.2	100	435
Q4	97.0	490	55.8	0.8	42.9	0.3	0.3	100	475
Q5	97.4	519	39.3	1.2	54.2	4.7	0.6	100	506
Sex of head of household									
Male	51.9	1,629	43.5	1.5	0.3	1.4	0.7	100	1,629
Female	63.3	62	28.7	0.5	0.4	3.8	2.6	100	624

Source: EICV3. Base population: all households; households receiving information on environmental issues

Table 2.4 presents the percentage of households that own ICT devices. 64% of the households own mobile phones, 60% of households own Radio sets and 10% of households own television sets. Compared to EICV3, the households which own radio sets only increased in Kigali City where they rose from 57% to 67%.

Although radio ownership remained the same (60%) during the two surveys (EICV3 and EICV4), the findings revealed that the number of households receiving environmental information through radio increased. This might be explained by the fact that the percentage of households owning mobile phones significantly increased where it rose from 45% (EICV3) to 64% (EICV4) and most mobiles phones have an application which can allow users to receive radio signals. A lower percentage of households owning radios were observed in Western Province (52%). 68% of households living in urban areas own radio devices and a lower percentage of households in the poorest quintile own radio devices (37%).

Table 2. 4: Ownership of ICT devices, by province, urban/ rural, quintile and sex of head of household

EICV4	Ownership of ICT devices				Total no. of HHs (000s)
	Mobile phone	Computer	Radio	TV set	
All Rwanda	63.6	2.5	59.8	9.9	2,493
Province					
Kigali City	90.0	12.8	66.9	44.1	295
Southern Province	54.0	1.3	57.9	4.9	597
Western Province	58.2	1.1	52.0	5.9	559
Northern Province	60.8	1.2	61.9	4.1	394
Eastern Province	67	1.0	63.9	6.1	647

Urban/rural					
Urban	87.9	12.2	67.5	41.4	426
Rural	58.6	0.5	58.2	3.4	2,067
Quintile					
Q1	36.4	0.0	36.6	0.1	422
Q2	50.8	0.0	53.7	0.6	460
Q3	61.9	0.0	59.5	1.2	489
Q4	71.3	0.5	66.5	5.3	526
Q5	87.5	10.2	75.2	35.3	596
Sex of head of household					
Male	68.0	2.8	66.1	11.2	1,857
Female	50.8	1.7	41.5	6.1	636

Source EICV4. Base population, all households

EICV3	Ownership of ICT devices				Total no. of HHs (000s)
	Mobile phone	Computer	Radio	TV set	
All Rwanda	45.2	1.7	60.2	6.4	2,253
Province					
Kigali City	79.6	10.5	57.3	35.8	223
Southern Province	35.0	0.5	60.4	2.1	549
Western Province	40.4	0.6	51.7	4.1	528
Northern Province	41.8	1.4	63.8	4.5	411
Eastern Province	48.4	0.5	66.9	2.3	542
Urban/rural					
Urban	79.7	10.6	57.3	36.4	335
Rural	39.1	0.1	60.8	1.2	1,918
Quintile					
Q1	17.6	0.0	42.9	0.1	381
Q2	32.2	0.0	58.1	0.1	415
Q3	40.8	0.0	63.6	0.6	448
Q4	50.7	0.0	66.3	1.4	490
Q5	74.3	7.3	66.0	25.8	519
Sex of head of household					
Male	49.0	2.0	65.5	7.6	1,629
Female	35.1	0.8	46.5	3.4	624

Source: EICV3. Base population, all households

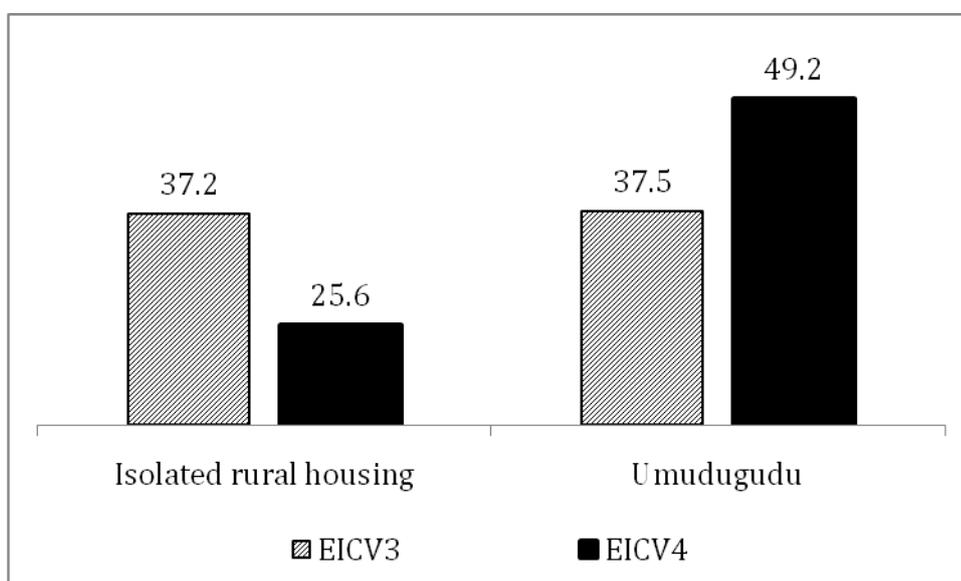
Chapter 3: Human settlement and waste management

Although researchers agree on the fact that the impact of human beings on the environment can be mitigated by modern technologies, they also point out that simple behavioural patterns such as the proper treatment of waste or use of sustainable fuels are equally important preventing environmental degradation by humans. This chapter discusses the behavioural patterns observed in Rwanda that pertain to settlement, construction, waste management, use of fuels and water access.

Accessible rural infrastructure, basic services for sustainable use of natural resources as well as environmental friendly activities are sometimes hindered by rural habitat in Rwanda, which is characterised by scattered and isolated dwellings. There have also been instances of lack of infrastructural planning in some urban centres. It is also worth mentioning that the recent wars in neighbouring countries required interventions in human settlements including adhoc construction of camps or temporary housing schemes. All these factors hinder the development of the human settlement that is harmless to the environment.

As portrayed in Figure 3.1 and Table 3.1, findings show that the population of households living in isolated rural housing has decreased significantly from 37% (EICV3) to 26% (EICV4). The percentage of households living in umudugudu increased by 11 percentage points.

Figure 3. 1: Change in specific habitat types



Source: EICV4 and EICV3.

Much as there have been changes in type of habitat, isolated rural dwellings remain the most common form of housing. This is more pronounced in the Northern Province (43%) and the poorest quintile (33%).

Table 3. 1: Types of habitat, by province, urban/ rural, quintile and sex of head of household

EICV4	Type of habitat						Total	Total no. of HHs(000s)
	Umudugudu	Unplanned clustered rural housing	Isolated rural housing	Unplanned urban housing	Small settlement	Modern planned area		
All Rwanda	49.2	8.7	25.6	12.8	2.2	1.6	100	2,493
Province								
Kigali City	2.7	2.2	13.4	79.0	0.1	2.6	100	295
Southern Province	50.5	10.2	31.4	5.0	0.8	2.0	100	597
Western Province	42.6	8.4	35.3	4.8	7.6	1.3	100	559
Northern Province	43.8	8.3	42.7	2.0	1.3	2.0	100	394
Eastern Province	78.3	10.7	6.8	3.2	0.3	0.8	100	647
Urban/rural								
Urban	17.1	6.4	3.2	62.6	2.1	8.6	100	426
Rural	55.8	9.2	30.2	2.5	2.2	0.1	100	2,067
Quintile								
Q1	52.6	7.8	33.1	4.6	1.6	0.3	100	421
Q2	53.1	8.9	30.6	5.3	1.8	0.4	100	458
Q3	52.9	8.4	28.4	6.9	3.0	0.3	100	489
Q4	49.6	9.6	26.1	11.5	2.3	0.9	100	532
Q5	40.4	8.6	13.5	30.2	2.1	5.1	100	593
Sex of head of household								
Male	49.2	8.8	24.9	13.2	2.3	1.6	100	1,857
Female	49.2	8.3	27.4	11.7	2	1.5	100	636

Source: EICV4. Base population, all households

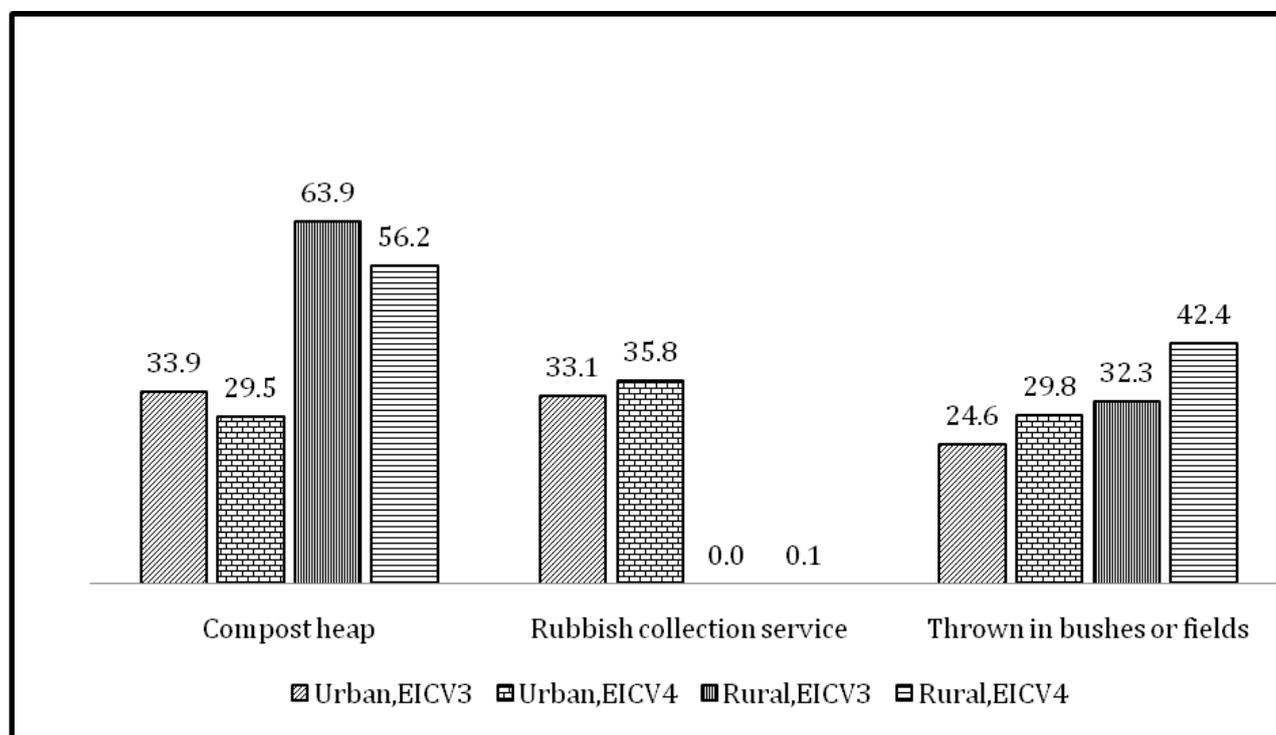
EICV3	Type of habitat							Total	Total no. of HHs(000s)
	Umudugudu	Unplanned clustered rural housing	Isolated rural housing	Unplanned urban housing	Small settlement	Modern planned area	Other		
All Rwanda	37.5	11.1	37.2	4.8	8.4	0.6	0.5	100	2,253
Province									
Kigali City	7.8	2.4	21.9	2.8	62.6	2.4	0.0	100	223
Southern Province	18.2	17.1	56.6	5.6	2.0	0.2	0.4	100	549
Western Province	25.5	17.0	48.2	6.8	1.9	0.5	0.2	100	528
Northern Province	38.4	7.2	44.5	3.7	5.2	1.1	0.1	100	411
Eastern Province	80.2	5.8	7.6	3.5	1.3	0.1	1.5	100	542
Urban/rural									
Urban	23.2	6.8	6.5	3.9	54.3	4.0	1.4	100	335
Rural	40.0	11.8	42.6	4.9	0.4	0.0	0.4	100	1,917
Quintile									
Q1	33.1	11.8	51.4	3.0	0.7	0.0	0.2	100	381
Q2	39.2	12.4	42.1	4.3	1.8	0.0	0.3	100	415
Q3	40.1	11.3	40.8	4.6	2.9	0.0	0.3	100	448
Q4	40.9	12.1	36.5	5.4	4.4	0.1	0.6	100	490
Q5	33.8	8.3	20.4	6.1	27.9	2.5	1.1	100	519
Sex of head of household									
Male	37.7	10.9	36.2	9.1	4.9	0.7	0.5	100	1,629
Female	36.8	11.6	39.9	6.5	4.4	0.3	0.5	100	624

Source: EICV4. Base population, all households

With regard to the use of waste management utilities, findings showed that households that live in modern or planned settlement tend to be provided with better management of waste management and sewage. This is associated with improvement in waste management, as can be seen in Figure 3.2 and Table 3.2. In urban areas, the provision of refuse collection services

has increased from 33% to 36% and the use of compost heaps has decreased from 64% to 56% in rural area between 2010/11 and 2013/14.

Figure 3. 2: Changes in use of waste management facilities



Source: EICV3 and EICV4

Table 3. 2: Waste management facilities by province, urban/rural and sex of head of household

EICV4	Main mode of rubbish disposal (waste management)							Total	Total no. of HHs (000s)
	Publicly managed refuse area	Rubbish collection service	Thrown in the HH's fields / bushes	Dumped in river / lakes / ditches	Burnt	Compost heap on own property	Other ways of rubbish disposal used		
All Rwanda	1.5	6.2	40.2	0.1	0.1	51.6	0.2	100	2,493
Province									
Kigali City	1.1	46.5	30.7	0.5	0.1	20.6	0.5	100	295
Southern Province	1.4	0.5	43.6	0.0	0.0	54.3	0.2	100	597
Western Province	1.5	1.5	43.6	0.2	0.0	52.9	0.2	100	559
Northern Province	0.8	0.7	46.7	0.0	0.0	51.7	0.1	100	394
Eastern Province	2.3	0.7	34.6	0.0	0.1	62.1	0.1	100	647
Urban/rural									
Urban	3.5	35.8	29.8	0.4	0.2	29.5	0.8	100	426
Rural	1.1	0.1	42.4	0.1	0.0	56.2	0.1	100	2,067
Sex of head of household									
Male	1.5	6.5	38.4	0.1	0.1	53.2	0.2	100	1,857
Female	1.5	5.4	45.6	0.2	0.0	47.1	0.1	100	636

Source: EICV4. Base population, all households

EICV3	Main mode of rubbish disposal (waste management)							Total	Total no. of HHs (000s)
	Publicly managed refuse area	Rubbish collection service	Thrown in the HH's fields / bushes	Dumped in river / lakes / ditches	Burnt	Compost heap on own property	Other ways of rubbish disposal used		
All Rwanda	1.9	5.0	31.1	2.5	0.0	59.4	0.1	100	2,253
Province									
Kigali City	1.6	42.6	33.4	1.9	0.1	20.5	0.0	100	223
Southern Province	1.9	0.2	32.6	1.9	0.0	63.3	0.0	100	549
Western Province	3.0	1.7	35.2	3.2	0.0	56.8	0.2	100	528
Northern Province	1.0	0.5	28.8	2.8	0.0	66.9	0.1	100	411
Eastern Province	1.6	0.9	26.5	2.6	0.0	68.3	0.1	100	542
Urban/rural									
Urban	4.8	33.1	24.6	3.4	0.1	33.9	0.1	100	335
Rural	1.4	0.0	32.3	2.4	0.0	63.8	0.1	100	1,918
Sex of head of household									
Male	2.0	5.2	28.8	2.4	0.0	61.4	0.0	100	1,629
Female	1.5	4.2	37.1	2.8	0.0	54.1	0.2	100	624

Source: EICV3. Base population, all households

Besides solid waste management, the disposal of liquid wastes through improved sanitation facilities is also paramount in safeguarding the environment. It has been realised that in urban contexts deep pit latrines can negatively affect ground water.

Table 3. 3: % of HHs with access to improved sanitation facilities by province, urban/rural, quintile and sex of head of household

EICV4	% of hhs that use improved sanitation	Improved sanitation		Unimproved sanitation			Total	Total no. of HHs (000s)
		Flush toilet	Pit latrine with solid slab	Pit latrine without slab	Other	No toilet whatsoever		
All Rwanda	83.4	1.8	81.6	13.5	0.0	3.2	100	2,493
Province								
Kigali City	93.2	8.5	84.7	5.8	0.0	1.0	100	295
Southern Province	69.5	1.1	68.4	26.0	0.0	4.6	100	597
Western Province	85.4	1.1	84.4	9.6	0.1	4.9	100	559
Northern Province	85.9	0.8	85.1	11.1	0.0	3.0	100	394
Eastern Province	88.4	0.6	87.8	10.3	0.0	1.4	100	647
Urban/rural								
Urban	93.5	8.6	84.9	5.3	0.0	1.2	100	426
Rural	81.3	0.4	80.9	15.1	0.0	3.6	100	2,067
Quintile								
Q1	73.6	0.0	73.5	20.5	0.0	5.9	100	421
Q2	77.1	0.3	76.8	19.0	0.1	3.8	100	458
Q3	83.0	0.1	82.9	13.6	0.0	3.4	100	489
Q4	85.5	0.5	85.1	12.5	0.0	2.0	100	532
Q5	93.5	6.7	86.8	5.0	0.0	1.5	100	593
Sex of head of household								
Male	85.7	1.9	83.8	12.1	0.0	2.2	100	1,857
Female	76.5	1.5	75	17.4	0.0	6.0	100	636

Source: EICV4. Base population, all households

EICV3	% of HHs use improved sanitation	Improved sanitation		Unimproved sanitation			Total	Total no. of HHs (000s)
		Flush toilet	Pit latrine with solid slab	Pit latrine without slab	Others	No toilet whatsoever		
All Rwanda	74.5	1.7	72.8	19.4	0.0	6.1	100	2,253
Province								
Kigali City	83.3	8.1	75.2	15.2	0.1	1.5	100	223
Southern Province	66.2	0.6	65.6	27.9	0.0	5.9	100	549
Western Province	79.2	1.1	78.1	12.5	0.1	8.2	100	528
Northern Province	74.2	2	72.2	18.8	0.0	6.9	100	411
Eastern Province	74.9	0.6	74.3	19.5	0.0	5.6	100	542
Urban/rural								
Urban	87.4	9.8	77.6	9.8	0.0	2.8	100	335
Rural	72.2	0.3	71.9	21.1	0.0	6.7	100	1,918
Quintile								
Q1	64.7	0.0	64.7	25.2	0.0	10.1	100	381
Q2	72.1	0.2	71.9	21.5	0.0	6.4	100	415
Q3	71.9	0.2	71.7	22.2	0.1	5.9	100	448
Q4	74.7	0.4	74.3	20.2	0.0	5.2	100	490
Q5	85.6	6.7	78.9	10.3	0.0	4.1	100	519
Sex of head of household								
Male	77.3	1.9	75.5	18	0.1	4.6	100	1,629
Female	67.0	1.2	65.8	22.9	0.0	10.1	100	624

Source: EICV3. Base population, all households

As portrayed in Table 3.4, a good percentage of households do not share their own improved sanitation with others (64%). However, in urban areas including Kigali City, less than 50% of households do not share their own improved sanitation (EICV4).

Table 3. 4: Percentage of households that are not sharing their own improved sanitation by province, urban/ rural, quintile and sex of head of household

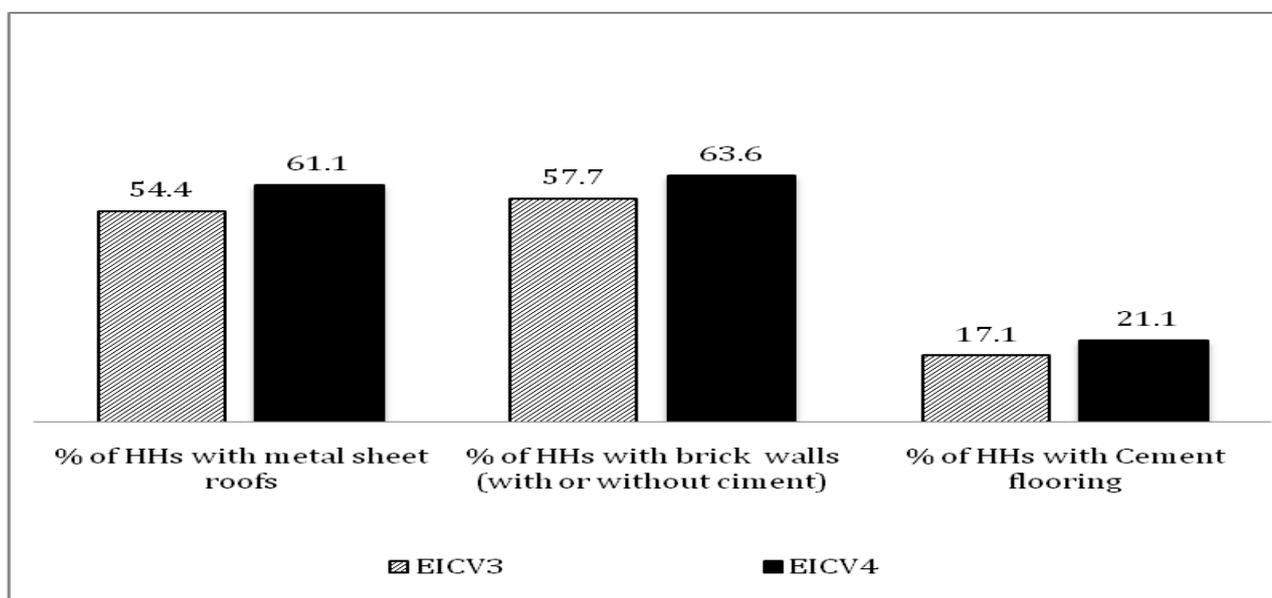
ECIV4	% of HHs that are not sharing their own improved sanitation	Total no. of HHs(000s)
All Rwanda	63.5	2,493
Province		
Kigali City	42.2	295
Southern Province	56.0	597
Western Province	68.1	559
Northern Province	74.7	394
Eastern Province	69.4	647
Urban/rural		
Urban	47.2	426
Rural	66.9	2,067
Quintile		
Q1	59.3	421
Q2	62.4	458

Q3	66.5	489
Q4	66.8	532
Q5	61.9	593
Sex of head of household		
Male	66.3	1,857
Female	55.3	636

Source: EICV4. Base population, all households

Tables 3.5; 3.6 and 3.7 show materials used to construct houses in Rwanda and how these have changed over time. These include materials used in roofing, making walls, as well as flooring. Figures in tables demonstrate considerable improvements, for example the increase in households with cement floors, the growing number of houses with brick walls, as well as the number of houses with metal sheets.

Figure 3.3: Changes in use of various construction materials for roofing, walls and flooring



Source: EICV3 and EICV4

Table 3. 5: Roofing materials of the dwelling, by province, urban/ rural, quintile and Sex of head of households

EICV4	Roofing Material						Total	Total no. of HHs(000)
	Thatch or leaves	Metal sheets	Clay tiles	Concrete	Plastic or plywood	Others		
All Rwanda	0.3	61.1	38.4	0.0	0.1	0.0	100	2,493
Province								
Kigali City	0.2	99.1	0.6	0.1	0.1	0.0	100	295
Southern Province	0.1	19.5	80.3	0.0	0.2	0.1	100	597
Western Province	0.4	47.3	52.1	0.1	0.1	0.0	100	559
Northern Province	0.3	58.3	41.4	0.0	0.0	0.0	100	394
Eastern Province	0.6	95.9	3.4	0.0	0.1	0.0	100	647
Urban/rural								
Urban	0.2	88.8	10.9	0.0	0.0	0.0	100	426
Rural	0.4	55.4	44.1	0.0	0.1	0.0	100	2,067

Quintile								
Q1	0.2	55.6	43.9	0.0	0.2	0.0	100	421
Q2	0.4	53.5	46.0	0.0	0.1	0.0	100	458
Q3	0.4	56.1	43.4	0.0	0.0	0.1	100	489
Q4	0.3	60.2	39.3	0.0	0.1	0.0	100	532
Q5	0.3	75.8	23.8	0.0	0.0	0.0	100	593
Sex of head of household								
Male	0.4	61.2	38.2	0.0	0.1	0.0	100	1,857
Female	0.2	60.7	39.0	0.0	0.1	0.0	100	636

Source: EICV4. Base population, all households

EICV3	Roofing Material						Total	Total no. of HHs(000)
	Thatch or leaves	Metal sheets	Clay tiles	Concrete	Plastic or plywood	Others		
All Rwanda	2.2	54.4	42.5	0.1	0.8	0.1	100	2,253
Province								
Kigali City	1.7	94.6	3.3	0.2	0.1	0.1	100	223
Southern Province	1.8	14.7	82.7	0.0	0.6	0.0	100	549
Western Province	3.1	43.6	52.3	0.1	0.8	0.1	100	528
Northern Province	2.0	49.0	48.6	0.1	0.4	0.1	100	411
Eastern Province	2.0	92.5	3.8	0.0	1.7	0.0	100	542
Urban/rural								
Urban	0.8	87.5	11.0	0.2	0.3	0.2	100	335
Rural	2.4	48.6	48.0	0.0	0.9	0.1	100	1,918
Quintile								
Q1	4.8	39.7	53.8	0.0	1.5	0.2	100	381
Q2	2.6	45.3	51.1	0.1	0.9	0.0	100	415
Q3	1.4	49.7	47.8	0.0	1.0	0.0	100	448
Q4	1.7	56.5	41.1	0.1	0.6	0.0	100	490
Q5	1.0	74.4	24.2	0.1	0.3	0.1	100	519
Sex of head of household								
Male	2.0	54.6	42.5	0.1	0.8	0.1	100	1,629
Female	2.6	53.9	42.6	0.0	0.8	0.1	100	624

Source: EICV3. Base population, all households

Table 3. 6: Wall materials of the dwelling, by province, urban/ rural, quintile and Sex of head of households

EICV4	Type of wall material								Total	Total no. of HHs (000)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven fired bricks	Cement bricks	Wooden Planks	Others		
All Rwanda	36.0	24.2	29.1	6.3	2.8	0.5	0.6	0.5	100	2,493
Province										
Kigali City	8.2	54.2	12.8	15.9	5.0	3.5	0.1	0.3	100	295
Southern Province	29.4	21.4	39.7	6.2	3.1	0.1	0.0	0.0	100	597
Western Province	58.3	13.8	20.8	1.0	2.7	0.1	2.6	0.8	100	559
Northern Province	44.9	15.8	30.3	4.4	2.6	0.2	0.0	1.8	100	394
Eastern Province	30.3	27.0	33.1	7.7	1.7	0.2	0.0	0.1	100	647
Urban/Rural										
Urban	15.1	51.9	8.8	11.2	9.5	2.7	0.3	0.6	100	426
Rural	40.4	18.4	33.2	5.3	1.4	0.1	0.7	0.5	100	2,067
Quintile										
Q1	47.5	7.0	41.3	2.3	0.6	0.0	0.8	0.4	100	421

Q2	45.9	12.0	37.2	3.3	0.4	0.0	0.4	0.8	100	458
Q3	42.3	17.4	32.9	5.4	0.8	0.0	0.7	0.5	100	489
Q4	34.2	28.0	27.6	7.8	1.7	0.1	0.4	0.3	100	532
Q5	16.8	47.9	12.3	10.9	8.9	2.1	0.7	0.6	100	593
Sex of head of household										
Male	35.9	25.7	27.7	6.0	3.0	0.6	0.6	0.5	100	1,857
Female	36.4	19.7	33.1	7.1	2.1	0.5	0.4	0.6	100	636

Source: EICV4. Base population, all households

EICV3	Type of wall material								Total	Total no. of HHs(000)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven fired bricks	Cement bricks	Wooden Planks	Others		
All Rwanda	36.1	18.7	35.2	5.5	2.5	0.3	0.7	0.9	100	2,253
Province										
Kigali City	9.7	50.2	17.6	14.5	5.3	2.6	0.1	0.1	100	223
Southern Province	29.6	18.7	43.6	6.1	1.8	0.0	0.0	0.1	100	549
Western Province	56.5	11.4	24.3	1.3	2.3	0.0	3.1	1.1	100	528
Northern Province	42.5	13.1	35.1	3.1	3.5	0.0	0.0	2.7	100	411
Eastern Province	29.0	17.3	44.7	7.2	1.3	0.1	0.0	0.3	100	542
Urban/rural										
Urban	17.3	49.8	10.1	10.2	10.0	2.0	0.2	0.4	100	335
Rural	39.4	13.3	39.6	4.7	1.2	0.0	0.8	0.9	100	1,918
Quintile										
Q1	45.6	5.1	45.9	1.5	0.2	0.0	0.7	1.1	100	381
Q2	43.7	9.6	42.6	2.6	0.4	0.0	0.5	0.6	100	415
Q3	40.9	12.8	39.3	4.5	0.5	0.1	1.1	1.0	100	448
Q4	35.5	19.0	35.7	6.7	1.2	0.0	0.8	1.1	100	490
Q5	19.7	41.0	17.6	10.7	8.7	1.3	0.6	0.6	100	519
Sex of head of household										
Male	36.3	20.0	33.5	5.5	2.7	0.3	0.8	0.9	100	1,629
Female	35.8	15.5	39.7	5.6	1.8	0.3	0.5	0.8	100	624

Source: EICV3. Base population, all households

Table 3. 7: Floor materials of the dwelling by province, urban/ rural quintile and Sex of head of household

EICV4	Type of floor material						Total	Total no. of HHs(000)
	Beaten earth	Hardened dung	Cement	Bricks	Others	Total		
All Rwanda	74.0	2.7	21.1	1.2	1.0	100	2,493	
Province								
Kigali City	31.4	0.2	63.8	0.3	4.2	100	295	
Southern Province	79.9	0.7	16.1	2.7	0.6	100	597	
Western Province	85.2	0.2	12.3	1.5	0.9	100	559	
Northern Province	85.9	0.2	12.4	0.6	0.9	100	394	
Eastern Province	71	9.4	19.2	0.2	0.2	100	647	
Urban/rural								
Urban	31	1.0	63.3	1.0	3.8	100	426	
Rural	82.8	3.1	12.4	1.2	0.5	100	2,067	
Quintile								
Q1	93.6	2.3	3.6	0.3	0.2	100	421	
Q2	90.2	2.9	5.5	1.0	0.5	100	458	
Q3	84.6	3.3	10.5	1.3	0.4	100	489	
Q4	74.1	3.4	20.7	1.4	0.5	100	532	
Q5	38.7	1.8	54.8	1.6	3.1	100	593	

Sex of head of household							
Male	73.0	2.6	22.1	1.2	1.2	100	1,857
Female	76.8	3.1	18.5	1.0	0.7	100	636

Source: EICV4. Based population, all households

EICV3	Type of floor material					Total	Total no. of HHs(000)
	Beaten earth	Hardened dung	Cement	Bricks	Others		
All Rwanda	78.4	2.2	17.1	1.5	0.8	100	2,253
Province							
Kigali City	34.7	0.4	60	0.7	4.2	100	223
Southern Province	82	1.1	13.6	3.1	0.2	100	549
Western Province	86.5	0.1	10.3	2.3	0.8	100	528
Northern Province	87.4	0.1	11.2	0.6	0.7	100	411
Eastern Province	77.9	7.5	14.1	0.3	0.1	100	542
Urban/rural							
Urban	33.3	0.8	61.1	1.3	3.5	100	335
Rural	86.3	2.4	9.4	1.6	0.3	100	1,918
Quintile							
Q1	96	0.9	2.3	0.7	0.2	100	381
Q2	91.6	2.5	3.8	1.4	0.6	100	415
Q3	87.5	2.9	7.3	1.9	0.4	100	448
Q4	81.9	2.8	13.4	1.7	0.2	100	490
Q5	43.7	1.5	50.5	1.8	2.4	100	519
Sex of head of household							
Male	77.4	2.0	18.0	1.7	1.0	100	1,629
Female	81.1	2.7	14.8	1.1	0.5	100	624

Source: EICV3. Base population, all households

Chapter 4: Energy resources

Africans in general and Rwandans in particular depend on fuels as energy source. However, this source of energy has proved to be the biggest stressor for the environment. Although firewood is an essential day-to-day environmental resource that allows Rwandan households to maintain their standard of living, large-scale use of firewood can contribute to air pollution and related problems, which can endanger human health. It also goes without saying that excessive use of wood for fuel can result in massive deforestation.

Much as energy-related sectors such as charcoal production or the exploitation of methane gas from Lake Kivu might be important sources of employment and national income, there is a need to find energy supply that ensures economic development but makes sustainable use of natural resources in the long term. The Vision 2020 energy target is to connect substantial parts of the population to the electricity and to drastically reduce the use of wood in national energy consumption. .

As Table 4.1 shows, firewood is still the fuel used for cooking by the vast majority of the rural population (94%) whereas in urban areas, charcoal is used by 68% of households, followed by firewood (29%). The comparison of fuel use in EICV3 and EICV4 shows that rural households have not changed much in the use of firewood as fuel (95% in EICV3 versus 94% in EICV4). However, there has been some change in the cities where by firewood use reduced from 36% to 29% while charcoal use increased from 61% to 68%.

Table 4. 1: Primary fuel used for cooking by province, urban/ rural quintile and Sex of head of household

EICV4	Primary fuel used for cooking									Total no. HHs(000)
	Firewood	Charcoal	Gas	Biogas	Electricity	Oil or Kerosene	Crop waste	Others	Total	
All Rwanda	83.3	15.2	0.1	0.0	0.1	0.1	0.8	0.5	100	2,493
Province										
Kigali City	25.6	70.8	1.0	0.0	0.1	0.3	0.3	2.1	100	295
Southern Province	92.7	5.8	0.0	0.1	0.1	0.0	1.2	0.2	100	597
Western Province	88.3	11.1	0.0	0.0	0.1	0.0	0.1	0.3	100	559
Northern Province	94.4	5.1	0.0	0.0	0.0	0.0	0.1	0.2	100	394
Eastern Province	89.9	8.1	0.0	0.0	0.0	0.1	1.5	0.4	100	647
Urban/rural										
Urban	29.3	67.5	0.7	0.0	0.3	0.4	0.3	1.7	100	426
Rural	94.4	4.4	0.0	0.0	0.0	0.0	0.9	0.3	100	2,067
Quintile										
Q1	96.7	1.8	0.0	0.0	0.0	0.0	1.5	0.1	100	421
Q2	95.5	3.3	0.0	0.1	0.0	0.0	0.9	0.2	100	458
Q3	93.8	5.5	0.0	0.1	0.0	0.0	0.5	0.1	100	489
Q4	87.9	11.3	0.0	0.0	0.0	0.0	0.5	0.2	100	532
Q5	57.1	40.1	0.5	0.0	0.2	0.3	0.2	1.6	100	593
Sex of head of household										
Male	82.2	16.2	0.2	0.0	0.0	0.1	0.6	0.6	100	1,857
Female	86.3	12.2	0.1	0.0	0.1	0.0	1.1	0.1	100	636

Source: EICV4. Base population, all households

EICV3	Primary fuel used for cooking									Total no. Of HHs(000)
	Firewood	Charcoal	Gas	Biogas	Electricity	Oil or Kerosene	Crop waste	Others	Total	
All Rwanda	86.3	10.6	0.1	0.0	0.1	0.1	2.3	0.5	100	2,253
Province										
Kigali City	31.5	65.0	0.6	0.2	0.1	0.2	0.1	2.3	100	223
Southern Province	94.1	2.4	0.0	0.1	0.0	0.0	3.1	0.2	100	549
Western Province	92.2	7.6	0.0	0.0	0.1	0.0	0.0	0.2	100	528
Northern Province	90.9	4.5	0.0	0.0	0.1	0.0	3.9	0.6	100	411
Eastern Province	91.7	4.2	0.1	0.0	0.0	0.2	3.4	0.4	100	542
Urban/rural										
Urban	36.0	61.0	0.5	0.1	0.2	0.3	0.2	1.7	100	335
Rural	95.1	1.9	0.0	0.0	0.0	0.0	2.7	0.3	100	1,918
Quintile										
Q1	95.4	0.5	0.0	0.0	0.0	0.0	3.8	0.3	100	381
Q2	95.4	1.6	0.0	0.0	0.0	0.0	2.9	0.1	100	415
Q3	94.2	3.0	0.0	0.0	0.0	0.0	2.7	0.1	100	448
Q4	91.0	6.6	0.0	0.0	0.0	0.0	2.0	0.4	100	490
Q5	61.0	35.8	0.3	0.1	0.2	0.3	0.7	1.6	100	519
Sex of head of household										
Male	85.5	11.6	0.1	0.0	0.1	0.1	2.0	0.6	100	1,629
Female	88.5	8.1	0.0	0.0	0.0	0.0	3.0	0.3	100	624

Source: EICV3. Base population, all households

As illustrated in Table 4.2 and Figure 4.1, the percentage of households using electricity as the main source of energy for lighting has increased over the last three years, especially in the urban areas from 58% to 72%. Although the overall percentage of households that use electricity for lighting in Rwanda is 20%, electricity use as the main source of lighting is particularly high in Kigali city (73%) while Southern Province has the lowest percentage (9%). Electricity use is heavily skewed towards the richest quintile (53%) compared to the poorest quintile (3%).

Figure 4. 1: Changes in % HHs with access to electricity, by urban/ rural and quintile

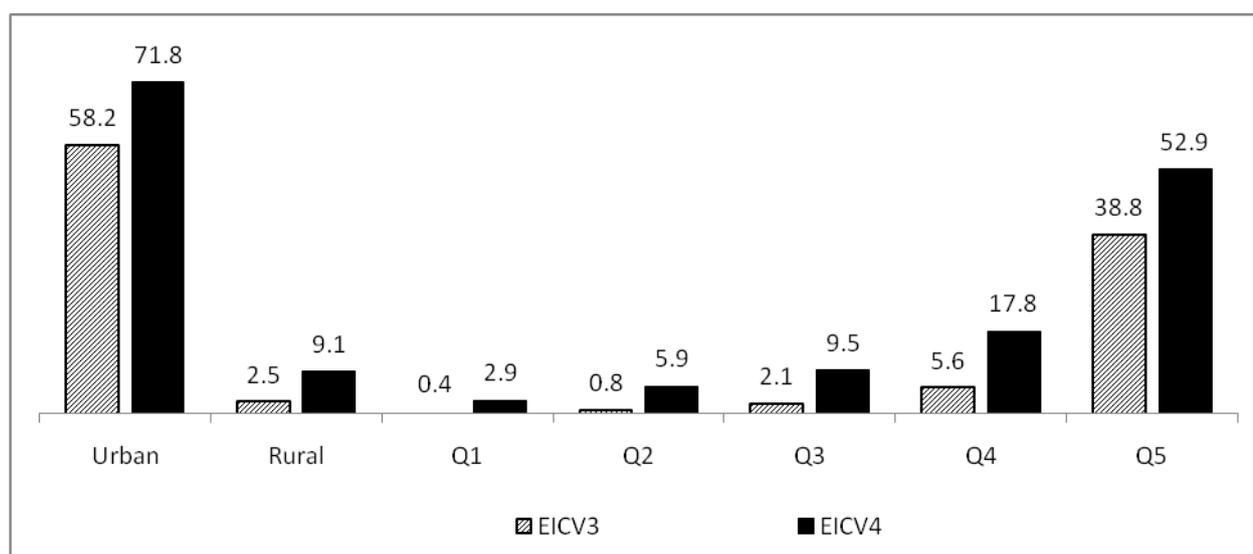


Table 4. 2: Primary fuel used for lighting by province, urban/ rural, quintile and Sex of head of household

EICV4	Main source of lighting								Total	Total no. of HHs(000s)
	Electricity distributor	Oil Lamp	Fire wood	Candle	Lantern	Batteries	Solar panel	Others		
All Rwanda	19.8	5.0	5.5	7.4	13.1	44.2	1.7	3.2	100	2,493
Province										
Kigali City	73.3	2.2	0.3	10.9	2.2	9.5	0.2	1.5	100	295
Southern Province	9.3	5.5	8.1	4.2	16.3	52.7	2.1	1.8	100	597
Western Province	14.7	7.2	10.6	7.4	7.8	46.7	3.0	2.8	100	559
Northern Province	10.4	3.5	5.8	9.7	5.8	54.8	1.4	8.5	100	394
Eastern Province	15.3	5.0	1.0	7.3	24.4	43.5	1.0	2.5	100	647
Urban/rural										
Urban	71.8	3.6	0.7	9.0	6.7	6.9	0.4	0.9	100	426
Rural	9.1	5.3	6.5	7.0	14.5	51.9	2.0	3.7	100	2,067
Quintile										
Q1	2.9	2.7	13.8	7.3	12.3	56.7	0.9	3.5	100	421
Q2	5.9	4.3	7.7	6.6	15.5	54.8	1.2	3.9	100	458
Q3	9.5	5.8	4.8	7.4	15.8	51.6	1.8	3.2	100	489
Q4	17.8	6.7	3.3	7.9	15.4	43.3	2.1	3.5	100	532
Q5	52.9	5.1	0.6	7.5	7.8	21.7	2.2	2.3	100	593
Sex of head of household										
Male	21.1	5.1	4.0	7.4	12.6	44.8	1.9	3.1	100	1,857
Female	16.2	4.7	10.0	7.3	14.6	42.3	1.1	3.7	100	636

Source: EICV4. Base population, all households

EICV3	Main source of lighting									Total	Total no. of HHs (000s)
	Electricity distributor	Oil Lamp	Fire wood	Candle	Lantern	Batteries	Solar panel	Others	Not stated		
All Rwanda	10.8	9.7	8.8	5.9	34.7	28.6	0.3	1.2	0.0	100	2,253
Province											
Kigali City	55.6	9.6	0.8	12.6	13.8	6.4	0.2	0.9	0.0	100	223
Southern Province	3.2	7.2	13.5	4.0	42.7	27.9	0.3	1.2	0.0	100	549
Western Province	8.2	14.8	14.1	6.1	23.7	31.5	0.3	1.3	0.1	100	528
Northern Province	6.7	4.9	8.8	7.0	30.7	40.5	0.3	1.0	0.0	100	411
Eastern Province	5.6	11.0	2.0	4.0	49	26.9	0.3	1.3	0.0	100	542
Urban/rural											
Urban	58.2	9.6	0.7	8.9	16.3	6.0	0.2	0.1	0.0	100	335
Rural	2.5	9.7	10.2	5.4	37.9	32.6	0.3	1.3	0.0	100	1,918
Quintile											
Q1	0.4	5.2	21.2	4.8	30.8	36.2	0.0	1.4	0.0	100	381
Q2	0.8	6.5	9.6	4.2	41.5	35.9	0.2	1.4	0.0	100	415
Q3	2.1	8.8	7.9	4.5	43.6	31.7	0.2	1.1	0.1	100	448
Q4	5.6	12.2	5.6	7.6	39.0	28.5	0.3	1.1	0.0	100	490
Q5	38.8	14.0	2.8	7.6	20.4	14.8	0.7	0.9	0.0	100	519
Sex of head of household											
Male	12.1	10.2	6.4	5.7	33.4	30.5	0.4	1.1	0.0	100	1,629
Female	7.3	8.3	14.9	6.3	38.0	23.8	0.1	1.3	0.0	100	624

Source: EICV3. Base population, all households

Chapter 5: Water resources

Findings revealed that access to improved drinking water sources has increased in Rwanda, from 74% to 85% between 2010/11 and 2013/14. As Table 5.1 shows, 85% of households in Kigali City use improved drinking water source. Among these households in Kigali City, 36% use a public standpipe while 37% have water piped into their dwellings/yards. It has been observed that the Northern Province has the highest percentage of households using improved drinking water source (91%) while the Eastern Province has the lowest percentage (81%). Both richest and poorest quintiles (Q5 and Q1) have access to safe drinking water sources at the level of 89% (Q5) and 81% (Q1).

Table 5. 1: Percentage of HHs with access to improved drinking water source by province, urban/ rural, quintile and sex of head of household

EICV4	% of that use improved drinking water	Improved drinking water source						Unimproved/other drinking water source				Total	Total no. of HHs (000s)
		Piped into dwelling/yard	Public standpipe	Borehole	Protected well	Protected spring	Rain water	Unprotected well	Unprotected spring	Surface water	Others		
All Rwanda	84.8	8.1	34	3.2	0.9	38.3	0.2	0.9	6.7	5.3	2.4	100	2,493
Province													
Kigali City	84.5	36.8	35.6	1.3	0.7	10.1	0	0.2	2.8	0.9	11.6	100	295
Southern	85.8	4.3	20.5	0.8	1.4	58.8	0	1.2	8.7	3.5	0.8	100	597
Western	84.5	4.8	33.7	1.4	0.6	43.5	0.6	0.4	10.9	3.3	0.9	100	559
Northern	90.6	3.3	36	0.4	0.7	50.3	0.1	0.4	5.5	3.1	0.3	100	394
Eastern	80.6	4.4	44.8	9.6	0.9	20.6	0.3	1.5	3.8	12	2.1	100	647
Urban/rural													
Urban	90.0	39.4	42.6	0.6	0.5	6.7	0.2	0.1	0.9	0.2	8.8	100	426
Rural	83.7	1.7	32.3	3.7	1.0	44.8	0.2	1.0	7.9	6.3	1.0	100	2,067
Quintile													
Q1	81.2	0.4	29.3	3.2	1.2	47.0	0.2	1.5	8.8	7.3	1.1	100	421
Q2	81.7	0.8	32.5	3.3	0.5	44.4	0.2	0.9	9.1	7.0	1.4	100	458
Q3	84.0	1.5	34.4	4.0	0.8	43.1	0.2	1.2	7.9	5.3	1.7	100	489
Q4	85.8	5.1	37.5	2.9	1.1	39.0	0.2	0.6	6.0	5.0	2.7	100	532
Q5	89.4	27.5	35.2	2.7	0.8	22.9	0.3	0.4	3.2	2.9	4.2	100	593
Sex of head of household													
Male	84.4	8.5	34.5	3.2	0.8	37.2	0.2	0.9	6.8	5.4	2.4	100	1,857
Female	85.9	7.0	32.7	3.2	1.0	41.7	0.3	0.7	6.4	5.0	2.1	100	636

Source: EICV4. Base population, all households

EICV3	% of HHs that use improved drinking water	Improved drinking water source						Unimproved/other drinking water source				Total	Total no. of HHs (000s)
		Piped into dwelling/yard	Public standpipe	Borehole	Protected well	Protected spring	Rain water	Unprotected well	Unprotected spring	Surface water	Others		
All Rwanda	74.2	5.8	25.7	1.8	2.3	38.1	0.4	2.3	10.6	11.6	1.4	100	2,253
Province													
Kigali City	82.7	32.6	35	2.1	3.0	10.0	0.1	0.9	3.7	4.4	8.3	100	223
Southern	74.8	2.1	13.2	0.1	4.7	54.6	0.0	3.0	11.0	11.1	0.1	100	549
Western	74.2	3.6	25.7	1.1	1.7	41.0	1.1	1.4	18.2	5.8	0.5	100	528
Northern	78.9	4.1	26.6	0.1	1.0	46.6	0.5	1.0	10.2	9.7	0.2	100	411
Eastern	66.6	2.1	33.9	5.4	1.2	23.9	0.1	4.0	5.8	22.3	1.4	100	542
Urban/rural													
Urban	87.1	34.2	38.7	1.4	1.3	11.5	0.1	0.8	2.1	3.7	6.2	100	335
Rural	71.9	0.9	23.4	1.9	2.5	42.8	0.4	2.5	12	13	0.5	100	1,918
Quintile													
Q1	68.4	0.0	17.3	1.6	2.8	46.5	0.2	2.4	15.3	13.3	0.5	100	381
Q2	71.4	0.2	21.6	1.6	2.2	45.4	0.3	2.5	12.5	13.3	0.3	100	415
Q3	71.5	0.7	24.2	1.8	2.1	42.4	0.2	2.8	11	13.8	0.9	100	448
Q4	73.2	1.5	28.4	2.1	2.8	38.0	0.4	2.4	10.2	12.7	1.6	100	490
Q5	84.0	23.1	33.9	1.8	1.8	22.7	0.7	1.5	5.4	6.1	3	100	519
Sex of head of household													
Male	73.6	6.7	25.8	1.8	2.2	37.2	0.3	2.2	10.5	11.8	1.4	100	1,629
Female	74.1	3.7	25.5	1.8	2.6	40.5	0.5	2.4	10.6	11.1	1.4	100	624

Source: EICV3. Base population, all households

Generally, the findings showed that the population that use drinking water from an improved water sources has increased from 75% (EICV3) to 85% (EICV4). As Table 5.2 highlights, the increase is observed across all provinces, particularly in rural areas where access to improved drinking water source has increased by 12 percentage points. The Eastern Province has the lowest percentage of population using improved water source (81%).

Table 5. 2: Proportion of population using an improved drinking water source by province, urban/ rural, quintile and sex of head of household

EICV4	proportion of population using improved drinking water source	Total population (000s)
All Rwanda	85.0	11,424
Province		
Kigali City	86.0	1,318
Southern Province	85.3	2,654
Western Province	85.0	2,643
Northern Province	90.6	1,803
Eastern Province	80.9	3,006
Urban/rural		
Urban	90.8	1,971
Rural	83.7	9,453
Quintile		
Q1	81.3	2,253
Q2	82.0	2,252

Q3	84.6	2,257
Q4	85.7	2,270
Q5	90.9	2,393
Sex of head of household		
Male	85.0	9,102
Female	85.0	2,322

Source: EICV4. Base population, all people

ECIV3	proportion of population using improved drinking water source	Total population (000s)
All Rwanda	74.7	10,762
Province		
Kigali City	84.3	1,059
Southern Province	74.4	2,527
Western Province	75.1	2,586
Northern Province	79.6	1,981
Eastern Province	66.8	2,609
Urban/rural		
Urban	88.7	1,687
Rural	72.0	9,075
Quintile		
Q1	68.6	2,123
Q2	72.1	2,122
Q3	72.2	2,124
Q4	73.7	2,133
Q5	85.9	2,260
Sex of head of household		
Male	75.0	5,105
Female	75.0	5,657

Source: EICV3. Base population, all people

Table 5.3 depicts the distance to improved water sources. It shows that rural households can now reach improved drinking water sources more quickly than they could three years ago. Generally, the mean time used by household to reach an improved water source was decreased from 14 minutes in EICV3 to 11 minutes in EICV4. In Eastern Province, the mean time of households to reach an improved water source is now 13 minutes which is the highest mean time in the country and Kigali city has the lowest mean time used by households to reach an improved water source (8 minutes).

Table 5. 3: Time to improved drinking water sources by urban/ rural, province, quintile, sex of head of household, Type of habitat and Disability

EICV4	Mean time to improved drinking water source (minutes)	Water piped into dwelling/yard	Time to improved drinking water source (minutes)							Total	Total no. of HHs (000s)
			0-4 min	5-14min	15-29min	30-59min	60+min	No improved	Frequency of use not stated		
All Rwanda	11.2	8.1	17	32.9	14.8	6.6	1.3	15.2	4.2	100	2,493
Province											
Kigali City	8.1	36.9	12.6	19.6	6.60	4.0	1.2	15.5	3.7	100	295
Southern Province	10.8	4.3	17.8	37	16.9	5.9	0.8	14.2	3.1	100	597
Western Province	10.4	4.8	18.8	36.6	13.3	5.7	1.0	15.5	4.4	100	559
Northern Province	12.5	3.3	15.5	39.3	21	7.8	1.8	9.4	2.0	100	394
Eastern Province	12.7	4.4	17.7	28.2	13.9	8.3	1.6	19.4	6.5	100	647
Urban/rural											
Urban	5.3	39.4	18.2	21.2	5.4	1.4	0.0	10.0	4.4	100	410
Rural	12.2	1.7	16.8	35.3	16.7	7.6	1.5	16.3	4.1	100	2,005
Quintile											
Q1	12.3	0.4	14.3	37.6	16.4	7.7	1.4	18.8	3.5	100	421
Q2	12.1	0.8	17.5	33.8	16.1	7.9	1.4	18.3	4.2	100	458
Q3	11.9	1.5	17.2	36.3	16.1	7.5	1.4	16	4.0	100	489
Q4	11.2	5.1	18.4	34.1	16	6.2	1.2	14.2	4.8	100	532
Q5	8.9	27.5	17.2	25	10.3	4.2	1.0	10.6	4.2	100	593
Sex of head of household											
Male	11.2	8.5	17.1	32.5	14.5	6.5	1.2	15.6	4.0	100	1,857
Female	11.4	7.0	16.7	34.1	15.6	6.7	1.3	14.1	4.5	100	636
Types of habitat											
Umudugudu	11.6	3.2	19.8	33.7	14.6	7.7	1.3	14.8	4.9	100	1,227
Unplanned clustered rural housing	11.2	3.3	17.6	34.8	17.4	6.3	1.0	15.5	4.0	100	216
Isolated rural housing	13.0	0.7	12.0	38.0	19.4	7.0	1.8	18.7	2.5	100	637
Unplanned urban housing	6.1	39.7	14.7	19.9	5.2	2.3	0.4	13.4	4.4	100	318
Small settlement	8.9	2.9	28.3	35.5	17.2	4.3	0.2	3.5	8.0	100	55
Modern planned area	5.3	61.6	13.1	17.4	4.7	0.6	0.0	1.7	1.0	100	40
Disability											
No disability	11.2	8.7	17	32.7	14.6	6.5	1.1	15.1	4.3	100	2,100
With disability	11.9	5.1	17.1	34.1	15.4	7.0	1.9	16.1	3.4	100	394

Source: EICV4. Base population, all households

EICV3	Mean time to improved drinking water source (minutes)	Water piped into dwelling/yard	Time to improved drinking water source (minutes)							Total	Total no. of HHs (000s)
			0-4 min	5-14min	15-29min	30-59min	60+min	No improved	Frquence of use not known		
All Rwanda	14.4	5.8	10.2	28.7	16.6	10.0	2.1	25.8	0.7	100	2,253
Province											
Kigali City	10.5	32.6	11.5	20.8	7.7	7.6	1.8	17.3	0.8	100	223
Southern Province	14.8	2.1	8.5	31.6	19.8	10.6	1.5	25.2	0.8	100	549
Western Province	12.9	3.6	11.0	33.2	16.6	7.2	1.6	25.8	1.1	100	528
Northern Province	16.1	4.1	9.4	28.5	20.1	14.2	2.5	21.1	0.3	100	411
Eastern Province	16.1	2.1	11.1	24.9	14.6	10.1	3.3	33.4	0.5	100	542
Urban/Rural											
Urban	7.5	34.2	14.9	25.7	7.4	3.9	0.6	12.9	0.6	100	335
Rural	15.9	0.9	9.3	29.2	18.1	11.0	2.8	28.1	0.7	100	1,918
Quintile											
Q1	16.4	0.1	7.6	30.1	15.8	11.9	2.3	31.6	0.7	100	380
Q2	15.6	0.2	8.1	31.2	18.6	10.2	2.5	28.6	0.7	100	413
Q3	15.7	0.7	9.4	28.9	19.0	10.9	2.1	28.5	0.4	100	447
Q4	14.8	1.5	11.4	30.0	17.0	10.1	2.5	26.8	0.8	100	488
Q5	11.1	23.1	13.2	24.4	13.2	7.6	1.5	16.0	0.9	100	518
Types of habitat											
Umudugudu	15.7	2.9	10.4	28.2	17.1	11.0	3.4	26.5	0.5	100	844
Unplanned clustered rural housing	15.1	1.6	10.6	30.5	17.1	11.7	2.3	25.1	1.2	100	249
Isolated rural housing	15.5	0.4	7.1	31.7	19.1	10.1	2.1	29.0	0.6	100	838
Unplanned urban housing	14.0	6.5	17.4	24.8	15.0	11.4	2.0	21.0	1.9	100	107
Small settlement	5.9	43.1	16.7	18.8	4.6	2.7	0.3	13.1	0.7	100	189
Modern planned area	5.4	82.8	7.5	3.9	0.0	0.0	0.0	4.8	1.1	100	14
Other	11.0	3.2	17.9	25.9	8.3	8.4	0.0	36.4	0.0	100	12
Disability											
No disability	14.3	6.3	10.4	28.7	16.5	9.9	2.1	25.5	0.6	100	1,839
With disability	15.1	3.7	9.0	28.9	17.1	10.7	2.2	27.3	1.1	100	414
Sex of head of household											
Male	14.3	6.7	10.1	28.3	16.2	10.1	2.1	25.9	0.6	100	1,629
Female	14.7	3.7	10.3	29.8	17.6	9.9	2.3	25.5	0.9	100	624

Source: EICV3. Base population, all households

One of the EDPRS2 policy indicators is the distance to an improved drinking water source. This policy recommends that households with access to water sources are those within 200 metres in urban areas and within 500 metres in rural areas. The findings of this study show that in urban areas, 61% of the households are within 200 metres of an improved drinking water source. In rural areas, 47% of the households are within 500 metres of an improved water source. In Kigali City, over half of the households live within 200 metres of an improved drinking water source. In contrast, the majority of the households in Southern Province and Northern Province still live within more than 500 metres away from an improved drinking water source. Table 5.4 shows that households' access to improved water source within 200 metres for those households living in urban areas has increased from 22% to 61%. It has also been noted that households within 500 metres of improved water sources increased (from 35% to 47%) for households in rural areas compared to previous survey.

Table 5. 4: Households with access to improved water sources within 200 metres and 500 metres by province, urban/ rural, quintile, sex of head of household and type of habitat.

EICV4	HHs with access to improved water source within 200m and 500m		Total no. of HHs(000s)
	less to 200m	less to 500m	
All Rwanda	26.4	52.6	2,493
Province			
Kigali City	54.1	70.3	295
Southern Province	19.1	45.4	597
Western Province	26.2	55.0	559
Northern Province	21.3	47.8	394
Eastern Province	23.8	52.0	647
Urban/Rural			
Urban	60.5	78.3	426
Rural	19.4	47.3	2,067
Quintile			
Q1	17.2	45.0	421
Q2	18.7	47.2	458
Q3	19.9	48.2	489
Q4	24.2	51.6	532
Q5	46.2	66.6	593
Sex of head of household			
Male	27.0	52.9	1,857
Female	24.6	51.6	636
Type of habitat			
Umudugudu	22.8	50.6	1,227
Unplanned clustered rural housing	24.0	51.0	216
Isolated rural housing	13.7	41.8	637
Unplanned urban housing	58.4	76.0	318
Small settlement	43.2	66.9	55
Modern planned area	74.9	88.5	40

Source: EICV4. Base population, all households

EICV3	HHs with access to improved water source within 200m and 500m		Total no. of HHs(000s)
	less to 200m	less to 500m	
All Rwanda	14.6	36.2	2,253
Province			
Kigali City	19.0	35.0	223
Southern Province	10.6	32.1	549
Western Province	15.9	40.5	528
Northern Province	13.1	36.4	411
Eastern Province	16.8	36.6	542
Urban/Rural			
Urban	21.6	40.8	335
Rural	13.4	35.4	1,918
Quintile			
Q1	11.8	33.1	381
Q2	14.6	36.2	415
Q3	11.8	35.6	448
Q4	15.9	39.0	490
Q5	17.9	36.3	519
Sex of head of household			
Male	14.6	36.0	1,629
Female	14.8	38.0	624
Type of habitat			

Umudugudu	16.0	37.0	844
Unplanned clustered r	14.1	37.3	249
Isolated rural housin	10.9	34.3	838
Unplanned urban housi	20.7	39.7	107
Small settlement	22.3	38.9	189
Modern planned area	8.5	11.7	14
Other	22.6	43.3	12

Source: EICV3. Base population, all households

Among factors that can influence the use of improved water source is the expenditure on water. EICV4 therefore investigated the expenses that households use on water. It has been realised that in general, expenditure on water constitutes only a negligible proportion of household expenditure (0.5%). However, as Table 5.5 shows, fewer households receive their water for free when compared to how the situation was in the past three years. In 2010/11, 69% of households paid nothing for their water whereas this was only true for 66% of households in 2013/14.

Table 5. 5: Percentage of HH expenditure on water by province, urban/ rural, quintile and sex of head of household

EICV4	Mean HH expenditure on water as % of total expenditure	Mean annual expenditure on water	Percentage of HH expenditure on water				Total	Total no. of HHs (000s)
			Pay nothing	1-19999	20000-39999	40000+		
All Rwanda	0.5	8,067	66.1	21.4	7.7	4.9	100	2,493
Province								
Kigali City	1.1	2,8776	27.1	28.3	24.7	19.8	100	295
Southern Province	0.3	3,215	79.3	15.9	3.2	1.6	100	597
Western Province	0.2	2,744	85.1	11.0	2.3	1.6	100	559
Northern Province	0.4	4,377	70	23.8	4.5	1.7	100	394
Eastern Province	0.9	9,943	52.8	30.8	10.8	5.7	100	647
Urban/rural								
Urban	1.1	27,043	24.4	32.7	24.3	18.7	100	426
Rural	0.4	4,154	74.7	19.0	4.3	2.0	100	2067
Quintile								
Q1	0.4	1,816	80.9	17.0	1.7	0.4	100	421
Q2	0.4	2,767	77.1	18.9	3.2	0.8	100	458
Q3	0.5	4,340	73.3	20.2	4.8	1.8	100	489
Q4	0.6	6,955	65.3	22.6	8.3	3.8	100	532
Q5	0.8	20,656	41.8	26.2	17.3	14.7	100	593
Sex of head of household								
Male	0.5	8,717	64.8	21.5	8.4	5.3	100	1,857
Female	0.5	6,169	69.7	21.1	5.6	3.6	100	636

Source: EICV4. Note: Calculation of average expenditure includes those spending RWF 0. All values presented in prices at the time of the survey (undeflated).

EICV3	Mean HH expenditure on water as % of total expenditure	Mean annual expenditure on water	Pay nothing	1-19999	20000-39999	40000+	Total	Total number of households (000s)
All Rwanda	0.4	6,870	68.9	21.5	5.7	3.9	100	2,253
Province								
Kigali City	1.0	27,868	27.7	31.1	21.8	19.4	100	223
Southern Province	0.2	215	85.2	11.9	1.9	1.0	100	549
Western Province	0.3	3,004	79.2	16.9	2.8	1.2	100	528
Northern Province	0.3	4,362	76.8	17.6	3.2	2.4	100	411

EICV3	Mean HH expenditure on water as % of total expenditure	Mean annual expenditure on water	Pay nothing	1-19999	20000-39999	40000+	Total	Total number of households (000s)
Eastern Province	0.7	8,655	53.5	34.7	7.5	4.3	100	542
Urban/rural								
Urban	1.1	27,252	21.4	37.4	22.2	19.1	100	335
Rural	0.3	3,311	77.2	18.7	2.8	1.3	100	1,918
Quintile								
Q1	0.2	1,027	86.9	12.4	0.7	0.0	100	381
Q2	0.3	1,921	79.9	18.3	1.6	0.3	100	415
Q3	0.4	2,984	75.5	21.0	2.7	0.8	100	448
Q4	0.5	5,414	68.6	24.2	5.2	2.0	100	490
Q5	0.7	19,842	41.6	28.7	15.5	14.2	100	519
Sex of head of household								
Male	0.4	7,390	67.8	21.6	6.2	4.4	100	1,629
Female	0.4	5,512	71.8	21.2	4.3	2.7	100	624

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

The findings of this study show that some households do not use the nearest improved water sources. As Table 5.6 shows, 19% of households do not use the nearest improved water sources. With regard to the issue of not using the nearest improved water sources, 38% of households reported that the main reason preventing them from using the nearest drinking water sources was that the water sources do not function, 37% of households reported that the water sources are too far while 17% reported that the water sources are too expensive.

Table 5. 6: Main reason preventing households from using the nearest drinking water source by Province, Urban/rural, quintile and sex of head of household

ECIV4	% of HHs not used the nearest improved water source	Total no. of HHs (000s)	Main reason preventing households from using the nearest drinking water source					Total	Total no. of HHs (000s)	
			Too Expensive	Not safe	Difficult Terrain	Too far	Does not function			Other s
All Rwanda	18.8	2,144	16.5	2.2	3.3	37.1	38	2.9	100	402
Province										
Kigali City	15.8	146	10.8	3.3	5.3	38.1	40.1	2.4	100	23
Southern Province	15.8	546	19.3	2.6	4.5	58.4	11.9	3.3	100	86
Western Province	18.8	511	9.6	3.9	5.0	50.9	28.2	2.4	100	96
Northern Province	10.6	364	29.3	1.2	3.0	38.4	24.8	3.3	100	39
Eastern Province	27.5	577	17.0	0.9	1.5	16.7	61.0	3.0	100	1,58
Urban/rural										
Urban	15.4	227	16.6	1.8	5.9	38.5	31.2	6.1	100	35
Rural	19.2	1,917	16.5	2.2	3.1	37	38.6	2.6	100	367
Quintile										
Q1	20.5	391	26	1.6	2.2	33.2	34.8	2.2	100	80
Q2	20.2	425	18.8	2.5	3.7	42.1	31.9	1.1	100	86
Q3	18.5	450	16.5	2.5	3.5	36.1	38.5	3.1	100	83
Q4	18.4	477	11.1	2.1	3.7	37.1	42.5	3.5	100	88
Q5	16.3	400	9.3	2.1	3.6	36.7	43.2	5.2	100	65
Sex of head of household										
Male	1,586	18.9	14.9	2.3	3.4	38	38.8	2.7	100	299
Female	558	18.5	21.2	1.9	3.2	34.5	35.8	3.5	100	103

Source: EICV4. Base population, all households

In 2013/14, 17% of the households had some measures to manage rain water. Table 5.7 shows that rain water management is relatively common in Kigali City, where rain water is managed by 35% of the households in contrast to 9% in Southern Province and 10% in Eastern Province.

Table 5. 7: Percentage of HHs with type of rain water management by province, Urban/Rural, Quintile and sex of head of household

ECIV4	% of HHs manage the rain water	Total HHs (000s)	Type of rain water management					Total	Total HHs (000s)
			No measures	Rainwater tank from roof	Ditch	Piped away	Others		
All Rwanda	17.4	2493	82.6	2.1	13.4	1.8	0.2	100	2,493
Province									
Kigali City	35.2	295	64.8	4.5	27.8	2.9	0.0	100	295
Southern Province	8.6	597	91.4	0.5	6.1	1.9	0.0	100	597
Western Province	29.0	559	71	1.4	24.6	2.4	0.5	100	559
Northern Province	14.2	394	85.8	2.9	10.6	0.7	0.1	100	394
Eastern Province	9.6	647	90.5	2.6	5.5	1.2	0.2	100	647
Urban/rural									
Urban	32.1	426	67.9	4.3	25.3	2.3	0.2	100	426
Rural	14.4	2067	85.6	1.6	11.0	1.7	0.2	100	2,067
Quintile									
Q1	11.4	421	88.6	0.7	9.8	0.7	0.2	100	421
Q2	13.7	458	86.3	1.2	10.9	1.5	0.1	100	458
Q3	14.3	489	85.7	1.3	11.2	1.6	0.1	100	489
Q4	15.7	532	84.3	1.8	11.8	2.1	0.1	100	532
Q5	28.8	593	71.2	4.6	21.1	2.7	0.4	100	593
Sex of head of household									
Male	18.5	1857.2	81.5	2.3	14.4	1.7	0.2	100	1857
Female	14.3	636	85.7	1.6	10.6	2.0	0.1	100	636

Source: EICV4. Base population, all households

Chapter 6: Land management and agricultural practices

The assessment of EDPRS has revealed that land is one of the three main factors of production in Rwanda. Land in Rwanda is used for pasture or exploited as arable land. Given the growing population combined with strong reliance on agriculture, it is clear that land is one of the scarce resources in Rwanda. It goes without saying that EICV has to collect detailed data on land use and the agricultural activities of Rwandan households.

6.1. Land distribution

Most Rwandan households cultivate at least a parcel of land, and most of them are directly reliant on agriculture as their main or only source of income, especially in rural areas. Table 6.1 emphasises this as it shows that 96% of rural households cultivated at least one parcel of land in 2013/14.

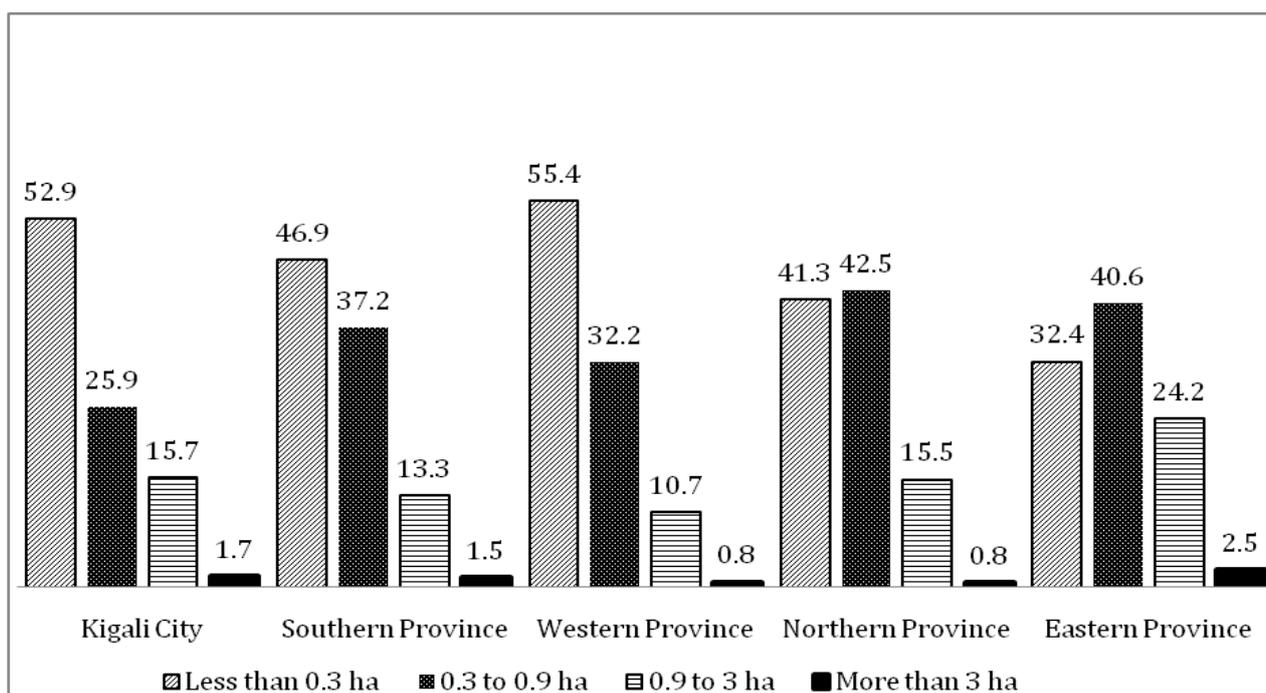
Table 6. 1: Percentage of households cultivating any land by province, urban/ rural, quintile and sex of head of household

	EICV4		EICV3	
	% of HHs cultivating at least one parcel	Total no. of HHs (000s)	% of HHs cultivating at least one parcel	Total no. of HHs (000s)
All Rwanda	87.2	2,493	93.0	2,253
Province				
Kigali City	35.8	295	55.6	223
Southern Province	95.7	597	97.1	549
Western Province	91.1	559	96.3	528
Northern Province	95.7	394	98.3	411
Eastern Province	94.3	647	96.9	542
Urban/rural				
Urban	43.8	426	66.2	331
Rural	96.2	2,067	97.6	1,922
Quintile				
Q1	95.2	421	98.7	381
Q2	94.4	458	97.7	415
Q3	93.5	489	97.9	448
Q4	89.9	532	95.2	490
Q5	68.4	593	78.8	519
Sex of head of household				
Male	86.6	1,857	92.7	1,629
Female	89.2	636	94.6	624

Source: EICV4. Base population, all households

The average area cultivated per rural household is only 0.6ha. It has been realised that households averagely cultivate small parcels of land. Findings of this study show that only 16% of rural households cultivate 0.9ha or more in Rwanda. The majority of households across all provinces cultivate less than 0.9ha, or even less than 0.3ha. (Figure 6.1 and Table 6.2)

Figure 6. 1: Distribution of total land in rural areas, EICV4

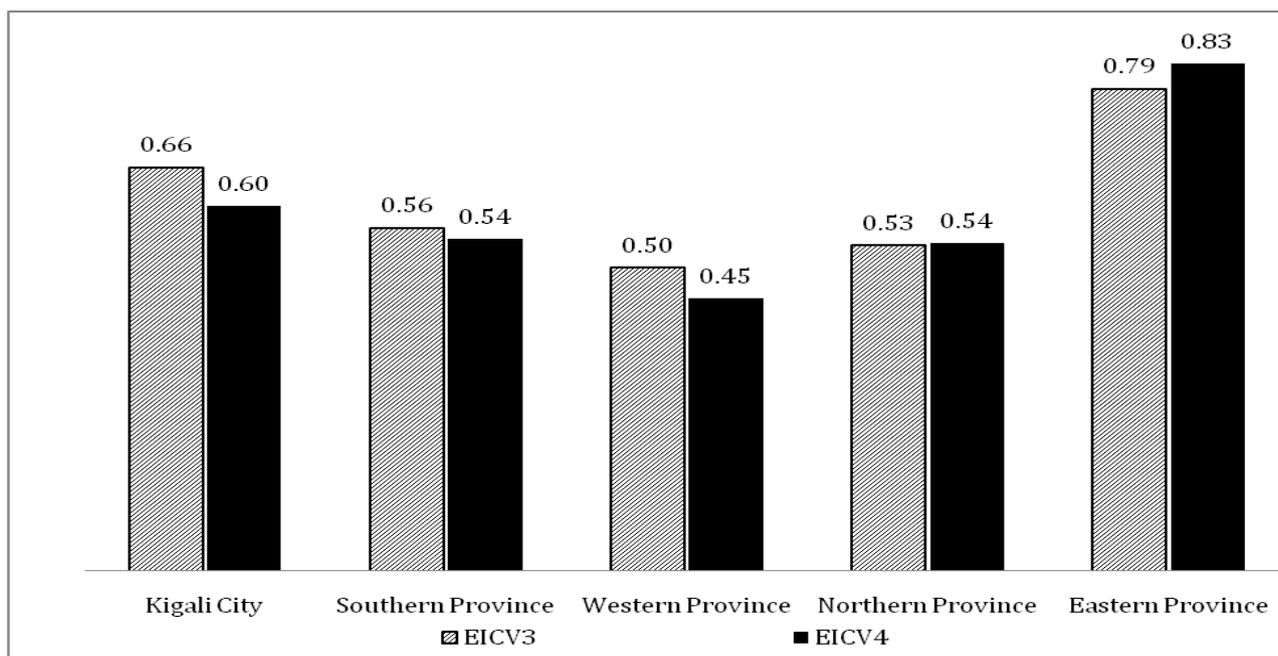


Source: EICV4

With the growing population, land in Rwanda is getting scarcer and scarcer. As illustrated in Figure 6.2, the average size of land cultivated per rural household remained constant in the last three years at national level.

Table 6.2 shows that the proportion of households cultivating less than 0.3ha has not changed much between the surveys.

Figure 6.1: Changes in average land cultivated in rural areas (ha per HH) by province



Source: EICV3 and EICV4

Table 6. 2: Size of total land cultivated by Household according to province, urban/rural, quintile and sex of head of household

EICV4	Average total area cultivated per HHs	Size of total land cultivated				Total	Total no. of HHs cultivating land for crop production (000s))
		Less than 0.3 ha	0.3 to 0.9 ha	0.9 to 3 ha	More than 3 ha		
All Rwanda	0.6	45	37.4	16.1	1.6	100	2,178
Province							
Kigali City	0.8	55.9	25.9	15.3	3	100	107
Southern Province	0.5	48.2	37.2	13.2	1.4	100	572
Western Province	0.4	56.5	32.2	10.6	0.7	100	509
Northern Province	0.5	41.7	42.5	15.1	0.7	100	378
Eastern Province	0.8	32.5	40.6	24.3	2.6	100	611
Urban/rural							
Urban	0.6	56.4	27.2	14.2	2.2	100	189
Rural	0.6	43.9	38.3	16.3	1.5	100	1,996
Quintile							
Q1	0.4	59.7	32.4	7.4	0.5	100	401
Q2	0.5	47.6	39.7	12.1	0.7	100	433
Q3	0.6	42.3	40.3	16.5	0.8	100	458
Q4	0.7	38.1	39.1	21.2	1.7	100	479
Q5	0.9	38.8	34.5	22.5	4.2	100	407
Sex of head of household							
Male	0.6	42.1	38.8	17.3	1.8	100	1,857
Female	0.5	53.0	33.3	12.8	1.0	100	636

Source: EICV4. Note: Calculated on the basis of HHs cultivating land for crop production (i.e. those reporting both cultivating land and producing crops).

EICV3	Average total area cultivated per HH	Size of total land cultivated				Total	Total no. of HHs cultivating land for crop production (000s)
		Less than 0.3 ha	0.3 to 0.9 ha	0.9 to 3 ha	More than 3 ha		
All Rwanda	0.6	45.9	37.7	14.6	1.8	100	2,095
Province							
Kigali City	0.6	70.1	19.3	8	2.7	100	124
Southern Province	0.6	51.2	36.3	10.5	2.1	100	533
Western Province	0.5	52.1	35.9	10.5	1.5	100	508
Northern Province	0.5	46	39.7	13.5	0.9	100	404
Eastern Province	0.8	28.6	43.2	25.6	2.7	100	525
Urban/rural							
Urban	0.5	67.2	21.2	9.0	2.6	100	219
Rural	0.6	43.3	39.5	15.4	1.8	100	1,875
Quintile							
Q1	0.4	61.8	31	6.6	0.7	100	376
Q2	0.5	45.5	41.7	12.2	0.6	100	405
Q3	0.5	42.2	41.7	15.1	1.1	100	438
Q4	0.7	38.7	40.4	18.3	2.6	100	467
Q5	0.8	43.6	32	20.1	4.3	100	409
Sex of head of household							
Male	0.6	42.8	39.4	15.9	2.0	100	1,629
Female	0.5	53.1	33.4	12.1	1.4	100	624

Source: EICV3. Note: Calculated on the basis of HHs cultivating land for crop production (i.e. those reporting both cultivating land and producing crops).

6.2. Land ownership and usability as collateral

The following table (Table 6.3) shows the proportion of households that cultivate land which was inherited, purchased, received as a gift, appropriated, sharecropped or leased. The results of the study stated that 68% of households own at least one parcel that was inherited and 46% of households own a parcel that was purchased. Richer households (Q5) are more likely to have purchased land (52%) whereas poorer households (Q1) are more likely to have inherited land (71%).

Table 6. 3: Percentage of HHs cultivating any parcel that was inherited, purchased, received as gift, received for free use or as loan, appropriated, sharecropped or leased by province, urban/ rural, quintile and sex of head of household

EICV4	Percentage of HHs cultivating any parcel that was.....							Total no. of HHs cultivating land for crop production (000s)
	Inherited	Purchased	Received as gift	Received for free use or as loan	Appropriated	sharecropped	Leased	
All Rwanda	68.4	45.6	15.0	26.2	0.6	23.7	15.1	2,175
Province								
Kigali City	50.3	41.3	12.7	28.8	2.2	12.7	9.5	106
Southern Province	74.8	36.2	10.7	38.5	0.6	30.4	16.2	572
Western Province	74.8	43.3	13.1	20.5	0.2	29.4	8.9	509
Northern Province	88	54.9	10.4	15.9	0.0	21.7	6.2	378
Eastern Province	47.9	51.4	23.8	25.2	0.9	15.9	25.5	610
Urban/Rural								
Urban	46.3	42.3	11.5	29.0	0.5	18.4	10.7	187
Rural	70.4	45.9	15.3	25.9	0.6	24.2	15.5	1,988
Quintile								
Q1	71.3	36.9	14	24.8	0.8	25.1	12.0	401
Q2	71.0	41.8	14.5	25	0.4	27.9	16.1	432
Q3	72.0	47.6	15	27.5	0.5	26.3	14.4	457
Q4	69.5	48.7	16.3	26.8	0.8	21.8	16.8	478
Q5	57.2	52.4	15	26.4	0.3	17.1	15.6	406
Sex of head of household								
Male	68.2	50.6	14.1	25.7	0.4	26.0	16.9	1,607
Female	68.9	31.7	17.6	27.5	0.9	17.3	9.8	567

Source: EICV4. Notes: Calculated on the basis of HHs cultivating land for crop production. Since households can cultivate more than one parcel, percentages do not total 100.

EICV3	Percentage of HHs cultivating any parcel that was.....							Total no. of HHs cultivating land for crop production (000s)
	Inherited	Purchased	Received as gift	Received for free use or as loan	Appropriated	Share cropped	Leased	
All Rwanda	70.1	44.9	17.1	27.0	1.2	18.2	19.5	2,093
Province								
Kigali City	41.2	45.2	11.6	32.3	1.6	4.7	10.6	124
Southern Province	79.0	32.9	13.2	35.1	1.9	20.9	22	533
Western Province	77.9	46.6	13	21.8	0.6	30.8	10.3	508
Northern Province	86.2	50.0	11.7	20.9	0.4	14.5	18.3	404
Eastern Province	48.1	51.7	30.5	27.4	1.6	9.3	28.7	525

Urban/rural								
Urban	51.3	41.9	12.8	30.5	1.3	9.4	14.1	219
Rural	72.3	45.3	17.6	26.6	1.2	19.2	20.1	1,874
Quintile								
Q1	75.0	33.9	15.2	28.4	1.0	20.6	16.9	376
Q2	75	40.8	16.4	30.1	1.0	20.3	20.9	404
Q3	73.3	46.5	17.2	27.6	1.1	19.8	21.5	438
Q4	72.3	48.1	19.1	25.6	1.4	18.3	21.2	466
Q5	55	54	17.1	23.7	1.3	12.1	16.2	409
Sex of head of household								
Male	69.6	49.7	16.6	27.6	1.1	19.6	21.6	1,504
Female	71.9	33.3	18.6	25.9	1.5	14.8	14.2	589

Source: EICV3. Notes: Calculated on the basis of HHs cultivating land for crop production. Since households can cultivate more than one parcel, percentages do not total 100.

It is worth mentioning that land has several uses. Besides providing household income, land can be used as a security in times of hardship either by selling it or by using it as collateral to request a loan. Overall, Table 6.4 shows that 85% of cultivating households have the right to sell their land or use it as a guarantee for a loan. Kigali city has the lower percentage with 67% of households with the right to sell any land or use it as a guarantee, the Northern Province has the highest percentage with 94% of households with the right to sell any land or use it as a guarantee and there are no strong differences in patterns across other remaining provinces or across the different quintiles.

Table 6. 4: Percentage of HHs that have the right to sell or use any of their parcels as a guarantee for a loan by urban/ rural, province and quintile

	EICV4		EICV3	
	% of HHs with the right to sell any land or use it as a guarantee	Total no. of HHs cultivating at least one parcel for crop production (000s)	% of HHs with the right to sell any land or use it as a guarantee	Total no. of HHs cultivating at least one parcel for crop production (000s)
All Rwanda	84.9	2,175	84.0	2,093
Province				
Kigali City	67.2	106	70.1	124
Southern Province	83.3	572	84.9	533
Western Province	85.2	509	84.2	508
Northern Province	93.6	378	87.6	404
Eastern Province	83.9	610	83.2	525
Urban/rural				
Urban	70.8	187	67.2	209
Rural	86.3	1,988	85.8	1,884
Quintile				
Q1	84.2	106	84	376
Q2	85.9	572	85.9	404
Q3	86.9	509	84.6	438
Q4	85.6	378	85.4	466
Q5	81.7	610	79.8	409
Sex of head of household				
Male	86.2	1607	85.6	1,504
Female	79.2	567	79.9	589

Source: EICV4 and EICV3. Note: Calculated on the basis of HHs cultivating land for crop production.

Whereas Table 6.4 discusses whether households are in theory able to sell their land or use it as a guarantee, Table 6.5 takes this discussion one step further and investigates how many households actually used their land as collateral to secure a formal source of credit. The data show that 10% of households in Rwanda had a loan from a formal source of credit, and out of those, 41% had used land as collateral to obtain the loan.

Table 6. 5: Percentage of HHs with the loan from formal sources of credit using land as collateral by urban/ rural, province, quintile and sex of head of household

EICV4	% of HHs with the loan from a formal source	% of HHs that used land as a collateral to access the loan	Total no. of HHs accessing formal sources of credit (000s)
All Rwanda	9.9	41.3	247
Province			
Kigali City	15.1	14.5	44
Southern Province	8.8	41.3	53
Western Province	9.4	47.2	52
Northern Province	8.9	57.9	35
Eastern Province	9.7	46.1	63
Urban/rural			
Urban	17.8	16.6	76
Rural	8.3	52.3	172
Quintile			
Q1	3.6	48.6	15
Q2	5.3	56.3	24
Q3	7.5	57.7	37
Q4	9.2	47.9	49
Q5	20.6	29.9	122
Sex of head of household			
Male	11.4	41.6	211
Female	5.7	39.9	36

Source: EICV4. Note: Formal sources of credit are commercial bank, credit cooperative or SACCOs

6.3. Land transactions during the past 12 months

The results of the study showed that the dynamics of land ownership decreased over the period 2010/11 to 2013/14. In this period, Table 6.6 indicates that the proportion of households selling and buying land decreased. However, households that lent land to others or gave or received land as a gift, inheritance, and dowry or otherwise increased. The average amounts spent and received in land transactions have increased substantially.

Table 6. 6: Land transactions made during the last 12 months by province, urban/rural, quintile and sex of head of household

EICV4	% of HHs that bought land	For those, average amount received	% of HHS sold land	For those, average amount received	% of HHs rented out land	For those, average amount received	% of HHs that sharecropped land in the last 12 months	% of HHs that gave land from others as gift, dowry, inheritance, or otherwise	% of HHs that received land from others as gift, dowry, inheritance, or otherwise	Total no. of HHs (000s)
All Rwanda	12.1	249,498	7.3	270,649	10.2	15,813	6.8	4.3	6.1	2,493
Province										
Kigali City	8.0	659,908	6.0	713,573	5.5	19,934	2.3	1.4	3.9	295
Southern Province	12.2	146,397	6.5	153,772	11.4	8,654	4.5	4.7	6.4	597
Western Province	11.3	210,793	6.6	214,964	11.1	18,226	8.9	4.5	5.9	559
Northern Province	16.9	231,557	8.6	207,742	10.1	17,558	4.1	5.8	7.3	394
Eastern Province	11.6	268,512	8.3	285,314	10.4	18,766	11.0	4.3	6.1	647
Urban/rural										
Urban	7.0	677,334	4.0	929,150	6.9	28,080	4.4	1.6	3.3	426
Rural	13.1	202,439	7.9	202,439	10.8	14,191	7.3	4.9	6.6	2,067
Quintile										
Q1	6.8	161,659	5.9	187,118	9.3	10,239	4.1	3.2	4.5	421
Q2	10.3	153,145	7.5	163,585	9.1	13,214	4.8	3.4	5	458
Q3	14.1	186,307	8.3	202,708	11.3	14,600	7.1	5.7	6.6	489
Q4	13.9	228,023	7.9	252,601	11	16,077	8.1	5.5	7.4	532
Q5	13.8	408,179	6.5	510,577	10	22,152	9.0	3.6	6.4	593
Sex of head of household										
Male	14.7	251,570	7.6	280,695	9.2	17,384	6.1	3.8	7.0	1,857
Female	4.5	229,551	6.3	235,246	13.1	12,593	8.8	6.0	3.3	636

Source: EICV4

EICV3	% of HHs that bought land	For those, average amount received	% of HHS sold land	For those, average amount received	% of HHs rented out land	For those, average amount received	% of HHs lent land to others	% of HHs that gave land from others as gift, dowry, inheritance, or otherwise	% of HHs that received land from others as gift, dowry, inheritance, or otherwise	Total no. of HHs (000s)
All Rwanda	14.0	184,413	9.0	202,782	11.7	12,188	15.7	5.4	8.3	2,253
Province										
Kigali City	6.6	458,160	4.5	802,804	6.5	18,938	26.6	1.4	4.3	223
Southern Province	12.8	100,464	7.4	159,454	13.5	7,775	15.4	5.1	7.7	549
Western Province	16.0	148,290	10.3	166,979	12.7	14,290	12.2	5.7	9.3	528
Northern Province	17.0	253,443	10.6	174,095	12.0	12,378	13.4	7.1	7.9	411
Eastern Province	14.3	186,199	10.2	184,336	10.9	13,574	16.6	5.9	9.9	542
Urban/Rural										
Urban	8.4	694,211	5.8	990,746	7.7	29,828	22.3	0.9	4.0	335

Rural	15.0	134,726	9.6	119,892	12.4	10,312	14.5	6.2	9.1	1,918
Quintile										
Q1	9.0	93,280	8.8	88,036	11.6	7,251	7.7	4.5	7.0	381
Q2	12.7	106,554	9.2	107,909	12.7	9,110	12.5	5.8	7.6	415
Q3	15.1	126,469	9.6	117,946	11.4	10,375	13.9	5.8	9.0	448
Q4	16.8	145,320	9.3	140,773	12.2	13,803	17.4	6.0	10.0	490
Q5	15.3	365,831	8.3	525,548	10.8	18,931	24.0	5.0	7.6	519
Sex of head of household										
Male	16.8	189,436	9.1	197,687	10.7	13,271	15.9	4.6	9.2	1,629
Female	6.8	152,018	8.8	216,566	14.3	10,076	15.1	7.7	6.0	624

Source: EICV3

6.4. Agricultural practices

Use of fertilisers is an important issue, especially in Rwanda whereby land is getting scarcer and scarcer, because it allows a more efficient use of the scarce land resources. Table 6.7 shows that the percentage of households using chemical fertilisers has increased from 29% (EICV3) to 36% (EICV4). The expenditure on organic fertilisers has also increased slightly from 9% (EICV3) to 12% (EICV4). It should be noted that the EICV collects information on expenditure on fertilisers, not usage. Therefore, households that did not pay for their fertilisers (which may often be the case for organic fertilisers) will not appear in this study.

Table 6. 7: Percentage of HHs incurring expenditure on fertilisers (inorganic and organic) by province, urban/ rural, quintile and sex of head of household

EICV4	Percentage of HHs incurring expenditure on fertilisers (inorganic and organic)		Households engaging in crop production (000s)
	Chemical fertilisers	Organic fertilisers	
All Rwanda	36.4	11.9	2,178
Province			
Kigali City	16.6	11.9	107
Southern Province	35.1	11.8	572
Western Province	49.4	13.1	509
Northern Province	48.9	17.7	378
Eastern Province	22.5	7.5	611
Urban/rural			
Urban	26.0	12.8	187
Rural	37.4	11.9	1,991
Quintile			
Q1	26.1	7.1	401
Q2	35.6	9.4	432
Q3	38.4	10.4	457
Q4	41	14.1	478
Q5	40.1	18.7	406
Sex of head of household			
Male	40.3	13.4	1,607
Female	25.7	7.9	567

Source: EICV4. Note: Calculated on the basis of HHs cultivating land for crop production.

EICV3	Percentage of HHHs incurring expenditure on fertilisers (inorganic and organic)		Households engaging in crop production (000s)
	Chemic fertiliser	Organic fertiliser	
All Rwanda	28.9	9.3	2,093
Province			
Kigali City	10.7	5.1	124
Southern Province	26.3	9.7	533
Western Province	37.3	10.4	508
Northern Province	39.0	14.8	404
Eastern Province	20.1	4.7	525
Urban/rural			
Urban	15.8	6.5	209
Rural	30.4	9.6	1,884
Quintile			
Q1	18.8	5.9	376
Q2	27.7	6.5	404
Q3	31.1	9.4	438
Q4	33.9	11.1	466
Q5	31.6	13.2	409
Sex of head of household			
Male	32.1	10.5	1,504
Female	20.9	6.3	589

Source: EICV3. Note: Calculated on the basis of HHHs cultivating land for crop production

In a country like Rwanda, where land resources are scarce, irrigation of land can help to mitigate the effects of land scarcity. It is therefore another important issue for the land sector, given that irrigation schemes allow increased cultivation of otherwise unused or underused lands. The study, however, revealed that the overall proportion of irrigated land is low (4%). This proportion is highest in Kigali City (6%) and lowest in the Northern Province (3%).

Among agricultural practices that can help in land scarce environments is soil erosion control. In this perspective, Table 6.8 shows that 73% of cultivated land is protected against erosion. With regard to land consolidation, the results of this study showed that 16% of cultivated land has been used in land consolidation schemes.

Table 6. 8: Percentage of land area irrigated, protected against soil erosion, and affected by land consolidation by province, urban/ rural, quintile and sex of head of household

EICV4	Percentage of land irrigated, protected against soil erosion, and affected by land consolidation			Total cultivated land area (in 000 ha)
	% of land irrigated	% of land protected against soil erosion	% of land affected by land consolidation	
All Rwanda	4.0	73.0	15.7	1,310
Province				
Kigali City	5.9	70.8	5.0	79
Southern Province	4.3	83.7	7.8	303
Western Province	3.1	78.0	21.9	222
Northern Province	2.7	81.8	21.5	200
Eastern Province	4.5	61.2	17.2	506
Urban/rural				
Urban	6.6	66.1	14.1	109
Rural	3.8	73.6	15.9	1,200
Quintile				
Q1	2.9	74.5	14.1	148

Q2	3.2	75.3	14.6	210
Q3	3.4	77.0	15.0	260
Q4	3.8	73.8	14.9	325
Q5	5.6	67.5	18.2	368
Sex of head of household				
Male	4.4	73.3	16.7	1,023
Female	2.6	71.7	12.3	287

Source: EICV4. Note: This table is based on all land parcels reported in EICV4. EICV4 is not a specialised agricultural survey and more reliable land area estimates should be obtained from the forthcoming agriculture survey carried out by NISR.

Generally, as Table 6.9 shows, 85% of crop-producing households in Rwanda have at least one of their plots protected from erosion, and 13% have at least one of their plots irrigated. The Southern Province has the highest percentage of irrigation and erosion control where 93% of crop-cultivating households had a plot protected from erosion and 20% of households had an irrigated plot. Comparing EICV3 and EICV4, the percentage of crop-producing households with plots protected from erosion increased both in Kigali City (from 53% to 67%) and in Northern Province (from 83% to 90%). The percentage of cultivating households with at least one irrigated plot increased in Kigali City (from 6% to 12%), Western Province (from 4% to 10%), and Southern Province (from 17% to 20%).

With regard to land consolidation, there has been an increase of about eight percentage points at national level (22% for EICV3 versus 30% for EICV4).. Table 6.9 shows that the highest percentages of households affected by land consolidation are in Northern Province (43%) and Western Province (38%).

The findings of this study also show that 29% of crop-cultivating households reported having added additional types of crops to at least one of their plots due to regionalisation, and 24% of households cultivating crops have removed at least one type of crop from any of their plots due to regionalisation. The percentage of households with land affected by regionalisation follows the pattern of land consolidation, and is highest in Northern Province (34% added crops; 32% removed crops) and Western Province (39% added crops; 28% removed crops), and lowest in Kigali City (8% added crops; 6% removed crops).

It was realised that land consolidation and regionalisation programmes were higher among male-headed households than female-headed households. Among crop-producing households, male-headed households more often had a plot protected from erosion (87% compared to 82%) or a plot with irrigation during the last season (14% compared to 10%). For example, while the percentage of crop-cultivating households that added crops due to regionalisation increased by 10 percentage points (22% to 32%) between the rounds for male-headed households; the increase was smaller for female-headed households at six percentage points (18% to 24%).

Table 6. 9: Percentage of crop-producing households with any plot protected from erosion, irrigated, affected by land consolidation, and crops added and removed due to regionalisation, by province, urban/rural and sex of head of household

EICV4	% of households ...					Households engaging in crop production (000s)
	With any plot protected from erosion	With any irrigated plot in the last season	With any plot affected by land consolidation	Added a crop due to regionalisation	Removed a crop due to regionalisation	
All Rwanda	85.4	12.9	29.6	29.4	24.0	2,178
Province						
Kigali City	66.5	11.7	5.6	8.4	5.8	107
Southern Province	93.4	20.2	24.4	28.0	23.2	572
Western Province	83.8	10.0	38.4	38.7	28.3	509
Northern Province	89.6	8.2	43.3	34.3	32.0	378
Eastern Province	79.8	11.5	22.9	23.5	19.2	611
Urban/rural						
Urban	68.0	11.0	25.2	21.5	18.0	187
Rural	87.0	13.1	30.1	30.1	24.5	1,991
Sex of head of household						
Male	86.5	14.1	31.6	31.5	25.9	1,610
Female	82.2	9.5	24.1	23.5	18.6	568

Source: EICV4. Base population: households engaging in crop production.

EICV3	% of households ...					Households engaging in crop production (000s)
	With any plot protected from erosion	With any irrigated plot in the last season	With any plot affected by land consolidation	Added a crop due to regionalisation	Removed a crop due to regionalisation	
All Rwanda	83.5	9.6	22.4	21.1	7.1	2,095
Province						
Kigali City	53.3	6.3	3.3	3.8	1.9	124
Southern Province	93.2	17.0	18.8	22.8	7.5	533
Western Province	83.8	4.2	20.4	17.4	5.7	508
Northern Province	83.2	6.9	39.7	30.9	12.4	404
Eastern Province	80.6	10.2	19.2	19.3	5.4	525
Urban/rural						
Urban	52.1	4.5	15.0	13.9	2.3	210
Rural	87.0	10.1	23.2	21.9	7.7	1,885
Sex of head of household						
Male	84.4	10.6	23.6	22.1	7.3	1,506
Female	81.1	7.0	19.4	18.4	6.6	589

Source: EICV3. Base population: households engaging in crop production.

Chapter 7: Economic dimensions of the environment and natural resources sector

This chapter provides general information on the economic dimensions of the environment and natural resources but does not provide a comprehensive answer to the question of how it contributes to economic growth. The data presented in Table 7.1 show the population working in and outside the agricultural sector. These data indicate that 65% of working individuals above the age of 16 have their main job in agriculture. This shows that land is an important factor in the country's economy, especially in rural areas, where agriculture provides main jobs for 74% of the working population.

The statistical analysis of data highlights that individuals above the age of 16 working in agriculture are heavily skewed towards the richest quintile (38%) compared to the poorest quintile (78%). However, the comparison of EICV3 and EICV4 clearly shows that the percentage of population above age 16 working in agriculture has decreased from 72% to 65% and the percentage of population above age 16 working in non-agriculture has increased from 28% to 33% between 2010/11 and 2013/14.

Table 7. 1: Percentage of population (16+ years) usually working in agricultural and non-agricultural sectors by province, urban/ rural, quintile and sex of household head

EICV4	Agriculture	Non-agriculture	Others	Total	All 16+ years usually working (000s)
All Rwanda	65.0	33.3	1.8	100	5,560
Province					
Kigali City	16.8	81.7	1.5	100	628
Southern Province	71.9	26.1	2.0	100	1,308
Western Province	67.1	30.8	2.0	100	1,275
Northern Province	72.2	26	1.8	100	917
Eastern Province	73.2	25.4	1.4	100	1,433
Urban/Rural					
Urban	20.3	77.9	1.9	100	923
Rural	73.9	24.4	1.7	100	4,636
Quintile					
Q1	77.7	20.1	2.1	100	952
Q2	77.1	21.1	1.8	100	1,037
Q3	73.4	25.0	1.6	100	1,111
Q4	66.1	32.2	1.8	100	1,166
Q5	37.6	60.8	1.6	100	1,293

Source: EICV4

EICV3	Agriculture	Non-agriculture	Others	Total	All 16+ years usually working (000s)
All Rwanda	71.9	27.9	0.2	100	5,012
Province					
Kigali City	23.8	76	0.1	100	493
Southern Province	79.8	20.1	0.1	100	1,189
Western Province	72.5	27.3	0.3	100	1,177
Northern Province	75.1	24.6	0.2	100	970
Eastern Province	80.8	19.0	0.2	100	1,184
Urban/Rural					
Urban	25.1	74.7	0.2	100	750
Rural	80.1	19.7	0.2	100	4,262

Quintile					
Q1	85.0	14.9	0.2	100	870
Q2	83.6	16.2	0.2	100	940
Q3	80.2	19.6	0.2	100	991
Q4	74.8	25.0	0.2	100	1,065
Q5	42.5	57.3	0.2	100	1,146

Source: EICV3

In addition to agriculture, there are other sectors pertaining to natural resources which provide jobs for the Rwandan population. Table 7.2 shows the percentage of individuals above age 16 years working in the forestry, mining, and recreation and tourism sectors.

Table 7. 2: Percentage of population (16+ years) usually working in forestry, mining, and recreation and tourism sectors by province, urban/ rural, quintile and sex of household head

EICV4	forestry	Mining	Recreation and tourism	All 16+ years usually working (000s)
All Rwanda	0.2	0.1	0.4	5,560
Province				
Kigali City	0.1	0.0	1.2	628
Southern Province	0.4	0.4	0.2	1,308
Western Province	0.3	0.0	0.5	1,275
Northern Province	0.2	0.0	0.5	917
Eastern Province	0.1	0.0	0.2	1,433
Urban/Rural				
Urban	0.1	0.0	0.9	923
Rural	0.3	0.1	0.3	4,636
Quintile				
Q1	0.3	0.0	0.4	952
Q2	0.3	0.1	0.3	1,037
Q3	0.3	0.2	0.3	1,111
Q4	0.2	0.2	0.4	1,166
Q5	0.2	0.1	0.6	1,293

Source: EICV4

EICV3	forestry	Mining	Recreation and tourism	All 16+ years usually working (000s)
All Rwanda	0.3	0.4	0.5	5,012
Province				
Kigali City	0.0	0.1	1.8	493
Southern Province	0.2	0.2	0.3	1,189
Western Province	0.7	0.4	0.4	1,177
Northern Province	0.3	1.1	0.4	970
Eastern Province	0.1	0.3	0.2	1,184
Urban/Rural				
Urban	0.1	0.1	1.5	750
Rural	0.3	0.5	0.3	4,262
Quintile				
Q1	0.4	0.5	0.3	870
Q2	0.3	0.4	0.4	940
Q3	0.3	0.4	0.3	991
Q4	0.3	0.5	0.4	1,065
Q5	0.1	0.4	0.9	1,146

Source: EICV3

Chapter 8: Health and problems related to the environment

8.1. Human health and the environment

Although it appears difficult to link the environment and health using statistics, the two concepts exhibit a somewhat indirect and not easily measurable relation that makes them inseparable. Table 8.1 presents a general overview of correlations between environment-related indicators and health complaints. For example, the results of the study show that health problems are higher among people that use non-improved sanitation, and also slightly higher among those using non-improved drinking water sources (27%) in 2013/14. Likewise, people lighting their homes with firewood have a higher incidence of health problems (31%) compared to others. It has also been established that health problems are higher among people living in rural areas (26%) than people living in urban areas (21%).

Table 8. 1: Percentage of people reporting any illness over the past four weeks, by environment-related characteristics

EICV4	% of individuals reporting any illness over past 4 weeks, by environment-related characteristics	Total population in (000s)
All Rwanda	25.3	11,424
Province		
Kigali City	21.3	1,318
Southern Province	30.7	2,654
Western Province	25.7	2,643
Northern Province	20.2	1,803
Eastern Province	25.1	3,006
Urban/Rural		
Urban	21.1	1,971
Rural	26.2	9,453
Quintile		
Q1	25.4	2,253
Q2	25.6	2,252
Q3	25.0	2,257
Q4	26.5	2,270
Q5	24.2	2,393
Sex of head of household		
Male	22.7	5,461
Female	27.7	5,963
Sanitation		
Non-improved sanitation	29.2	1,695
Improved sanitation	25.0	9,738
Water resources		
No-improved main drinking water source	27.3	1,718
Improved main drinking water source	25.0	9,706
Primary fuel used for cooking		
Main cooking fuel is Firewood	26.0	9,648
Main cooking fuel is Charcoal	21.1	1,647
Main cooking fuel is Crop waste	30.0	84

EICV4	% of individuals reporting any illness over past 4 weeks, by environment-related characteristics	Total population in (000s)
Main cooking fuel is Other	29.8	20
Primary fuel used for lighting		
Main lighting fuel is Electricity distributor	20.7	2,355
Main lighting Oil Lamp	26.0	608
Main lighting is Firewood	31.4	537
Main lighting is Candle	24.6	772
Main lighting is Lantern	26.2	1,503
Main lighting is Batteries	26.7	5,067
Main lighting is Other	23.7	349

Source: EICV4.

8.2. Major Problems related to the environment

Literature reveals that the decent relationship between humans and the environment might correlate with human well-being. It also shows that population growth and human activities can stress the environment, if not well controlled. However, it is also worth stressing that the environment itself can have adverse effects on humans. Examples might include floods, destructive rains, etc.

As presented in Table 8.2, 20% of households in Rwanda have experienced some cases of environmental destruction and 11% of the cases were caused by destructive rains. The findings of the study show that rural households experienced more cases of environmental destruction than urban households. The findings also show that the poor households (Q1) are more likely affected by destructive rain than richer households (Q5).

Table 8. 2: Problems resulting from environmental destruction by province, urban/rural, quintile and sex of head of household

EICV4	No major problem	Floods	Mountain slides	Destructive rains	Others	Total	Total no. of HHs (000)
All Rwanda	79.9	1.7	4.4	10.7	3.4	100	2,493
Province							
Kigali City	90.2	0.3	0.6	7.4	1.6	100	295
Southern Province	77.7	1.9	2.4	16.6	1.5	100	597
Western Province	72.6	3.2	10.2	8.7	5.4	100	559
Northern Province	76.9	2.1	7.9	8.6	4.4	100	394
Eastern Province	85.3	0.7	0.6	9.7	3.7	100	647
Urban/Rural							
Urban	88.3	1.1	1.6	7.2	1.9	100	426
Rural	78.1	1.9	4.9	11.4	3.7	100	2,067
Quintile							
Q1	78.3	1.7	6.0	10.6	3.4	100	421
Q2	76.5	2.1	5.2	12.2	4	100	458

EICV4	No major problem	Floods	Mountain slides	Destructive rains	Others	Total	Total no. of HHs (000)
Q3	78.6	1.9	4.6	11.5	3.4	100	489
Q4	79.3	1.6	4.2	11.6	3.4	100	532
Q5	85.1	1.4	2.6	8	2.9	100	593
Sex of head of household							
Male	80.4	1.79	4.53	9.75	3.5	80.4	1.79
Female	78.2	1.49	3.81	13.37	3.1	78.2	1.49

Source: EICV4.

Annex A: District disaggregation tables for selected indicators from EICV4, EICV3

Table A. 1: % of HHS received information about environmental issues, and main source s of information by district (EICV4, EICV3)

EICV4	% of HHs received information about environmental issues, and main source s of information								Total n0. of HHs(000s)
	% of HHs receiving any info on environmental issues	Total number of HHs(000s)	Meetings / Trainings	School	Radio / TV	Other type of media	Others	Total	
All Rwanda	84.9	2,493	56.2	0.6	42.9	0.1	0.2	100	2,115
Nyarugenge	80.8	73	22.4	0.6	76.5	0.5	0.0	100	59
Gasabo	87.4	147	43.1	1.6	54.9	0.2	0.2	100	128
Kicukiro	93.3	76	30.3	0.5	67.6	1.2	0.4	100	71
Nyanza	83.4	77	44.7	0.7	54.6	0.0	0.0	100	64
Gisagara	97.3	79	67.1	0.0	32.9	0.0	0.0	100	77
Nyaruguru	86.8	61	69.9	1.0	28.7	0.5	0.0	100	53
Huye	80.5	79	48.8	0.0	51.0	0.3	0.0	100	63
Nyamagabe	70.1	73	65.1	1.5	33.4	0.0	0.0	100	51
Ruhango	84.8	77	55.3	0.3	44.4	0.0	0.0	100	65
Muhanga	78.5	73	54.9	0.8	44.1	0.0	0.3	100	57
Kamonyi	81.9	79	59.7	0.5	39.8	0.0	0.0	100	65
Karongi	70.2	75	55.3	0.6	39.2	0.0	5.0	100	52
Rutsiro	82.9	73	80.8	0.7	18.5	0.0	0.0	100	60
Rubavu	71.2	92	65.3	0.0	34.8	0.0	0.0	100	65
Nyabihu	91.1	64	75.6	0.6	23.8	0.0	0.0	100	58
Ngororero	88.6	81	63.8	0.7	35.5	0.0	0.0	100	72
Rusizi	70.2	89	68.0	0.6	30.9	0.3	0.2	100	63
Nyamasheke	73.1	86	68.9	0.5	30.3	0.0	0.3	100	63
Rulindo	90.1	69	64.2	0.0	35.2	0.4	0.2	100	62
Gakenke	85.6	80	65.8	1.1	32.9	0.0	0.3	100	68
Musanze	88.9	86	66.8	0.8	32.4	0.0	0.0	100	77
Burera	93.2	74	60.4	0.9	38.7	0.0	0.0	100	69
Gicumbi	90.1	86	69.6	1.6	28.9	0.0	0.0	100	77
Rwamagana	95.0	85	65.6	0.2	34.3	0.0	0.0	100	81
Nyagatare	83.4	113	38.1	0.8	61.1	0.0	0.0	100	94
Gatsibo	84.3	105	58.4	0.3	41.4	0.0	0.0	100	89
Kayonza	83.8	86	48.4	1.1	50.5	0.0	0.0	100	72
Kirehe	95.4	84	59.9	0.4	39.5	0.2	0.0	100	80
Ngoma	97.5	81	39.0	0.4	60.6	0.0	0.0	100	79
Bugesera	87.3	94	36.7	0.2	62.6	0.5	0.0	100	82

EICV3	% of HHs received information about environmental issues, and main source s of information							Total	Total no. of HHs (000s)
	% of HHs receiving any info on environmental issues	Total number of HHs (000s)	Meeting	School	Radio	Other Media	Others		
All Rwanda	96.7	2,253	56.9	0.7	40.7	1.3	0.3	100	2,179
Nyarugenge	95.7	60.1	26.5	1.8	54.4	13.3	4.1	100	58
Gasabo	97.3	99.4	37.1	2.3	57.3	3.4	0.0	100	97
Kicukiro	97.9	63.9	31.8	1.6	52.5	14.0	0.2	100	63
Nyanza	96.6	66.9	46.6	1.0	52.2	0.1	0.2	100	65
Gisagara	98.0	73.7	55.6	0.2	44.2	0.0	0.0	100	72

EICV3	% of HHs received information about environmental issues, and main source s of information							Total	Total no. of HHs (000s)
	% of HHs receiving any info on environmental issues	Total number of HHs (000s)	Meeting	School	Radio	Other Media	Others		
Nyaruguru	98.5	61.0	66.5	0.2	33.1	0.3	0.0	100	60
Huye	98.2	69.9	60.2	0.6	39.2	0.0	0.0	100	69
Nyamagabe	91.7	71.4	46.9	1.1	50.7	0.2	1.0	100	65
Ruhango	95.9	71.2	59.5	0.6	39.1	0.8	0.0	100	68
Muhanga	96.0	63.1	65.7	0.4	33.5	0.2	0.3	100	61
Kamonyi	99.0	72.0	50.5	0.8	44.7	0.7	3.3	100	71
Karongi	92.5	76.6	61.3	0.7	37.4	0.4	0.2	100	71
Rutsiro	96.2	68.8	67.2	0.4	32.0	0.2	0.3	100	66
Rubavu	94.5	81.6	53.0	1.5	44.1	1.4	0.0	100	77
Nyabihu	99.0	68.4	80.0	0.1	19.9	0.0	0.0	100	68
Ngororero	93.3	74.1	59.4	0.5	39.7	0.0	0.5	100	69
Rusizi	97.0	77.7	68.6	1.0	30.5	0.0	0.0	100	75
Nyamasheke	86.7	80.4	74.9	2.9	22.1	0.0	0.0	100	70
Rulindo	99.0	62.8	55.2	0.4	43.9	0.2	0.2	100	62
Gakenke	97.0	76.4	68.8	0.0	31.2	0.0	0.0	100	74
Musanze	99.8	87.3	53.4	0.0	44.4	2.2	0.0	100	87
Burera	95.0	71.3	40.8	0.7	56.8	1.7	0.0	100	68
Gicumbi	97.1	113.2	58.7	0.2	39.8	0.8	0.5	100	110
Rwamagana	95.8	68.0	48.2	1.2	49.9	0.5	0.2	100	65
Nyagatare	100.0	83.9	63.3	0.0	36.7	0.0	0.0	100	84
Gatsibo	99.1	100.1	63.4	0.2	36.4	0.0	0.0	100	99
Kayonza	98.6	70.4	60.6	0.2	39.0	0.2	0.0	100	69
Kirehe	99.1	71.6	61.1	0.2	38.8	0.0	0.0	100	71
Ngoma	99.8	67.9	53.1	0.6	46.3	0.0	0.0	100	68
Bugesera	97.2	79.9	64.9	1.2	33.5	0.5	0.0	100	78

Table A. 2: Type of habitat by District (EICV4, EICV3)

EICV4	Imidugudu	Unplanned clustered rural housing	Isolated rural housing	Unplanned Urban housing	Modern planned area	Others	Total	Total no. of HHs (000s)
All Rwanda	49.2	8.7	25.6	12.8	2.2	1.6	100	2,493
Nyarugenge	0.0	0.0	0.0	100.0	0.0	0.0	100	73
Gasabo	4.1	4.4	26.8	62.0	0.2	2.5	100	147
Kicukiro	2.6	0.0	0.3	91.8	0.0	5.3	100	76
Nyanza	31.9	2.7	53.8	5.8	5.8	0.0	100	77
Gisagara	60.9	6.0	33.1	0.0	0.0	0.0	100	79
Nyaruguru	82.9	0.9	16.0	0.0	0.2	0.0	100	61
Huye	63.0	6.0	10.0	9.8	0.5	10.8	100	79
Nyamagabe	66.6	4.0	25.0	4.4	0.0	0.0	100	73
Ruhango	13.4	56.3	22.9	7.3	0.0	0.2	100	77
Muhanga	41.9	2.8	42.7	12.2	0.0	0.4	100	73
Kamonyi	50.3	0.8	44.9	0.0	0.0	3.9	100	79
Karongi	44.0	1.9	46.9	6.3	0.9	0.2	100	75
Rutsiro	76.2	3.7	20.0	0.0	0.2	0.0	100	73
Rubavu	19.4	16.0	12.8	9.9	37.5	4.5	100	92
Nyabihu	33.5	22.4	33.0	0.0	11.1	0.0	100	64
Ngororero	16.7	3.3	79.8	0.0	0.0	0.2	100	81
Rusizi	54.9	10.0	23.3	8.2	0.6	3.0	100	89
Nyamasheke	56.0	2.9	34.4	6.7	0.0	0.0	100	86
Rulindo	48.5	2.5	48.3	0.3	0.2	0.2	100	69
Gakenke	69.9	4.5	25.4	0.0	0.2	0.0	100	80
Musanze	52.3	3.4	24.7	5.6	5.0	9.0	100	86
Burera	3.6	29.5	64.3	2.1	0.5	0.0	100	74

Gicumbi	41.8	3.1	53.6	1.5	0.0	0.0	100	86
Rwamagana	80.1	2.6	11.0	6.3	0.0	0.0	100	85
Nyagatare	83.3	3.7	12.8	0.0	0.0	0.2	100	113
Gatsibo	62.7	25.4	6.3	0.0	1.4	4.2	100	105
Kayonza	58.7	26.3	4.2	10.6	0.0	0.3	100	86
Kirehe	98.5	1.1	0.4	0.0	0.0	0.0	100	84
Ngoma	89.7	1.0	3.8	5.5	0.0	0.0	100	81
Bugesera	77.9	12.9	7.0	1.8	0.4	0.0	100	94

EICV3	Umudugudu	Unplanned clustered rural housing	Isolated rural housing	Unplanned urban housing	Small settlement	Modern planned area	Others	Total	Total no. of HHs (000s)
All Rwanda	37.5	11.1	37.2	4.8	8.4	0.6	0.5	100	2,253
Nyarugenge	6.5	0.3	18.0	0.5	73.9	0.8	0.0	100	60
Gasabo	11.2	2.5	36.0	1.9	46.9	1.6	0.0	100	99
Kicukiro	3.6	4.4	3.8	6.3	76.6	5.4	0.0	100	64
Nyanza	4.1	1.3	78.2	12.8	3.7	0.0	0.0	100	67
Gisagara	29.6	54.8	13.6	2.0	0.0	0.0	0.0	100	74
Nyaruguru	52.9	5.9	40.1	1.1	0.0	0.0	0.0	100	61
Huye	14.2	23.5	52.8	3.2	5.6	0.7	0.0	100	70
Nyamagabe	4.6	4.2	80.2	9.7	1.4	0.0	0.0	100	71
Ruhango	6.3	4.6	79.7	9.0	0.4	0.0	0.0	100	71
Muhanga	5.6	11.2	76.7	2.0	4.5	0.0	0.0	100	63
Kamonyi	30.6	27.1	34.2	4.5	0.5	0.6	2.7	100	72
Karongi	5.8	3.8	88.9	0.0	1.5	0.0	0.0	100	77
Rutsiro	53.5	13.8	29.9	2.5	0.2	0.2	0.0	100	69
Rubavu	40.0	19.9	9.5	22.1	5.9	2.6	0.0	100	82
Nyabihu	20.7	24.1	37.6	15.8	0.0	0.0	1.8	100	68
Ngororero	8.5	1.3	87.7	2.5	0.0	0.0	0.0	100	74
Rusizi	28.7	52.1	9.7	4.5	4.9	0.2	0.0	100	78
Nyamasheke	22.0	3.5	74.3	0.2	0.0	0.0	0.0	100	80
Rulindo	23.7	3.5	71.1	1.8	0.0	0.0	0.0	100	63
Gakenke	71.0	1.6	27.4	0.0	0.0	0.0	0.0	100	76
Musanze	25.8	1.8	48.4	7.0	14.1	2.9	0.0	100	87
Burera	43.2	25.6	21.2	10.0	0.0	0.0	0.0	100	71
Gicumbi	31.1	5.4	52.9	0.6	8.1	1.6	0.3	100	113
Rwamagana	71.2	4.3	20.1	3.2	1.2	0.0	0.0	100	68
Nyagatare	64.3	11.6	2.6	8.6	2.8	0.5	9.7	100	84
Gatsibo	81.5	0.5	18.1	0.0	0.0	0.0	0.0	100	100
Kayonza	88.7	1.2	2.1	5.0	3.0	0.0	0.0	100	70
Kirehe	94.5	2.3	0.1	3.0	0.0	0.0	0.0	100	72
Ngoma	97.9	0.4	1.1	0.0	0.6	0.0	0.0	100	68
Bugesera	67.4	19.1	6.4	5.2	1.7	0.3	0.0	100	80

Table A. 3: Roofing material of the dwelling by District, (EICV4, EICV3)

EICV4	Roofing Material						Total	Total no. Of HHs (000)
	Thatch or leaves	Metal sheets	Clay tiles	Concrete	Plastic or plywood	Others		
All Rwanda	0.3	61.1	38.4	0.0	0.1	0.0	100	2493
Nyarugenge	0.0	99.3	0.7	0.0	0.0	0.0	100	73
Gasabo	0.4	99.2	0.5	0.0	0.0	0.0	100	147
Kicukiro	0.0	98.9	0.6	0.2	0.2	0.1	100	76
Nyanza	0.0	33.9	66.2	0.0	0.0	0.0	100	77
Gisagara	0.0	8.9	90.7	0.0	0.3	0.1	100	79
Nyaruguru	0.2	13.9	85.7	0.0	0.0	0.2	100	61
Huye	0.2	31.1	68.3	0.0	0.4	0.0	100	79
Nyamagabe	0.0	13.9	85.6	0.0	0.2	0.2	100	73
Ruhango	0.0	6.1	93.7	0.0	0.2	0.0	100	77

Muhanga	0.0	10.3	89.7	0.0	0.0	0.0	100	73
Kamonyi	0.0	35.3	64.7	0.0	0.0	0.0	100	79
Karongi	0.2	24.9	74.7	0.0	0.0	0.2	100	75
Rutsiro	0.2	5.6	93.9	0.0	0.2	0.0	100	73
Rubavu	0.4	72.3	27.4	0.0	0.0	0.0	100	92
Nyabihu	0.2	37.2	62.5	0.0	0.2	0.0	100	64
Ngororero	0.2	6.4	93.2	0.2	0.0	0.0	100	81
Rusizi	1.4	97.3	1.1	0.0	0.2	0.0	100	89
Nyamasheke	0.2	69.6	29.8	0.2	0.2	0.0	100	86
Rulindo	0.2	39.9	59.9	0.0	0.0	0.0	100	69
Gakenke	0.0	31.4	68.7	0.0	0.0	0.0	100	80
Musanze	0.2	63.4	36.4	0.0	0.0	0.0	100	86
Burera	0.2	67.5	32.3	0.0	0.0	0.0	100	74
Gicumbi	0.8	85.2	14.0	0.0	0.0	0.0	100	86
Rwamagana	0.2	98.6	1.2	0.0	0.0	0.0	100	85
Nyagatare	1.6	96.6	1.4	0.0	0.4	0.0	100	113
Gatsibo	0.6	93.8	5.6	0.0	0.0	0.0	100	105
Kayonza	0.0	99.4	0.4	0.0	0.2	0.0	100	86
Kirehe	0.8	97.1	2.0	0.0	0.0	0.0	100	84
Ngoma	0.0	97.7	2.3	0.0	0.0	0.0	100	81
Bugesera	0.7	88.8	10.5	0.0	0.0	0.0	100	94

EICV3	Roofing Material						Total	Total no. of HHs (000)
	Thatch or leaves	Metal sheets	Clay tiles	Concrete	Plastic or plywood	Others		
Alla Rwanda	2.2	54.4	42.5	0.1	0.8	0.1	100	2,253
Nyarugenge	0.0	99.0	0.8	0.2	0.0	0.0	100	60
Gasabo	3.5	89.8	6.1	0.1	0.2	0.3	100	99
Kicukiro	0.5	97.9	1.5	0.2	0.0	0.0	100	64
Nyanza	1.4	24.8	72.6	0.0	1.2	0.0	100	67
Gisagara	4.4	10.1	84.8	0.0	0.7	0.0	100	74
Nyaruguru	5.4	7.8	86.0	0.0	0.6	0.2	100	61
Huye	1.7	21.1	76.4	0.0	0.7	0.0	100	70
Nyamagabe	0.8	13.6	84.7	0.0	0.8	0.2	100	71
Ruhango	0.7	2.5	96.0	0.0	0.8	0.0	100	71
Muhanga	0.0	4.5	95.4	0.2	0.0	0.0	100	63
Kamonyi	0.5	31.9	67.5	0.0	0.2	0.0	100	72
Karongi	3.0	17.2	79.8	0.0	0.0	0.0	100	77
Rutsiro	1.9	9.3	88.7	0.0	0.0	0.0	100	69
Rubavu	0.9	69.4	26.7	0.0	2.9	0.2	100	82
Nyabihu	0.6	36.6	61.9	0.0	0.8	0.0	100	68
Ngororero	0.6	6.2	92.8	0.4	0.0	0.0	100	74
Rusizi	7.1	90.1	0.4	0.2	1.5	0.6	100	78
Nyamasheke	6.6	67.5	25.9	0.0	0.0	0.0	100	80
Rulindo	1.4	35.1	62.9	0.0	0.6	0.0	100	63
Gakenke	0.2	19.4	80.1	0.0	0.2	0.0	100	76
Musanze	2.0	64.2	33.1	0.0	0.5	0.2	100	87
Burera	2.6	50.3	46.4	0.3	0.4	0.0	100	71
Gicumbi	3.0	64.2	32.7	0.0	0.2	0.0	100	113
Rwamagana	0.3	98.0	1.4	0.0	0.4	0.0	100	68
Nyagatare	2.8	92.5	1.2	0.0	3.5	0.0	100	84
Gatsibo	1.6	92.0	5.3	0.0	1.2	0.0	100	100
Kayonza	1.9	93.3	0.9	0.0	3.7	0.2	100	70
Kirehe	2.4	94.6	2.7	0.0	0.3	0.0	100	72
Ngoma	0.6	96.4	3.0	0.0	0.0	0.0	100	68
Bugesera	4.1	82.8	11.0	0.0	2.2	0.0	100	80

Table A. 4: Type of wall material of the dwelling by District, (EICV4, EICV3)

EICV4	Type of wall material								Total	Total no. Of HHs (000)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven fired bricks	Cement bricks	Wooden Planks	Others		
All Rwanda	36.0	24.2	29.1	6.3	2.8	0.5	0.6	0.5	100.0	2,493
Nyarugenge	6.1	44.9	15.8	26.5	4.7	1.7	0.0	0.2	100.0	73
Gasabo	8.7	53.4	16.0	13.3	4.9	3.1	0.2	0.4	100.0	147
Kicukiro	9.2	64.9	3.5	10.9	5.3	6.0	0.0	0.3	100.0	76
Nyanza	29.9	25.0	34.9	7.6	2.4	0.2	0.0	0.0	100.0	77
Gisagara	10.3	8.1	70.9	10.3	0.4	0.0	0.0	0.0	100.0	79
Nyaruguru	13.0	8.6	71.1	6.2	1.2	0.0	0.0	0.0	100.0	61
Huye	17.6	22.5	41.9	9.3	8.8	0.0	0.0	0.0	100.0	79
Nyamagabe	12.2	4.0	71.3	9.1	3.2	0.0	0.2	0.0	100.0	73
Ruhango	53.5	37.3	7.4	0.6	1.2	0.0	0.0	0.0	100.0	77
Muhanga	59.5	25.7	6.3	0.4	7.6	0.4	0.0	0.0	100.0	73
Kamonyi	37.2	36.8	19.7	5.9	0.0	0.4	0.0	0.0	100.0	79
Karongi	76.8	16.1	6.0	0.0	0.9	0.0	0.0	0.2	100.0	75
Rutsiro	88.0	8.1	2.2	0.0	1.8	0.0	0.0	0.0	100.0	73
Rubavu	53.2	24.4	15.1	0.0	3.2	0.0	2.4	1.8	100.0	92
Nyabihu	64.9	18.1	13.6	0.7	0.2	0.4	0.0	2.2	100.0	64
Ngororero	78.8	15.8	4.8	0.0	0.6	0.0	0.0	0.0	100.0	81
Rusizi	15.9	2.0	62.6	4.5	9.9	0.3	4.0	0.7	100.0	89
Nyamasheke	42.1	12.7	32.8	1.1	0.9	0.0	10.0	0.4	100.0	86
Rulindo	41.2	24.4	24.3	8.3	1.6	0.2	0.0	0.0	100.0	69
Gakenke	74.1	17.4	5.3	0.0	3.2	0.0	0.0	0.0	100.0	80
Musanze	33.6	13.8	36.0	4.6	5.3	0.4	0.0	6.4	100.0	86
Burera	40.8	10.3	40.2	4.2	2.2	0.5	0.0	2.0	100.0	74
Gicumbi	35.7	14.1	44.2	5.2	0.6	0.0	0.0	0.2	100.0	86
Rwamagana	17.7	36.3	29.1	14.4	2.5	0.0	0.0	0.0	100.0	85
Nyagatare	46.5	40.9	10.0	0.8	1.8	0.2	0.0	0.0	100.0	113
Gatsibo	28.7	23.6	39.3	5.7	2.8	0.0	0.0	0.0	100.0	105
Kayanza	25.0	22.1	37.9	12.0	2.7	0.3	0.0	0.0	100.0	86
Kirehe	37.3	17.9	32.9	10.6	0.9	0.0	0.0	0.4	100.0	84
Ngoma	11.5	3.5	75.4	8.9	0.7	0.0	0.0	0.0	100.0	81
Bugesera	38.6	38.8	16.8	4.6	0.6	0.6	0.0	0.0	100.0	94

EICV3	Type of wall material								Total	Total no. of HHs (000)
	Mud bricks	Mud bricks covered with cement	Tree trunks with mud	Tree trunks with mud and cement	Oven fired bricks	Cement bricks	Wooden Planks	Others		
All Rwanda	36.2	18.8	35.2	5.5	2.5	0.3	0.7	0.9	100	2,253
Nyarugenge	9.6	39.9	19.0	23.8	6.6	1.1	0.0	0.0	100	60
Gasabo	8.0	46.4	24.0	12.7	5.2	3.5	0.2	0.0	100	99
Kicukiro	12.5	65.7	6.3	8.6	4.2	2.6	0.0	0.2	100	64
Nyanza	27.8	19.6	43.6	7.8	0.7	0.0	0.2	0.2	100	67
Gisagara	10.2	9.6	70.0	10.1	0.2	0.0	0.0	0.0	100	74
Nyaruguru	12.0	7.7	76.0	3.2	1.2	0.0	0.0	0.0	100	61
Huye	17.1	20.1	46.8	11.5	4.3	0.1	0.0	0.2	100	70
Nyamagabe	12.1	3.4	76.7	6.7	1.0	0.0	0.0	0.0	100	71
Ruhango	56.1	32.9	8.7	1.8	0.4	0.0	0.0	0.2	100	71
Muhanga	66.1	19.3	7.4	0.7	6.6	0.0	0.0	0.0	100	63
Kamonyi	37.5	35.7	19.4	6.5	0.7	0.2	0.0	0.0	100	72
Karongi	76.8	7.7	15.1	0.0	0.4	0.0	0.0	0.0	100	77
Rutsiro	85.4	10.5	3.5	0.0	0.5	0.0	0.0	0.2	100	69

Rubavu	50.8	24.2	12.9	0.4	2.3	0.0	4.7	4.8	100	82
Nyabihu	55.8	14.1	24.6	1.6	1.8	0.0	0.2	1.9	100	68
Ngororero	83.9	9.9	5.8	0.0	0.4	0.0	0.0	0.0	100	74
Rusizi	11.6	2.0	67.6	4.7	7.9	0.2	5.5	0.6	100	78
Nyamasheke	37.2	10.9	37.2	2.1	2.4	0.0	10.0	0.2	100	80
Rulindo	41.8	16.2	33.4	5.5	3.1	0.0	0.0	0.0	100	63
Gakenke	73.7	13.3	9.6	0.0	2.3	0.0	0.0	1.0	100	76
Musanze	32.0	10.3	42.6	3.3	4.4	0.0	0.0	7.4	100	87
Burera	43.5	4.0	43.8	2.4	0.8	0.2	0.0	5.3	100	71
Gicumbi	29.2	19.2	42.0	4.2	5.4	0.0	0.0	0.0	100	113
Rwamagana	11.9	19.6	50.6	13.5	3.5	0.7	0.0	0.1	100	68
Nyagatare	52.2	32.8	10.4	2.1	2.5	0.0	0.0	0.1	100	84
Gatsibo	25.3	14.5	50.7	9.0	0.5	0.0	0.0	0.0	100	100
Kayonza	25.7	14.0	51.4	7.9	0.5	0.0	0.0	0.5	100	70
Kirehe	38.6	7.3	47.3	5.2	0.7	0.0	0.0	0.9	100	72
Ngoma	4.7	2.3	83.7	7.6	1.7	0.0	0.0	0.0	100	68
Bugesera	38.9	27.1	27.0	5.9	0.3	0.3	0.0	0.6	100	80

Table A. 5: Type of floor material of the dwelling by District, (EICV4, EICV3)

EICV4	Type of floor material					Total	Total no. Of HHs (000)
	Beaten earth	Hardened dung	Cement	Bricks	Others		
All Rwanda	74.0	2.7	21.1	1.2	1.0	100	2,493
Nyarugenge	33.2	0.0	65.0	0.4	1.4	100	73
Gasabo	35.3	0.3	59.4	0.5	4.5	100	147
Kicukiro	22.3	0.0	71.3	0.0	6.4	100	76
Nyanza	83.8	0.4	15.4	0.4	0.0	100	77
Gisagara	84.0	0.4	7.6	6.7	1.4	100	79
Nyaruguru	87.0	2.3	8.8	1.7	0.2	100	61
Huye	70.6	0.2	24.3	4.4	0.4	100	79
Nyamagabe	85.0	2.3	9.9	1.7	1.1	100	73
Ruhango	78.5	0.2	17.8	2.9	0.6	100	77
Muhanga	75.4	0.0	21.4	2.6	0.6	100	73
Kamonyi	76.7	0.0	22.1	0.8	0.4	100	79
Karongi	87.0	0.2	9.8	2.6	0.4	100	75
Rutsiro	87.9	0.2	8.2	3.5	0.2	100	73
Rubavu	74.2	0.0	24.1	0.4	1.3	100	92
Nyabihu	86.5	0.0	13.5	0.0	0.0	100	64
Ngororero	87.5	0.2	10.0	1.0	1.2	100	81
Rusizi	84.6	0.8	11.8	1.6	1.1	100	89
Nyamasheke	90.3	0.0	7.1	1.3	1.4	100	86
Rulindo	83.6	0.0	15.6	0.6	0.2	100	69
Gakenke	87.2	0.0	9.6	0.9	2.4	100	80
Musanze	81.2	0.0	17.3	0.4	1.1	100	86
Burera	88.5	0.2	10.0	0.6	0.7	100	74
Gicumbi	89.0	0.7	9.5	0.6	0.2	100	86
Rwamagana	67.8	1.7	30.0	0.4	0.2	100	85
Nyagatare	73.9	4.5	21.5	0.0	0.0	100	113
Gatsibo	73.0	9.7	17.3	0.0	0.0	100	105
Kayonza	58.6	22.4	18.0	0.5	0.5	100	86
Kirehe	80.7	3.6	15.3	0.2	0.2	100	84
Ngoma	62.9	27.3	9.4	0.4	0.0	100	81
Bugesera	77.9	0.0	21.9	0.0	0.2	100	94

EICV3	Type of floor material					Total	Total HHs (000)
	Beaten earth	Hardened dung	Cement	Bricks	Others		
All Rwanda	78.4	2.2	17.1	1.6	0.8	100	2,253
Nyarugenge	30.9	0.5	66.0	1.3	1.3	100	60
Gasabo	43.1	0.7	50.3	0.2	5.8	100	99
Kicukiro	25.3	0.0	69.3	0.9	4.5	100	64
Nyanza	83.7	1.3	13.4	1.2	0.4	100	67
Gisagara	84.8	1.0	9.3	4.6	0.2	100	74
Nyaruguru	86.8	3.5	7.4	2.2	0.0	100	61
Huye	72.2	2.4	19.7	5.3	0.4	100	70
Nyamagabe	91.1	0.0	7.8	1.1	0.0	100	71
Ruhango	79.9	0.6	15.3	4.3	0.0	100	71
Muhanga	79.7	0.4	14.4	5.5	0.0	100	63
Kamonyi	78.1	0.0	20.6	0.4	0.8	100	72
Karongi	91.4	0.0	6.4	1.9	0.4	100	77
Rutsiro	88.7	0.4	4.1	6.3	0.4	100	69
Rubavu	74.5	0.2	22.1	1.4	1.7	100	82
Nyabihu	89.2	0.0	10.8	0.0	0.0	100	68
Ngororero	93.8	0.0	4.7	1.3	0.2	100	74
Rusizi	83.0	0.0	12.8	3.0	1.3	100	78
Nyamasheke	86.7	0.0	9.3	2.5	1.4	100	80
Rulindo	86.1	0.2	12.3	1.0	0.4	100	63
Gakenke	91.2	0.0	5.5	1.9	1.4	100	76
Musanze	85.1	0.0	14.5	0.0	0.4	100	87
Burera	93.9	0.0	5.5	0.6	0.0	100	71
Gicumbi	83.5	0.2	15.4	0.0	1.0	100	113
Rwamagana	72.9	5.6	21.0	0.4	0.0	100	68
Nyagatare	76.5	4.7	18.6	0.2	0.0	100	84
Gatsibo	82.0	4.9	13.1	0.0	0.0	100	100
Kayonza	81.8	3.8	13.9	0.0	0.4	100	70
Kirehe	76.1	18.3	5.3	0.1	0.2	100	72
Ngoma	72.3	18.1	8.5	0.9	0.2	100	68
Bugesera	81.6	0.2	17.7	0.5	0.0	100	80

Table A. 6: % of HHs with access to improved sanitation facilities by District, (EICV4, EICV3)

EICV4	Improved sanitation							Total no. Of HHs (000)
	Total improved Sanitation	% use improved type, not shared with other HH	Flust toilet	Protected latrines	Unprotected latrines	Others	No toilet facilities	
All Rwanda	83.4	63.5	1.8	81.6	13.5	0.0	3.2	2,493
Nyarugenge	89.9	32.2	7.2	82.7	8.9	0.0	1.2	73
Gasabo	94.0	48.2	6.3	87.7	4.7	0.0	1.3	147
Kicukiro	94.9	40.1	14.0	80.9	4.9	0.0	0.2	76
Nyanza	80.9	65.2	1.2	79.8	16.9	0.0	2.2	77
Gisagara	61.8	49.1	0.3	61.5	27.6	0.0	10.6	79
Nyaruguru	70.7	59.3	0.3	70.4	23.9	0.0	5.4	61
Huye	71.7	53.0	3.5	68.3	28.1	0.0	0.2	79
Nyamagabe	83.7	68.5	0.4	83.3	9.4	0.0	6.9	73
Ruhango	31.5	26.2	0.2	31.3	63.8	0.0	4.7	77
Muhanga	79.7	64.2	2.2	77.5	18.8	0.0	1.5	73
Kamonyi	76.9	63.6	0.8	76.1	18.1	0.0	5.0	79
Karongi	77.4	64.9	0.8	76.6	17.8	0.0	4.8	75
Rutsiro	83.4	72.8	0.8	82.6	8.1	0.0	8.5	73
Rubavu	91.9	56.2	2.6	89.3	3.4	0.0	4.7	92
Nyabihu	72.2	54.0	0.0	72.2	16.3	0.9	10.6	64
Ngororero	84.7	71.6	0.6	84.1	14.1	0.0	1.2	81
Rusizi	90.5	73.0	1.9	88.5	6.6	0.0	3.0	89
Nyamasheke	92.5	82.0	0.2	92.3	4.0	0.0	3.5	86

Rulindo	81.3	73.4	0.2	81.1	16.0	0.0	2.7	69
Gakenke	92.1	84.1	0.2	91.9	7.9	0.0	0.0	80
Musanze	84.2	64.0	2.2	82.0	14.1	0.0	1.8	86
Burera	81.2	69.5	0.7	80.5	12.8	0.0	6.1	74
Gicumbi	89.7	82.4	0.4	89.3	5.5	0.0	4.8	86
Rwamagana	97.8	77.3	0.6	97.2	2.2	0.0	0.0	85
Nyagatare	95.1	76.2	0.7	94.4	1.7	0.0	3.2	113
Gatsibo	86.3	71.8	0.4	85.9	13.2	0.0	0.5	105
Kayonza	91.7	66.6	0.3	91.4	7.6	0.0	0.6	86
Kirehe	90.4	73.4	0.6	89.8	8.8	0.0	0.8	84
Ngoma	77.1	62.0	0.2	76.8	21.9	0.0	1.0	81
Bugesera	78.9	56.8	1.0	77.8	18.3	0.0	2.9	94

EICV3	Total improved Sanitation	Improved sanitation					Total no. of HHs (000)
		Flust toilet	Protected latrines	Unprotected latrines	Others	No toilet facilities	
All Rwanda	74.5	1.7	72.8	19.4	0.0	6.1	2,253
Nyarugenge	92.1	7.1	84.9	6.9	0.3	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	8.5	74
Nyaruguru	51.4	0.2	51.2	44.2	0.0	4.4	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	22.3	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	63.5	1.3	62.2	24.9	0.3	11.4	69
Rubavu	80.1	2.3	77.8	4.1	0.2	15.6	82
Nyabihu	70.5	1.8	68.7	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	0.5	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
Kayonza	66.3	0.3	66.0	27.8	0.0	5.9	70
Kirehe	75.2	0.2	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

Table A. 7: Waste management facilities by District- (EICV4, EICV3)

EICV4	Methods of HHs rubbish disposal							Total	Total no. of HHs (000s)
	Publicly managed refuse area	Rubbish collection service	Thrown in bushes or fields	Dumped in river or lake	Burnt	Compost heap	Others		
All Rwanda	1.5	6.2	40.2	0.1	0.1	51.6	0.2	100	2,493
Nyarugenge	0.3	59.9	24.0	1.4	0.0	14.4	0.0	100	73
Gasabo	1.8	39.9	34.6	0.2	0.3	23.1	0.0	100	147
Kicukiro	0.7	46.5	29.4	0.0	0.0	21.7	1.8	100	76
Nyanza	4.4	0.0	44.3	0.0	0.0	51.3	0.0	100	77

Gisagara	0.2	0.0	27.4	0.0	0.0	72.4	0.0	100	79
Nyaruguru	0.8	0.0	44.0	0.0	0.0	55.2	0.0	100	61
Huye	1.6	0.2	33.9	0.0	0.0	63.7	0.6	100	79
Nyamagabe	0.2	0.0	47.4	0.0	0.0	51.9	0.6	100	73
Ruhango	1.6	0.0	59.1	0.0	0.0	39.3	0.0	100	77
Muhanga	1.9	3.4	49.9	0.0	0.0	44.4	0.4	100	73
Kamonyi	0.6	0.2	44.0	0.2	0.0	55.0	0.0	100	79
Karongi	1.1	0.2	38.8	0.0	0.2	59.6	0.0	100	75
Rutsiro	0.8	0.0	47.3	0.0	0.0	51.7	0.2	100	73
Rubavu	2.5	6.9	62.4	0.2	0.0	28.0	0.0	100	92
Nyabihu	0.6	0.0	46.7	0.0	0.0	52.5	0.2	100	64
Ngororero	0.8	0.2	46.2	0.0	0.0	52.7	0.0	100	81
Rusizi	3.3	1.8	28.3	0.5	0.0	65.0	1.2	100	89
Nyamasheke	0.6	0.0	35.9	0.9	0.0	62.6	0.0	100	86
Rulindo	0.8	0.2	37.4	0.0	0.0	61.3	0.2	100	69
Gakenke	0.4	0.0	50.2	0.0	0.0	49.2	0.2	100	80
Musanze	1.2	3.0	52.4	0.0	0.0	43.3	0.1	100	86
Burera	0.9	0.0	54.4	0.0	0.0	44.7	0.0	100	74
Gicumbi	0.4	0.0	38.5	0.0	0.0	61.1	0.0	100	86
Rwamagana	1.7	1.6	40.1	0.0	0.0	56.4	0.2	100	85
Nyagatare	4.6	1.5	31.0	0.2	0.1	62.7	0.0	100	113
Gatsibo	2.0	0.4	27.4	0.0	0.2	70.0	0.0	100	105
Kayonza	3.5	0.6	27.7	0.0	0.0	68.2	0.0	100	86
Kirehe	2.1	0.0	16.8	0.0	0.0	80.9	0.2	100	84
Ngoma	1.2	0.0	34.9	0.0	0.0	63.9	0.0	100	81
Bugesera	0.7	0.4	64.1	0.0	0.4	34.0	0.4	100	94

EICV3	Methods of HHs rubbish disposal							Total	Total no. of HHs (000s)
	Publicly managed refuse area	Rubbish collection service	Thrown in bushes or fields	Dumped in river or lake	Burnt	Compost heap	Others		
All Rwanda	1.9	5.0	31.1	2.5	0.0	59.4	0.1	100	2,253
Nyarugenge	1.5	56.2	24.1	1.3	0.0	16.9	0.0	100	60
Gasabo	2.2	33.4	39.2	2.2	0.0	23.1	0.0	100	99
Kicukiro	0.6	44.2	33.1	1.9	0.2	20.0	0.0	100	64
Nyanza	3.3	0.0	40.7	1.1	0.0	54.9	0.0	100	67
Gisagara	1.1	0.0	26.5	2.4	0.0	70.0	0.0	100	74
Nyaruguru	1.7	0.0	37.1	1.1	0.0	60.1	0.0	100	61
Huye	3.0	0.6	27.2	1.9	0.0	67.3	0.0	100	70
Nyamagabe	0.2	0.2	38.9	1.0	0.0	59.5	0.2	100	71
Ruhango	3.9	0.0	34.4	1.4	0.0	60.3	0.0	100	71
Muhanga	1.3	0.4	25.7	0.3	0.0	72.3	0.0	100	63
Kamonyi	0.9	0.0	30.6	5.8	0.0	62.6	0.0	100	72
Karongi	1.2	0.0	41.5	3.7	0.0	53.6	0.0	100	77
Rutsiro	1.7	0.0	31.3	3.7	0.0	62.9	0.4	100	69
Rubavu	5.1	10.4	52.1	1.9	0.0	30.6	0.0	100	82
Nyabihu	2.6	0.0	37.3	7.3	0.0	52.8	0.0	100	68
Ngororero	2.4	0.0	38.5	3.0	0.0	56.1	0.0	100	74
Rusizi	6.0	0.7	19.8	1.9	0.0	71.7	0.0	100	78
Nyamasheke	1.7	0.0	25.5	1.4	0.0	70.6	0.8	100	80
Rulindo	0.6	0.2	28.6	0.6	0.0	69.9	0.0	100	63
Gakenke	0.2	0.0	31.3	2.9	0.0	65.6	0.0	100	76
Musanze	0.3	0.9	38.9	2.1	0.0	57.4	0.4	100	87
Burera	0.4	0.0	23.8	3.0	0.0	72.8	0.0	100	71
Gicumbi	2.6	0.8	22.4	4.4	0.0	69.8	0.0	100	113
Rwamagana	1.2	0.3	23.2	2.1	0.0	73.0	0.2	100	68
Nyagatare	2.6	4.3	18.7	4.0	0.0	69.7	0.8	100	84
Gatsibo	0.0	0.5	31.5	2.5	0.0	65.4	0.0	100	100

EICV3	Methods of HHs rubbish disposal							Total	Total no. of HHs (000s)
	Publicly managed refuse area	Rubbish collection service	Thrown in bushes or fields	Dumped in river or lake	Burnt	Compost heap	Others		
Kayonza	1.2	0.0	28.1	4.2	0.0	66.4	0.0	100	70
Kirehe	2.9	0.0	16.6	0.6	0.0	79.9	0.0	100	72
Ngoma	1.0	0.0	17.5	3.4	0.0	78.0	0.0	100	68
Bugesera	2.4	0.8	46.2	1.1	0.0	49.5	0.0	100	80

Table A. 8: Primary fuel used for lighting by District, (EICV4, EICV3)

EICV4	Main source of lighting								Total	Total no. of HHs (000s)
	Electricity distributor	Oil Lamp	Firewood	Candle	Lantern	Solar panel	Batteries	Others		
All Rwanda	19.8	5.0	5.5	7.4	13.2	1.7	44.2	3.2	100	2,493
Nyarugenge	75.7	3.0	0.0	11.5	3.8	0.3	2.7	3.1	100	73
Gasabo	68.3	2.0	0.5	11.2	1.6	0.2	15.9	0.4	100	147
Kicukiro	80.6	1.8	0.0	9.7	2.0	0.0	3.8	2.1	100	76
Nyanza	10.9	13.1	2.2	1.7	10.8	2.5	58.1	0.8	100	77
Gisagara	0.9	3.5	13.2	3.4	11.1	1.4	66.5	0.0	100	79
Nyaruguru	2.9	1.9	25.8	5.1	4.5	2.5	55.3	2.0	100	61
Huye	17.2	1.7	5.5	10	22.3	3.1	39.6	0.6	100	79
Nyamagabe	5.9	2.5	16.0	5.8	3.0	4.4	61.7	0.6	100	73
Ruhango	8.9	6.2	2.8	1.2	26.2	0.4	53.2	1.1	100	77
Muhanga	17.5	3.6	3.2	2.3	23.1	0.9	49.3	0.4	100	73
Kamonyi	8.9	10.1	0.5	4.4	26.1	2.1	39.1	8.9	100	79
Karongi	9.3	3.9	9.4	4.8	4.2	7.3	58.7	2.4	100	75
Rutsiro	7.3	4.3	13.9	5.1	2.2	3.8	62.6	0.8	100	73
Rubavu	27.7	4.0	5.5	17	12.3	0	31.6	1.9	100	92
Nyabihu	10.4	6.2	13	9.7	9.6	0.4	44.5	6.1	100	64
Ngororero	5.3	3.5	14.9	4.9	10.7	0.2	59.2	1.2	100	81
Rusizi	28.6	16.9	5.2	3.9	6.1	2.8	34.8	1.7	100	89
Nyamasheke	9.4	10.1	13.9	5.3	8.4	6.4	40.8	5.8	100	86
Rulindo	9.0	2.9	2.2	18	3.4	2.0	23.7	38.7	100	69
Gakenke	4.6	1.9	4.2	3.4	7.7	1.8	73.9	2.5	100	80
Musanze	23.6	3.9	7.7	12.5	6.7	0.2	41.7	3.7	100	86
Burera	10	5.3	10.4	5.6	7.5	0.6	59.4	1.3	100	74
Gicumbi	4.0	3.5	4.2	9.5	3.6	2.6	71.5	1.1	100	86
Rwamagana	26.7	7.6	0.4	6.5	21.7	1.7	31.1	4.3	100	85
Nyagatare	19.9	5.9	0.5	7.7	5	0.9	59.3	1.0	100	113
Gatsibo	13.4	6.3	2.5	9.2	6.5	0.5	59.5	2.2	100	105
Kayonza	17.1	4	0.2	5.7	36.5	1.6	31.7	3.3	100	86
Kirehe	8.5	4.3	0.2	5.5	44.4	0.6	36.2	0.4	100	84
Ngoma	6.8	3.2	1.5	2.4	61.2	0.6	22.1	2.1	100	81
Bugesera	13.7	3.4	1.7	12.8	9.4	1.1	53.4	4.4	100	94

EICV3	Main source of lighting									Total	Total no. of HHs (000s)
	Electricity distributor	Oil Lamp	Firewood	Candle	Lantern	Solar panel	Batteries	Others	Not Stated		
All Rwanda	10.8	9.7	8.8	5.9	34.7	28.7	0.3	1.2	0.0	100	2,253
Nyarugenge	61.6	9.2	1.0	11.7	13.8	2.1	0.3	0.4	0.0	100	60
Gasabo	47.3	8.2	1.2	15.2	15.6	10.8	0.2	1.6	0.0	100	99
Kicukiro	63.0	12.4	0.0	9.6	11.0	3.5	0.2	0.4	0.0	100	64
Nyanza	2.7	9.7	4.2	2.2	52.6	27.4	0.7	0.7	0.0	100	67
Gisagara	0.3	4.0	14.7	2.4	29.4	48.9	0.2	0.0	0.2	100	74
Nyaruguru	0.7	4.4	43.0	7.8	14.3	28.6	0.5	0.6	0.0	100	61

Huye	8.0	7.5	9.7	5.6	46.7	22.2	0.0	0.3	0.0	100	70
Nyamagabe	2.8	7.6	24.9	9.1	19.6	30.6	0.0	5.5	0.0	100	71
Ruhango	2.7	10.7	8.0	1.5	57.0	19.6	0.4	0.2	0.0	100	71
Muhanga	5.5	4.9	4.5	1.7	56.8	26.3	0.2	0.2	0.0	100	63
Kamonyi	3.5	8.2	1.4	1.7	64.1	18.6	0.8	1.5	0.0	100	72
Karongi	2.8	9.4	27.3	5.4	18.7	33.7	0.4	2.3	0.0	100	77
Rutsiro	0.4	9.6	12.1	8.9	22.4	44.0	0.5	2.1	0.2	100	69
Rubavu	21.0	10.8	5.3	12.0	22.6	26.8	0.0	1.5	0.0	100	82
Nyabihu	10.0	6.5	15.6	6.6	33.8	26.5	0.3	0.9	0.0	100	68
Ngororero	0.4	9.9	19.1	2.3	27.5	40.6	0.0	0.2	0.0	100	74
Rusizi	13.6	33.2	6.5	3.0	16.9	24.8	0.6	1.3	0.2	100	78
Nyamasheke	7.7	22.1	13.8	4.2	24.9	25.9	0.4	1.1	0.0	100	80
Rulindo	2.6	7.0	5.0	10.2	23.1	50.9	0.8	0.2	0.2	100	63
Gakenke	1.0	4.8	9.9	2.1	29.9	52.0	0.2	0.2	0.0	100	76
Musanze	14.5	2.1	6.1	5.6	40.7	30.4	0.0	0.7	0.0	100	87
Burera	3.2	6.0	14.2	7.0	31.8	36.7	0.2	1.0	0.0	100	71
Gicumbi	8.9	5.4	9.0	9.8	27.2	37.2	0.5	2.1	0.0	100	113
Rwamagana	9.8	18.9	0.4	5.1	44.4	19.3	0.2	2.0	0.0	100	68
Nyagatare	11.0	16.1	2.1	4.0	25.3	40.7	0.4	0.4	0.0	100	84
Gatsibo	2.5	6.9	0.9	5.6	41.4	41.7	0.5	0.6	0.0	100	100
Kayonza	7.5	7.5	2.3	1.7	69.8	10.5	0.0	0.7	0.0	100	70
Kirehe	1.4	9.0	0.9	1.5	64.8	21.9	0.2	0.4	0.0	100	72
Ngoma	3.4	5.2	1.7	1.3	76.1	11.7	0.4	0.2	0.0	100	68
Bugesera	4.3	13.8	5.8	7.4	31.9	31.9	0.3	4.6	0.0	100	80

Table A. 9: Primary fuel for cooking by District, (EICV4, EICV3)

EICV4	Primary fuel used for cooking				Total	Total no. Of HHs (000)
	Firewood	Charcoal	Crop waste	Others		
All Rwanda	83.3	15.2	0.8	0.8	100	2,493
Nyarugenge	18.3	76.8	0.0	0.4	100	73
Gasabo	33.4	64.1	0.5	0.5	100	147
Kicukiro	17.2	77.9	0.0	0.9	100	76
Nyanza	93.2	6.7	0.0	0.0	100	77
Gisagara	99.2	0.5	0.2	0.2	100	79
Nyaruguru	98.5	0.8	0.0	0.0	100	61
Huye	85.8	14.0	0.0	0.0	100	79
Nyamagabe	93.8	3.2	2.6	2.6	100	73
Ruhango	89.9	3.4	6.3	6.5	100	77
Muhanga	87.5	11.5	0.2	0.2	100	73
Kamonyi	94.2	5.4	0.2	0.2	100	79
Karongi	91.2	7.6	0.2	0.2	100	75
Rutsiro	97.1	2.2	0.0	0.0	100	73
Rubavu	65.3	34.5	0.0	0.0	100	92
Nyabihu	88.5	10.9	0.2	0.2	100	64
Ngororero	97.2	2.6	0.0	0.0	100	81
Rusizi	84.3	14.9	0.0	0.0	100	89
Nyamasheke	98.8	0.8	0.4	0.4	100	86
Rulindo	94.6	4.7	0.0	0.0	100	69
Gakenke	99.2	0.9	0.0	0.0	100	80
Musanze	86.0	14.0	0.0	0.0	100	86
Burera	95.6	4.0	0.0	0.0	100	74
Gicumbi	97.3	1.5	0.6	0.6	100	86
Rwamagana	85.0	14.3	0.0	0.0	100	85
Nyagatare	83.5	7.4	8.7	8.7	100	113
Gatsibo	93.2	6.0	0.0	0.2	100	105
Kayonza	84.5	14.8	0.0	0.2	100	86
Kirehe	95.8	4.2	0.0	0.0	100	84
Ngoma	96.4	3.2	0.0	0.0	100	81
Bugesera	92.3	7.6	0.0	0.0	100	94

EICV3	Primary fuel used for cooking				Total	Total no. of HHs(000)
	Firewood	Charcoal	Crop waste	Others		
All Rwanda	86.3	10.6	2.3	0.8	100	2,253
Nyarugenge	23.2	70.7	0.2	5.9	100	60
Gasabo	43.5	53.7	0.0	2.8	100	99
Kicukiro	20.7	77.2	0.0	2.1	100	64
Nyanza	96.3	2.8	0.7	0.2	100	67
Gisagara	99.3	0.2	0.4	0.0	100	74
Nyaruguru	99.8	0.0	0.0	0.2	100	61
Huye	93.3	5.9	0.1	0.7	100	70
Nyamagabe	96.8	2.6	0.4	0.2	100	71
Ruhango	76.4	1.4	21.4	0.8	100	71
Muhanga	95.8	2.5	1.3	0.5	100	63
Kamonyi	96.2	3.8	0.0	0.0	100	72
Karongi	97.9	2.0	0.0	0.1	100	77
Rutsiro	99.2	0.6	0.0	0.2	100	69
Rubavu	73.9	25.5	0.0	0.6	100	82
Nyabihu	88.7	10.5	0.0	0.8	100	68
Ngororero	98.8	1.2	0.0	0.0	100	74
Rusizi	91.0	8.8	0.2	0.0	100	78
Nyamasheke	97.2	2.8	0.0	0.0	100	80
Rulindo	86.0	0.4	13.6	0.0	100	63
Gakenke	99.4	0.6	0.0	0.0	100	76
Musanze	88.4	11.1	0.2	0.3	100	87
Burera	90.2	1.3	8.1	0.4	100	71
Gicumbi	90.4	6.1	1.3	2.2	100	113
Rwamagana	88.4	10.3	0.5	0.8	100	68
Nyagatare	75.4	7.2	17.1	0.3	100	84
Gatsibo	94.7	1.4	3.3	0.6	100	100
Kayonza	92.8	6.7	0.0	0.5	100	70
Kirehe	98.5	1.5	0.0	0.0	100	72
Ngoma	97.3	1.7	0.7	0.3	100	68
Bugesera	96.3	1.9	0.0	1.8	100	80

Table A.10: % of HHs with access to improved drinking water by District, (EICV4, EICV3)

EICV4	% HHs use improved	Improved drinking water source						Unimproved/other drinking water source				Total	Total no. of HHs (000s)
		Piped into dwelling/yard	Public standpipe	Borehole	Protected well	Protected spring	Rain water	Unprotected well	Unprotected spring	Surface water	Others		
All Rwanda	84.8	8.1	34.0	3.2	0.9	38.3	0.2	0.9	6.7	5.3	2.4	100	2,493
Nyarugenge	92.5	40.6	38.2	3.2	0.5	10.0	0.0	0.0	0.9	1.6	5.0	100	73
Gasabo	85.6	30.0	40.8	0.9	0.0	13.8	0.0	0.4	4.7	0.8	8.5	100	147
Kicukiro	74.7	46.5	22.9	0.2	2.1	3.0	0.0	0.2	0.9	0.2	24.1	100	76
Nyanza	89.6	5.1	14.5	1.7	3.9	64.3	0.0	1.8	6.5	2.1	0.0	100	77
Gisagara	92.9	0.7	26.4	0.0	0.4	65.4	0.0	0.6	3.3	1.3	2.0	100	79
Nyaruguru	73.8	0.0	38.0	0.0	0.6	35.0	0.2	0.6	23.9	1.5	0.2	100	61
Huye	96.0	9.8	27.8	0.0	1.0	57.3	0.0	0.2	3.8	0.0	0.0	100	79
Nyamagabe	79.9	2.6	13.3	0.0	0.0	64.1	0.0	2.2	11.6	4.6	1.7	100	73
Ruhango	80.0	3.2	5.6	4.3	3.2	63.7	0.0	2.5	5.2	10.9	1.4	100	77
Muhanga	89.0	10.8	14.6	0.0	1.5	62.2	0.0	0.5	9.1	1.4	0.0	100	73
Kamonyi	82.2	1.5	26.7	0.0	0.4	53.7	0.0	1.4	9.5	5.8	1.1	100	79
Karongi	82.8	5.6	26.9	2.6	0.0	47.5	0.2	0.2	11.1	5.1	0.8	100	75
Rutsiro	77.5	1.5	21.1	0.6	0.8	53.4	0.0	0.7	13.9	6.8	1.2	100	73

EICV4	% HHs use improved	Improved drinking water source						Unimproved/other drinking water source				Total	Total no. of HHs (000s)
		Piped into dwelling/yard	Public standpipe	Borehole	Protected well	Protected spring	Rain water	Unprotected well	Unprotected spring	Surface water	Others		
Rubavu	98.4	10.1	75.2	0.0	1.8	8.9	2.2	0.2	0.8	0.2	0.4	100	92
Nyabihu	86.2	0.9	30.1	0.0	0.0	53.5	1.7	1.2	11.0	1.6	0.0	100	64
Ngororero	81.2	1.9	9.7	0.0	0.2	69.4	0.0	0.4	16.8	1.7	0.0	100	81
Rusizi	83.9	8.5	45.0	6.3	0.6	23.5	0.0	0.0	9.3	4.7	2.1	100	89
Nyamasheke	79.9	2.9	19.5	0.0	0.2	57.2	0.0	0.2	15.1	3.3	1.4	100	86
Rulindo	94.7	2.5	29.1	0.0	0.8	62.2	0.0	0.7	3.2	1.5	0.0	100	69
Gakenke	84.5	0.8	20.9	0.0	0.0	62.9	0.0	0.6	11.0	3.9	0.0	100	80
Musanze	95.3	10.0	60.6	1.5	0.0	23.3	0.0	0.2	0.8	2.5	1.2	100	86
Burera	88.0	1.4	41.8	0.2	2.7	41.7	0.2	0.8	6.3	4.9	0.0	100	74
Gicumbi	90.6	1.1	25.7	0.0	0.0	63.6	0.2	0.0	6.4	3.0	0.0	100	86
Rwamagana	93.7	12.6	42.8	1.1	0.2	36.7	0.4	0.7	0.5	4.2	0.9	100	85
Nyagatare	72.5	3.8	44.6	17.9	1.3	4.6	0.4	3.3	5.1	16.5	2.5	100	113
Gatsibo	74.3	2.6	29.0	10.6	1.2	30.6	0.4	3.8	5.7	16.3	0.0	100	105
Kayonza	88.2	4.1	55.5	9.9	0.2	18.3	0.3	0.0	0.4	9.4	2.0	100	86
Kirehe	87.1	1.1	62.0	2.9	1.5	19.6	0.0	0.8	8.7	3.0	0.4	100	84
Ngoma	84.4	1.6	48.5	5.1	0.0	29.2	0.0	0.2	3.9	11.5	0.0	100	81
Bugesera	69.5	5.6	36.3	16.0	1.7	9.7	0.2	0.5	1.6	20.1	8.4	100	94

EICV3	% of HHs use improved water source	Improved drinking water source						Unimproved/other drinking water source				Total	Total no. of HHs (000s)
		Piped into dwelling/yard	Public standpipe	Borehole	Protected well	Protected spring	Rain water	Unprotected well	Unprotected spring	Surface water	Others		
All Rwanda	74.2	38.1	25.7	5.8	1.8	2.3	0.4	11.6	10.6	2.3	1.4	100	2,253
Nyarugenge	94.0	1.8	47.0	39.5	3.9	1.9	0.0	0.9	1.7	0.5	3.0	100	60
Gasabo	84.7	16.7	36.9	24.1	2.2	4.8	0.0	6.5	7.1	1.7	0.0	100	99
Kicukiro	69.0	7.3	20.7	39.3	0.3	1.2	0.3	4.5	0.3	0.0	26.2	100	64
Nyanza	82.1	62.3	15.5	1.9	1.0	1.5	0.0	15.2	2.7	0.0	0.0	100	67
Gisagara	82.1	61.8	17.3	0.0	0.0	3.0	0.0	9.9	6.1	2.0	0.0	100	74
Nyaruguru	66.1	44.4	14.7	0.7	0.0	6.3	0.0	6.7	21.5	5.5	0.2	100	61
Huye	91.1	63.7	17.0	6.7	0.0	3.7	0.0	3.5	3.1	2.0	0.4	100	70
Nyamagabe	68.4	50.9	8.5	2.5	0.0	6.5	0.0	9.9	17.4	3.7	0.6	100	71
Ruhango	58.7	46.5	6.0	0.9	0.0	5.3	0.0	21.7	17.2	2.4	0.0	100	71
Muhanga	84.4	64.7	11.6	4.3	0.0	3.8	0.0	4.6	9.1	2.0	0.0	100	63
Kamonyi	65.9	43.0	14.9	0.2	0.0	7.8	0.0	16.3	11.5	6.4	0.0	100	72
Karongi	74.7	51.7	13.0	1.6	3.1	5.3	0.0	10.3	14.8	0.2	0.0	100	77
Rutsiro	59.9	50.3	9.0	0.2	0.3	0.2	0.0	9.6	28.3	0.7	1.6	100	69
Rubavu	93.4	14.8	59.6	12.4	0.0	0.0	6.6	5.2	1.2	0.3	0.0	100	82
Nyabihu	79.6	52.5	25.6	0.1	0.0	0.8	0.7	5.1	11.4	2.9	1.1	100	68
Ngororero	63.8	54.7	8.7	0.0	0.0	0.2	0.2	4.3	30.3	1.7	0.0	100	74
Rusizi	72.8	27.4	30.8	6.1	4.1	4.4	0.0	4.4	20.0	2.1	0.7	100	78
Nyamasheke	72.6	40.1	28.6	3.3	0.0	0.6	0.0	2.5	23.0	1.8	0.2	100	80
Rulindo	74.6	59.7	14.3	0.2	0.2	0.2	0.0	7.8	16.4	1.2	0.0	100	63
Gakenke	74.6	57.3	15.8	0.6	0.0	0.9	0.0	6.1	15.9	3.4	0.0	100	76
Musanze	74.0	13.8	53.3	6.5	0.0	0.2	0.1	20.9	4.9	0.0	0.2	100	87
Burera	76.8	44.1	31.3	0.4	0.0	0.6	0.6	12.6	9.9	0.0	0.7	100	71
Gicumbi	89.4	58.9	17.3	9.0	0.4	2.5	1.3	2.6	7.1	0.6	0.3	100	113
Rwamagana	82.0	28.4	44.9	6.1	0.0	2.4	0.2	11.9	3.8	1.7	0.7	100	68
Nyagatare	42.3	2.2	18.1	3.1	15.4	3.4	0.2	40.6	5.1	5.4	6.6	100	84

Gatsibo	72.3	33.8	32.7	0.7	5.1	0.0	0.0	12.1	7.0	8.3	0.4	100	100
Kayonza	72.0	26.8	37.1	1.6	5.8	0.8	0.0	22.1	3.2	2.7	0.0	100	70
Kirehe	61.5	33.7	27.2	0.2	0.0	0.4	0.0	16.9	17.3	3.8	0.5	100	72
Ngoma	67.6	40.7	21.8	1.4	3.7	0.0	0.0	28.1	3.0	1.4	0.0	100	68
Bugesera	70.6	4.7	56.2	2.6	5.5	1.6	0.0	24.6	1.2	2.5	1.2	100	80

Table A. 11: Time to improved water source by District, (EICV4, EICV3)

EICV4	Mean time to improved water source (minutes)	Time to improved water source (minutes)						No improved water source	Frequency of use not stated	Total	Total Number of households (000s)
		Water piped into dwelling/yard	0-4 min	5-14min	15-29min	30-59min	60+min				
All Rwanda	11.2	8.1	17	32.9	14.8	6.6	1.3	15.2	4.2	100	2493
Nyarugenge	7.2	40.6	13.3	25.4	6.6	2.7	1.4	7.5	2.5	100	73
Gasabo	9.5	30	13.7	21.1	8.5	5.3	1.5	14.4	5.5	100	147
Kicukiro	5.8	46.5	9.7	11.3	2.8	2.8	0.3	25.3	1.4	100	76
Nyanza	11.4	5.1	12.3	39.7	20.8	5.4	1.5	10.4	4.8	100	77
Gisagara	15.2	0.7	17.5	27.7	26.1	16.6	2.4	7.1	2	100	79
Nyaruguru	8.9	0	24.5	26.8	9.7	4.1	0.2	26.2	8.5	100	61
Huye	8.6	9.8	25.4	38.9	15.3	2.8	0	4	3.8	100	79
Nyamagabe	9.5	2.6	18.7	39.1	15.5	3.5	0.2	20.1	0.4	100	73
Ruhango	11.4	3.2	7.1	41.9	20.2	4.4	0.2	20	2.9	100	77
Muhanga	9.4	10.8	16.4	41.9	15.1	3.4	0.6	11	0.8	100	73
Kamonyi	10.4	1.5	21.6	38.3	11	6.3	1.2	17.8	2.4	100	79
Karongi	10.2	5.6	22	32.2	14.7	6.6	1	17.2	0.8	100	75
Rutsiro	11.6	1.5	13.6	37.5	12.8	6.6	1.2	22.5	4.3	100	73
Rubavu	8.5	10.1	31.2	36.4	12.6	5.8	0	1.6	2.2	100	92
Nyabihu	10.6	0.9	24.8	33.6	14.7	5	1.7	13.8	5.6	100	64
Ngororero	10.5	1.9	11.7	45.4	15.4	5.2	0.4	18.8	1.2	100	81
Rusizi	9.9	8.5	17.6	31	7.7	2.9	1.9	16.1	14.4	100	89
Nyamasheke	12.2	2.9	10.6	39.5	16.3	7.7	0.9	20.1	1.8	100	86
Rulindo	15.8	2.5	14.3	35.6	22.8	12.4	5.3	5.3	1.7	100	69
Gakenke	12	0.8	15.3	39	21	7.4	0.9	15.5	0.2	100	80
Musanze	7.5	10	24	43.9	11.8	1.8	0	4.7	3.9	100	86
Burera	12.8	1.4	13.1	39.7	25.1	7.6	1.1	12	0	100	74
Gicumbi	14.8	1.1	10.4	37.5	25.4	10.8	2.1	9.4	3.5	100	86
Rwamagana	13.9	12.6	9.8	25.9	18.8	8.3	0.4	6.3	17.8	100	85
Nyagatare	14.4	3.8	10.1	30.8	14	6.9	2.5	27.5	4.5	100	113
Gatsibo	15.7	2.6	6.8	31.3	18.2	10.2	2.4	25.7	2.8	100	105
Kayonza	12.3	4.1	28.2	24.5	8.2	10.1	2.8	11.8	10.4	100	86
Kirehe	10.1	1.1	33.5	28	10.4	9.3	1.4	12.9	3.4	100	84
Ngoma	8.8	1.6	32.4	29.1	11.9	3.9	0.2	15.6	5.3	100	81
Bugesera	13.6	5.6	10.1	26.4	14.5	8.9	1.1	30.5	2.9	100	94

EICV3	Mean time to improved water source (minutes)	Water piped into dwelling/yard	Time to improved water source (minutes)							Frequency of use not known	Total	Total no. of HHs (000s)
			0-4 min	5-14min	15-29min	30-59min	60+min	No improved				
All Rwanda	14.4	5.8	10.2	28.7	16.6	10.0	2.1	25.8	0.7	100	2,253	
Nyarugenge	10.0	39.5	15.8	18.9	6.0	10.9	2.1	6.0	0.9	100	60	
Gasabo	11.7	24.1	13.3	27.2	10.6	6.5	2.7	15.3	0.4	100	99	
Kicukiro	8.8	39.3	4.5	12.9	4.6	6.3	0.0	31.1	1.4	100	64	
Nyanza	13.5	1.9	9.5	36.9	22.9	8.4	1.3	17.9	1.4	100	67	
Gisagara	21.6	0.0	4.7	22.7	27.8	19.7	5.1	17.9	2.1	100	74	
Nyaruguru	13.9	0.7	7.4	30.9	18.5	7.6	1.0	33.9	0.0	100	61	
Huye	14.5	6.7	9.1	34.2	27.9	11.3	0.7	9.0	1.3	100	70	
Nyamagabe	15.6	2.5	6.6	27.4	16.1	14.9	0.9	31.6	0.2	100	71	
Ruhango	12.2	0.9	9.9	29.0	11.9	6.7	0.5	41.3	0.0	100	71	
Muhanga	9.7	4.3	14.9	43.2	18.5	3.1	0.5	15.6	0.0	100	63	
Kamonyi	15.8	0.2	7.0	30.4	14.4	11.2	1.8	34.1	1.0	100	72	
Karongi	13.8	1.6	11.4	33.6	17.8	7.3	2.1	25.3	0.9	100	77	
Rutsiro	16.8	0.2	6.6	23.9	16.8	9.1	2.7	40.1	0.7	100	69	
Rubavu	12.2	12.4	13.9	37.8	15.7	6.6	2.7	6.6	4.3	100	82	
Nyabihu	12.0	0.1	14.0	37.5	21.2	6.5	0.0	20.4	0.4	100	68	
Ngororero	14.4	0.0	5.6	30.2	18.3	8.0	1.5	36.3	0.2	100	74	
Rusizi	10.6	6.1	17.1	30.9	11.2	5.4	1.3	27.2	0.9	100	78	
Nyamasheke	11.9	3.3	8.0	37.4	15.8	7.4	0.6	27.4	0.0	100	80	
Rulindo	14.7	0.2	12.1	28.3	20.3	12.9	1.0	25.4	0.0	100	63	
Gakenke	15.0	0.6	7.5	33.4	20.7	11.3	1.1	25.4	0.0	100	76	
Musanze	9.7	6.5	17.0	27.9	17.3	4.8	0.4	26.0	0.2	100	87	
Burera	17.9	0.4	6.7	28.9	19.9	18.0	2.9	23.2	0.0	100	71	
Gicumbi	20.5	9.0	5.0	25.5	21.8	21.7	5.7	10.6	0.9	100	113	
Rwamagana	14.6	6.1	9.6	31.0	20.5	11.9	2.2	18.0	0.8	100	68	
Nyagatare	16.8	3.1	7.3	12.6	10.0	7.1	1.9	57.7	0.4	100	84	
Gatsibo	14.2	0.7	13.5	29.4	18.7	8.1	1.8	27.7	0.2	100	100	
Kayonza	15.1	1.6	9.7	33.6	14.8	9.1	2.8	28.0	0.5	100	70	
Kirehe	25.5	0.2	7.2	16.9	11.2	16.1	9.7	38.5	0.4	100	72	
Ngoma	15.6	1.4	13.1	27.3	11.3	10.1	3.6	32.4	0.9	100	68	
Bugesera	13.7	2.6	16.2	24.8	14.9	9.7	2.1	29.4	0.4	100	80	

Table A. 12: % of HHs that has the right to sell or use any of their parcels as guarantee for a loan by District, (EICV4, EICV3)

EICV4	% of HHs with the right to sell any land or use it as a guarantee	Total no. of HHs cultivating land for crop production (000s)	EICV3	% of HHs with the right to sell any land or use it as a guarantee	Total no. of HHs cultivating land for crop production (000s)
All Rwanda	84.9	2175	All Rwanda	84.0	2253
Nyarugenge	84.8	15.7	Nyarugenge	73.0	60
Gasabo	65.4	69.3	Gasabo	72.5	99
Kicukiro	59.9	20.8	Kicukiro	63.0	64
Nyanza	73.8	74.0	Nyanza	84.1	67
Gisagara	80.1	78.6	Gisagara	77.2	74
Nyaruguru	89.8	59.4	Nyaruguru	84.8	61
Huye	82.9	70.9	Huye	86.9	70
Nyamagabe	92.3	71.5	Nyamagabe	92.2	71
Ruhango	79.6	72.6	Ruhango	77.5	71

Muhanga	81.0	68.4	Muhanga	88.5	63
Kamonyi	88.4	76.3	Kamonyi	88.6	72
Karongi	73.0	72.1	Karongi	84.8	77
Rutsiro	92.0	71.5	Rutsiro	89.4	69
Rubavu	82.2	62.2	Rubavu	65.1	82
Nyabihu	86.3	59.7	Nyabihu	78.6	68
Ngororero	94.8	79.4	Ngororero	96.0	74
Rusizi	82.8	80.0	Rusizi	81.8	78
Nyamasheke	84.3	84.3	Nyamasheke	92.5	80
Rulindo	90.9	66.3	Rulindo	93.6	63
Gakenke	96.9	78.4	Gakenke	94.5	76
Musanze	91.4	77.5	Musanze	68.3	87
Burera	96.7	71.3	Burera	98.1	71
Gicumbi	92.3	84.2	Gicumbi	87.6	113
Rwamagana	85.5	76.7	Rwamagana	75.4	68
Nyagatare	81.9	105.1	Nyagatare	79.8	84
Gatsibo	86.4	98.9	Gatsibo	83.6	100
Kayonza	81.7	79.6	Kayonza	77.9	70
Kirehe	89.7	82.1	Kirehe	85.1	72
Ngoma	87.6	79.0	Ngoma	93.8	68
Bugesera	75.7	88.9	Bugesera	86.4	80

Table A. 13: % of HHs cultivating any parcel by District that was (EICV4, EICV3)

EICV4	Inherited	Purchased	Received as gift	Received for free use or as loan	Appropriated	sharecropped	Leased	Total no. of HHs cultivating land for crop production (000s)
All Rwanda	68.4	45.6	15.0	26.1	0.6	23.7	15.0	2,178
Nyarugenge	56.9	38.4	11.7	15.4	1.1	12.8	11.0	16
Gasabo	55.2	44.3	13.6	27.3	2.1	10.8	7.2	70
Kicukiro	30.4	33.7	10.8	42.5	3.3	18.0	15.5	21
Nyanza	66.3	26.4	11.1	33.3	0.6	24.9	16.1	74
Gisagara	73.1	37.9	11.1	43.6	2.1	39.3	26.6	79
Nyaruguru	78.9	35.9	11.0	46.9	0.6	3.5	43.7	59
Huye	68.9	36.5	7.3	42.3	0.4	37.1	17.9	71
Nyamagabe	84.6	45.1	15.5	38.1	0.4	44.1	0.6	71
Ruhango	71.6	32.5	6.0	42.4	0.0	34.5	8.5	73
Muhanga	82.1	38.8	10.7	24.9	0.2	28.6	4.2	69
Kamonyi	74.7	37.2	12.9	37.0	0.2	26.1	15.3	76
Karongi	77.7	36.1	17.8	25.0	0.0	16.1	30.8	72
Rutsiro	77.8	47.1	12.5	20.7	0.2	23.8	3.1	71
Rubavu	64.5	37.0	8.3	11.4	0.0	22.7	1.9	62
Nyabihu	64.0	48.4	24.3	21.3	0.7	30.3	10.6	60
Ngororero	89.3	50.6	12.1	21.0	0.0	42.8	3.4	79
Rusizi	71.0	40.7	8.1	22.6	0.2	36.0	10.1	80
Nyamasheke	75.1	43.1	11.1	20.1	0.2	30.7	3.3	84
Rulindo	85.9	44.6	12.3	19.2	0.0	16.3	10.7	66
Gakenke	91.2	67.4	10.9	23.9	0.2	26.3	3.2	78
Musanze	81.6	52.0	10.3	11.2	0.0	31.4	3.5	77
Burera	93.9	59.2	9.6	11.9	0.0	27.1	5.6	72
Gicumbi	87.7	50.2	9.2	13.5	0.0	8.0	8.5	84
Rwamagana	57.6	49.8	10.3	35.9	0.0	7.1	31.8	77

Nyagatare	22.0	55.2	25.9	17.5	0.2	18.7	24.7	105
Gatsibo	48.0	59.4	19.2	23.1	0.2	15.3	25.8	99
Kayonza	45.3	51.6	24.1	29.3	1.5	13.5	33.3	80
Kirehe	40.6	50.5	41.3	13.1	0.2	6.7	23.3	82
Ngoma	70.4	42.0	29.4	23.2	0.4	24.8	18.7	79
Bugesera	59.1	48.2	16.2	36.2	3.5	23.2	21.8	89

EICV3	Inherited	Purchased	Received as gift	Received for free use or as loan	Appropriated	sharecropped	Leased	Total no. of HHs cultivating land for crop production (000s)
All Rwanda	70.2	45.1	17.2	27.1	1.2	18.2	19.5	2,093
Nyarugenge	45.2	44.0	6.7	24.7	2.0	4.1	8.4	25
Gasabo	46.9	43.6	15.1	30.9	0.8	6.0	10.9	68
Kicukiro	26.1	49.4	8.1	42.0	2.9	2.4	11.8	32
Nyanza	70.9	23.3	13.7	35.5	4.1	6.8	28.5	64
Gisagara	82.1	29.4	15.0	44.8	3.9	29.7	31.8	73
Nyaruguru	83.9	35.6	11.4	34.3	1.1	13.8	39.8	60
Huye	79.0	26.5	12.4	40.0	1.3	32.2	13.6	66
Nyamagabe	85.4	36.8	13.1	26.2	0.7	12.7	20.0	70
Ruhango	66.0	34.3	15.3	46.9	0.9	22.5	20.6	69
Muhanga	88.7	42.3	13.1	29.1	0.8	31.2	7.9	62
Kamonyi	77.4	37.9	12.1	24.2	2.5	18.3	14.3	68
Karongi	81.9	35.9	14.4	23.9	0.1	28.6	19.0	75
Rutsiro	79.4	56.3	13.7	24.1	0.7	26.8	6.6	68
Rubavu	64.3	46.4	12.6	18.4	0.0	12.5	12.7	71
Nyabihu	68.4	48.1	18.1	27.6	0.6	44.0	1.2	66
Ngororero	91.0	47.4	11.1	28.7	1.5	33.5	20.6	74
Rusizi	77.1	44.6	7.1	9.2	0.9	26.8	6.2	75
Nyamasheke	81.6	48.6	14.7	22.8	0.2	43.5	5.0	78
Rulindo	89.8	46.9	10.9	24.5	0.0	20.8	14.6	62
Gakenke	91.1	58.5	8.9	22.8	0.2	27.9	8.6	76
Musanze	83.5	47.8	15.4	20.7	0.6	1.7	31.9	85
Burera	89.4	55.5	10.3	19.9	0.2	6.1	30.1	70
Gicumbi	81.0	44.5	12.7	18.5	0.9	16.9	9.5	111
Rwamagana	59.8	47.0	10.6	23.7	4.1	3.3	22.3	64
Nyagatare	15.0	52.0	36.6	17.0	0.2	11.3	35.7	80
Gatsibo	51.5	62.4	25.2	30.9	1.2	3.7	27.7	99
Kayonza	53.2	49.6	40.8	29.6	1.7	8.8	28.5	66
Kirehe	36.7	50.0	51.3	23.5	0.5	7.4	32.0	70
Ngoma	74.5	50.4	31.6	25.1	0.2	16.8	25.3	67
Bugesera	53.0	47.1	19.0	40.5	3.6	15.1	28.1	78

Table A. 14: Land transactions made during last 12 months by District, (EICV4, EICV3)

EICV4	% of HHS that bought land	For those, average amount received	% of HHS sold land	For those, average amount received	% of HHS rented out land	For those, average amount received	% of HHS lent land to others	% of HHS that gave land from others as gift, dowry, inheritance, or otherwise	% of HHS that received land from others as gift, dowry, inheritance, or otherwise	Total no. of HHS (000s)
All Rwanda	12.1	249,498	7.3	270,649	10.2	15,813	6.8	4.3	6.1	2,493
Nyarugenge	5.3	631,096	4.2	469,712	6.7	24,624	2.3	0.9	2.9	73
Gasabo	9.5	507,083	8.8	710,921	6.8	16,216	2.9	1.9	5.5	147
Kicukiro	7.7	1,042,826	2.5	1,119,146	1.8	30,317	1.2	1.1	1.7	76
Nyanza	10.1	141,507	4.8	163,715	9.5	10,518	0.8	3.4	6.7	77
Gisagara	14.2	100,406	6.6	68,477	14.3	6,937	4.9	4.2	7.9	79
Nyaruguru	11.6	113,433	8.1	83,670	13	7,434	1.5	4.4	5.1	61
Huye	10.6	205,221	3.8	112,340	10.9	8,137	0.5	5.3	6.3	79
Nyamagabe	18.2	122,572	10	133,692	12.1	9,866	2.3	6.6	6.0	73
Ruhango	7.8	127,026	4.4	151,281	13.9	7,227	2.6	4.2	6.6	77
Muhanga	13.7	167,970	6.6	153,251	7.4	8,675	8.7	3.5	6.1	73
Kamonyi	11.2	204,032	8.1	314,332	9.9	11,736	13.6	5.9	6.5	79
Karongi	11.2	140,893	6.9	142,930	12.2	8,809	9.7	5.4	7.3	75
Rutsiro	16.2	165,166	10.6	254,929	8.2	13,396	14.1	4.7	7.3	73
Rubavu	5.9	400,277	4.2	418,273	12	30,805	2.5	2.1	3.4	92
Nyabihu	17.5	277,679	6	174,680	16.3	26,363	9.7	3.9	9.7	64
Ngororero	18.5	169,706	9.4	162,589	9.4	7,559	11.5	8.4	9.0	81
Rusizi	7.1	226,975	4.5	225,855	10.4	23,413	8.1	4	3.6	89
Nyamasheke	5.6	182,631	5.3	169,421	10.2	9,766	8.2	3.2	3.0	86
Rulindo	13.7	175,197	7.5	220,795	9.2	8,516	4.3	3.9	7.0	69
Gakenke	25.3	206,161	10.1	162,501	5.5	8,767	7.7	5.1	10.1	80
Musanze	12.6	342,606	8.7	255,006	14.3	26,506	3.0	6.8	6.7	86
Burera	16.6	260,554	8.8	260,940	11.5	25,691	3.8	5	6.2	74
Gicumbi	16	192,805	7.6	145,218	9.7	7,398	1.8	7.6	6.6	86
Rwamagana	9.8	300,260	9.7	376,452	5.5	12,941	3.7	3.7	3.2	85
Nyagatare	12.3	317,564	9.7	356,251	12.5	24,675	12.2	4.4	4.8	113
Gatsibo	12.6	234,395	8.4	226,802	9.8	13,482	6.2	5.4	6.0	105
Kayonza	14.8	333,076	7.8	309,718	12.7	15,701	16.1	3.6	6.4	86
Kirehe	12.1	249,433	7.7	207,642	13.5	22,589	16.3	4.2	5.0	84
Ngoma	9.5	151,257	5.7	177,087	9.4	12,088	19.9	4.1	8.2	81
Bugesera	9.7	245,173	8.5	263,315	9.3	23,100	4.4	4.7	9.2	94

EICV3	% of HHs that bought land	For those, average amount received	% of HHs sold land	For those, average amount received	% of HHs rented out land	For those, average amount received	% of HHs lent land to others	% of HHs that gave land from others as gift, dowry, inheritance, or otherwise	% of HHs that received land from others as gift, dowry, inheritance, or otherwise	Total no. of HHs (000s)
All Rwanda	14.0	184,413	9.0	202,782	11.7	12,188	15.7	5.4	8.3	2,253
Nyarugenge	4.6	640,754	3.7	1,183,312	6.6	19,233	19.9	0.8	2.0	60
Gasabo	7.9	401,120	4.5	767,996	8.1	13,486	24.4	1.8	5.0	99
Kicukiro	6.3	443,050	5.2	594,412	3.7	36,533	36.5	1.5	5.4	64
Nyanza	6.7	106,079	5.1	67,504	15.1	10,524	14.3	5.4	8.0	67
Gisagara	13.2	75,394	6.4	95,784	14.2	6,658	14.8	4.2	10.4	74
Nyaruguru	20.4	87,952	10.0	92,064	12.1	6,977	18.2	5.5	8.8	61
Huye	8.2	81,897	6.5	72,945	14.5	8,180	13.8	3.2	4.6	70
Nyamagabe	13.2	85,706	7.6	101,226	14.9	5,982	14.9	7.7	9.9	71
Ruhango	9.0	109,109	5.5	124,483	18.9	8,456	19.3	5.2	4.1	71
Muhanga	16.6	105,815	10.3	120,057	11.5	5,386	19.5	5.2	8.7	63
Kamonyi	15.9	145,007	8.6	503,188	6.9	10,438	9.1	4.7	7.3	72
Karongi	16.2	121,903	7.9	89,381	12.5	5,567	17.6	7.5	9.5	77
Rutsiro	22.5	104,245	14.8	93,094	11.8	10,334	15.2	7.3	14.5	69
Rubavu	8.4	255,945	8.8	528,925	15.0	24,956	11.9	2.4	10.1	82
Nyabihu	16.9	210,014	8.6	141,582	14.6	22,030	9.1	4.7	6.8	68
Ngororero	24.1	128,780	13.7	100,974	14.3	6,874	17.3	9.3	13.6	74
Rusizi	10.5	150,439	7.0	161,338	10.1	16,804	3.4	4.2	4.7	78
Nyamasheke	15.2	139,318	11.6	110,469	10.7	10,220	11.0	5.0	6.7	80
Rulindo	15.3	132,166	8.9	118,116	9.4	6,618	12.9	5.0	10.6	63
Gakenke	25.4	126,413	11.4	77,005	8.6	4,788	17.8	7.5	7.2	76
Musanze	11.7	202,462	8.9	315,819	9.6	22,248	8.5	6.2	5.3	87
Burera	20.9	156,187	12.4	137,466	18.6	19,958	9.4	8.2	7.6	71
Gicumbi	13.8	611,405	11.2	204,124	13.4	5,810	16.9	7.9	8.9	113
Rwamagana	13.9	194,934	12.9	187,908	6.3	12,411	17.6	6.6	11.7	68
Nyagatare	12.8	186,550	8.9	179,948	11.7	22,668	15.5	4.7	7.4	84
Gatsibo	17.8	219,738	10.9	130,581	14.0	12,017	21.8	7.8	10.1	100
Kayonza	14.9	224,793	8.2	290,651	7.3	12,067	13.5	3.5	8.3	70
Kirehe	10.0	175,257	5.3	172,779	12.3	13,467	11.6	5.8	7.8	72
Ngoma	13.7	106,783	10.3	120,427	10.6	11,199	14.4	7.1	12.6	68
Bugesera	15.4	163,961	14.3	224,701	11.9	9,662	19.4	5.7	11.8	80

Table A. 15: % of HHs incurring expenditure on fertilisers (inorganic and organic) by District, (EICV4, EICV3)

EICV4	%of HHs incurring expenditure on fertilisers (inorganic and organic)		Total no. of HHs (000s)
	Chemic fertiliser	Organic fertiliser	
All Rwanda	36.4	11.9	2,178
Nyarugenge	10.7	6.1	16
Gasabo	19.1	14.8	70
Kicukiro	12.8	6.8	21
Nyanza	19.2	8.7	74
Gisagara	39.8	12.4	79
Nyaruguru	56.1	15.6	59
Huye	37.4	17.7	71
Nyamagabe	51.9	14.0	71
Ruhango	19.2	10.0	73
Muhanga	31.9	8.0	69
Kamonyi	29.5	9.1	76
Karongi	50.7	11.4	72

Rutsiro	41.0	14.1	71
Rubavu	46.5	4.5	62
Nyabihu	66.8	16.4	60
Ngororero	46.7	16.5	79
Rusizi	46.5	11.5	80
Nyamasheke	50.2	16.2	84
Rulindo	38.4	19.3	66
Gakenke	71.8	20.6	78
Musanze	58.0	22.2	77
Burera	55.1	14.5	72
Gicumbi	22.2	12.2	84
Rwamagana	36.0	10.1	77
Nyagatare	14.2	2.6	105
Gatsibo	22.2	13.3	99
Kayonza	18.0	6.5	80
Kirehe	28.1	9.9	82
Ngoma	30.2	6.6	79
Bugesera	13.2	4.0	89

EICV3	%of HHs incurring expenditure on fertilisers (inorganic and organic)		Total no. of HHs cultivating land for crop production (000s)
	Chemical fertilizer	Organic fertilizer	
All Rwanda	28.9	9.3	2,093
Nyarugenge	2.2	4.3	25
Gasabo	13.9	6.2	68
Kicukiro	10.4	3.4	32
Nyanza	9.1	4.8	64
Gisagara	27.2	7.4	73
Nyaruguru	42.1	15.5	60
Huye	31.2	11.7	66
Nyamagabe	36.7	13.9	70
Ruhango	13.3	7.4	69
Muhanga	30.3	11.9	62
Kamonyi	21.2	5.2	68
Karongi	38.9	5.8	75
Rutsiro	27.5	12.8	68
Rubavu	32.7	1.5	71
Nyabihu	61.6	14.1	66
Ngororero	28.6	13.7	74
Rusizi	31.6	11.5	75
Nyamasheke	41.5	13.6	78
Rulindo	37.3	19.8	62
Gakenke	62.9	17.4	76
Musanze	46.5	12.8	85
Burera	41.6	16.2	70
Gicumbi	16.5	10.8	111
Rwamagana	30.5	11.5	64
Nyagatare	10.5	0.9	80
Gatsibo	10.5	6.7	99
Kayonza	12.8	2.4	66
Kirehe	52.4	4	70
goma	22.6	4.8	67
Bugesera	8.8	3.1	78

Table A. 16: Problem resulting from environmental destruction by District, EICV4

EICV4	Problem resulting from environment issues					Total no. of HHs (000)
	No major problem	Floods	Mountain slides	Destructive rains	Others	
All Rwanda	79.9	1.7	4.4	10.7	3.4	2,493
Nyarugenge	90.4	0.49	1.0	7.8	0.2	73
Gasabo	89.4	0	0.6	8.9	1.1	147
Kicukiro	91.4	0.49	0.2	4.1	3.8	76
Nyanza	82.1	1.17	0.6	15.5	0.6	77
Gisagara	85.9	1.18	0.2	10.6	2.2	79
Nyaruguru	74.6	6.44	5.4	10.7	2.9	61
Huye	84.0	0.17	0.9	13.6	1.4	79
Nyamagabe	78.3	1.49	6.6	13.2	0.4	73
Ruhango	66.6	1.9	0.6	30.1	0.8	77
Muhanga	78.3	3.78	5.0	11.7	1.3	73
Kamonyi	71.0	0	1.0	25.8	2.2	79
Karongi	76.9	1.5	8.4	10.9	2.3	75
Rutsiro	73.8	0.68	9.6	11.8	4.1	73
Rubavu	78.8	9.66	5.1	5.4	1.1	92
Nyabihu	64.7	2.42	15.3	13.8	3.8	64
Ngororero	68.9	1.66	19.4	7.8	2.2	81
Rusizi	64.7	2.85	6.9	5.3	20.2	89
Nyamasheke	78.5	2.27	8.5	8.5	2.3	86
Rulindo	78.3	0.2	6.9	14.0	0.6	69
Gakenke	71.0	2.53	10.5	8.3	7.8	80
Musanze	72.7	5.6	14.3	4.0	3.4	86
Burera	91.9	0.64	4.3	3.0	0.2	74
Gicumbi	72.6	1.05	3.2	14.2	9.0	86
Rwamagana	95.9	0	0.0	3.9	0.2	85
Nyagatare	72.1	0.21	0.6	10.0	17.2	113
Gatsibo	84.2	1.19	2.1	12.2	0.4	105
Kayanza	90.5	0.16	0.8	8.1	0.4	86
Kirehe	84.8	1.81	0.4	10.3	2.6	84
Ngoma	85.2	0.64	0.0	13.3	0.8	81
Bugesera	88.6	1.0	0.2	9.3	0.9	94

Table A. 17: % of HHs accessing formal sources of credit using land as collateral by District, EICV4

EICV4	% of HHs with the loan from a formal source	% of HHs that used land as a collateral to access the loan	Total no. of HHs accessing formal sources of credit (000s)
All Rwanda	9.9	41.3	247
Nyarugenge	11.7	9.6	9
Gasabo	15.7	20.4	23
Kicukiro	17.1	7.3	13
Nyanza	12.7	40.7	10
Gisagara	6.5	39.6	5
Nyaruguru	7.6	43.9	5
Huye	9.9	34.3	8
Nyamagabe	7.8	34.9	6
Ruhango	6.2	33.1	5
Muhanga	10.6	42.2	8
Kamonyi	9.2	58.9	7
Karongi	10.2	44.5	8
Rutsiro	6.8	59.7	5
Rubavu	15.1	35.7	14
Nyabihu	9.7	52.1	6
Ngororero	7.7	49.5	6

EICV4	% of HHs with the loan from a formal source	% of HHs that used land as a collateral to access the loan	Total no. of HHs accessing formal sources of credit (000s)
Rusizi	9.9	48.5	9
Nyamasheke	5.5	60.7	5
Rulindo	12	59.1	8
Gakenke	7	70.1	6
Musanze	9.8	39.2	8
Burera	8.7	48.5	6
Gicumbi	7.5	80.2	6
Rwamagana	10.7	43.4	9
Nyagatare	7.2	39.7	8
Gatsibo	10.3	50.9	11
Kayonza	7.9	53.3	7
Kirehe	9.7	37.5	8
Ngoma	7.6	61.1	6
Bugesera	14.5	42.9	14

Table A.18: % of land irrigated, protected against erosion, affected by land consolidation and Total Cultivated land area by District, (EICV4, EICV3)

EICV4	% of land irrigated	% of land protected against soil erosion	% of land affected by land consolidation	Total cultivated land area(000S)
All Rwanda	4.0	73.0	15.7	1,310
Nyarugenge	1.6	74.1	8.6	11
Gasabo	8.1	82.1	5.8	50
Kicukiro	2.9	38.3	0.6	18
Nyanza	6.4	81.0	8.4	35
Gisagara	5.7	68.8	15.7	41
Nyaruguru	3.2	90.3	17.0	30
Huye	5.5	79.1	9.0	27
Nyamagabe	0.9	83.8	1.9	45
Ruhango	3.9	85.1	4.7	38
Muhanga	2.3	90.2	3.9	36
Kamonyi	6.3	90.6	4.7	49
Karongi	2.9	84.0	19.4	38
Rutsiro	0.8	92.2	29.7	40
Rubavu	2.8	53.1	46.4	12
Nyabihu	1.4	82.0	55.9	23
Ngororero	3.1	84.3	9.4	46
Rusizi	5.9	57.5	11.9	32
Nyamasheke	4.8	70.6	9.2	31
Rulindo	5.7	78.8	13.3	38
Gakenke	3.8	94.5	21.3	49
Musanze	1.0	61.6	40.2	29
Burera	0.3	81.7	27.2	36
Gicumbi	2.1	83.8	12.5	48
Rwamagana	5.7	82.4	14.0	44
Nyagatare	3.0	42.8	11.3	118
Gatsibo	1.8	79.8	18.6	65
Kayonza	4.1	51.7	10.5	67
Kirehe	11.4	64.6	29.6	78
Ngoma	2.6	68.5	16.4	53
Bugesera	3.0	61.7	20.3	81

EICV3	% of land irrigated	% of land protected against soil erosion	% of land affected by land consolidation	Total cultivated land area
All Rwanda	3.0	77.6	11.4	1,237
Nyarugenge	1.7	68.4	8.6	6
Gasabo	5.1	73.1	0.7	54
Kicukiro	1.7	83.4	4.3	11
Nyanza	2.8	83.4	7.6	33
Gisagara	5.2	77.6	9.4	42
Nyaruguru	2.6	88.4	6.4	27
Huye	4.3	75.7	7.4	27
Nyamagabe	2.9	91.0	7.0	36
Ruhango	2.4	76.3	5.3	33
Muhanga	1.9	88.3	3.1	60
Kamonyi	2.6	86.9	4.3	37
Karongi	1.4	89.1	3.8	38
Rutsiro	0.4	89.1	28.1	39
Rubavu	0.1	47.8	42.5	18
Nyabihu	0.0	93.8	13.3	30
Ngororero	1.5	89.5	6.1	46
Rusizi	4.6	80.9	2.4	35
Nyamasheke	0.7	53.5	3.5	38
Rulindo	5.6	85.8	16.0	44
Gakenke	1.6	91.7	12.8	47
Musanze	0.3	53.1	31.1	38
Burera	0.8	73.3	23.5	27
Gicumbi	1.0	88.9	20.6	55
Rwamagana	5.5	85.9	7.4	45
Nyagatare	5.8	63.7	12.7	62
Gatsibo	5.7	76.2	4.6	75
Kayonza	3.2	51.5	3.7	54
Kirehe	3.5	78.4	37.4	52
Ngoma	2.1	63.6	16.5	56
Bugesera	3.7	76.2	6.2	69

Annex B: confidence intervals of some selected indicators, EICV4**Table B. 1: % of HHs living in Imidugudu**

EICV4	% of HHs living in Imidugudu				Unweighted count
	Estimate	Standard error	Low	Upper	
All Rwanda	49.2	0.8	47.6	50.9	14,419
Province					
Kigali City	2.7	1.3	0.1	5.3	1,363
Southern Province	50.5	1.5	47.6	53.5	3,865
Western Province	42.6	1.9	38.9	46.3	3,383
Northern Province	43.8	1.9	40.0	47.5	2,420
Eastern Province	78.3	1.8	74.7	81.8	3,388
Province by Urban/Rural					
Kigali City Urban	3.3	1.7	-0.1	6.7	1,055
Kigali City Rural	1.1	0.9	-0.6	2.8	308
Southern Province Urban	18.4	5.9	6.8	30.0	324
Southern Province Rural	53.7	1.4	50.9	56.5	3,541
Western Province Urban	26.7	6.4	14.1	39.3	436
Western Province Rural	44.9	2.0	41.0	48.8	2,947
Northern Province Urban	44.5	10.5	23.9	65.1	192
Northern Province Rural	43.7	1.9	40.0	47.4	2,228
Eastern Province Urban	43.6	8.4	27.2	60.0	268
Eastern Province Rural	81.2	1.7	77.8	84.6	3,120
Urban/Rural					
Urban	17.1	2.3	12.7	21.5	2,275
Rural	55.8	0.9	54.0	57.7	12,144
Quintile					
Q1	52.6	1.4	49.9	55.4	2,453
Q2	53.0	1.2	50.6	55.4	2,696
Q3	52.9	1.2	50.6	55.3	2,859
Q4	49.6	1.2	47.3	51.9	3,089
Q5	40.4	1.4	37.6	43.3	3,321
District					
Nyarugenge	0.0				451
Gasabo	4.1	2.4	-0.6	8.8	458
Kicukiro	2.6	2.1	-1.5	6.7	454
Nyanza	31.9	4.0	24.1	39.7	483
Gisagara	60.9	4.8	51.4	70.3	488
Nyaruguru	82.9	2.5	78.0	87.9	488
Huye	62.9	5.8	51.6	74.3	480
Nyamagabe	66.6	4.4	58.0	75.2	483
Ruhango	13.4	2.6	8.2	18.6	480
Muhanga	41.9	4.3	33.5	50.3	481
Kamonyi	50.3	3.9	42.7	57.9	482
Karongi	44.0	4.1	36.0	52.0	483
Rutsiro	76.2	3.4	69.6	82.8	482

EICV4	% of HHs living in Imidugudu				Unweighted count
	Estimate	Standard error	Low	Upper	
Rubavu	19.4	6.2	7.2	31.6	480
Nyabihu	33.5	5.3	23.1	44.0	483
Ngororero	16.7	3.0	10.7	22.6	487
Rusizi	54.9	5.4	44.3	65.5	487
Nyamasheke	55.9	5.0	46.1	65.7	481
Rulindo	48.5	3.8	41.1	56.0	484
Gakenke	69.9	3.4	63.3	76.5	482
Musanze	52.3	5.5	41.4	63.1	485
Burera	3.6	1.8	0.0	7.2	483
Gicumbi	41.8	4.9	32.2	51.5	486
Rwamagana	80.1	4.8	70.8	89.5	484
Nyagatare	83.3	5.1	73.4	93.2	484
Gatsibo	62.7	5.2	52.4	73.0	483
Kayanza	58.7	7.0	45.0	72.4	484
Kirehe	98.5	0.9	96.6	100.3	483
Ngoma	89.7	3.5	82.8	96.6	483
Bugesera	77.9	4.1	69.9	85.9	487

Table B. 2: % of HHs whose main water source is improved

EICV4	% of HHs whose main water source is improved				Unweighted count
	Estimate	Standard error	Low	Upper	
All Rwanda	84.8	0.7	83.5	86.1	14,419
Province					
Kigali City	84.5	1.8	80.9	88.1	1,363
Southern Province	85.8	1.1	83.7	87.9	3,865
Western Province	84.5	1.2	82.2	86.9	3,383
Northern Province	90.6	1.1	88.4	92.8	2,420
Eastern Province	80.6	1.8	77.1	84.1	3,388
Province by Urban/Rural					
Kigali City Urban	84.7	2	80.7	88.7	1,055
Kigali City Rural	83.8	3.8	76.2	91.3	308
Southern Province Urban	92.2	3.6	85.1	99.4	324
Southern Province Rural	85.2	1.1	82.9	87.4	3,541
Western Province Urban	95.4	1.7	92.1	98.6	436
Western Province Rural	83	1.4	80.3	85.6	2,947
Northern Province Urban	99	0.7	97.6	100.3	192
Northern Province Rural	89.9	1.2	87.5	92.3	2,228
Eastern Province Urban	96.4	1.6	93.3	99.5	268
Eastern Province Rural	79.3	1.9	75.5	83	3,120
Urban/Rural					
Urban	90	1.2	87.6	92	2,275
Rural	83.7	0.8	82.2	85	12,144
Quintile					
Q1	81.2	1.2	78.9	83.6	2,453
Q2	81.7	1	79.7	83.7	2,696
Q3	84	0.9	82.3	85.8	2,859
Q4	85.8	0.9	84.1	87.5	3,089
Q5	89.4	0.8	87.8	91	3,321
District					
Nyarugenge	92.5	3	86.5	98.5	451
Gasabo	85.6	2.9	79.9	91.2	458

EICV4	% of HHs whose main water source is improved				Unweighted count
	Estimate	Standard error	Low	Upper	
Kicukiro	74.7	3.3	68.1	81.2	454
Nyanza	89.6	1.6	86.3	92.8	483
Gisagara	92.9	2.1	88.7	97	488
Nyaruguru	73.8	5	64	83.6	488
Huye	96	1.7	92.6	99.3	480
Nyamagabe	79.9	3.9	72.2	87.7	483
Ruhango	80	3.7	72.8	87.2	480
Muhanga	89	1.8	85.4	92.6	481
Kamonyi	82.2	3.6	75.1	89.3	482
Karongi	82.8	2.4	78	87.5	483
Rutsiro	77.5	3.8	70	85	482
Rubavu	98.4	0.8	96.8	99.9	480
Nyabihu	86.2	3.5	79.3	93.1	483
Ngororero	81.2	3.6	74	88.3	487
Rusizi	83.9	3.7	76.7	91.2	487
Nyamasheke	79.9	3.2	73.5	86.3	481
Rulindo	94.7	1.2	92.2	97.1	484
Gakenke	84.5	2.8	79	90	482
Musanze	95.3	1.5	92.4	98.3	485
Burera	88	3.5	81.1	94.8	483
Gicumbi	90.6	2.8	85.1	96.1	486
Rwamagana	93.7	2.7	88.5	99	484
Nyagatare	72.5	5.4	61.9	83.2	484
Gatsibo	74.3	5.3	63.9	84.7	483
Kayonza	88.2	4	80.3	96.2	484
Kirehe	87.1	4.2	78.9	95.3	483
Ngoma	84.4	4.3	75.9	92.8	483
Bugesera	69.5	5.1	59.6	79.5	487

Table B. 3: % of HHs with improved sanitation

EICV4	% of HHs with improved sanitation				Unweighted count
	Estimate	Standard error	Lower	Upper	
All Rwanda	83.4	0.4	82.6	84.1	14,419
Province					
Kigali City	93.2	1.1	91.1	95.4	1,363
Southern Province	69.5	1.0	67.5	71.4	3,865
Western Province	85.4	0.7	84.0	86.8	3,383
Northern Province	85.9	0.9	84.1	87.7	2,420
Eastern Province	88.4	0.7	87.0	89.7	3,388
Urban/Rural					
Urban	93.5	0.8	92.0	95.0	2,275
Rural	81.3	0.5	80.4	82.2	12,144
Quintile					
Q1	73.6	1.0	71.6	75.5	2,453
Q2	77.1	0.9	75.4	78.9	2,696
Q3	83.0	0.7	81.6	84.4	2,859
Q4	85.5	0.7	84.1	86.9	3,089
Q5	93.5	0.5	92.6	94.4	3,321
District					
Nyarugenge	89.9	2.4	85.2	94.6	451
Gasabo	94.0	1.7	90.7	97.3	458

EICV4	% of HHs with improved sanitation				Unweighted count
	Estimate	Standard error	Lower	Upper	
Kicukiro	94.9	1.4	92.1	97.7	454
Nyanza	80.9	2.0	77.0	84.8	483
Gisagara	61.8	3.3	55.2	68.3	488
Nyaruguru	70.7	2.7	65.5	76.0	488
Huye	71.7	3.3	65.4	78.1	480
Nyamagabe	83.7	1.8	80.3	87.2	483
Ruhango	31.5	3.3	25.1	37.9	480
Muhanga	79.7	2.7	74.4	85.0	481
Kamonyi	76.9	2.5	72.0	81.8	482
Karongi	77.4	2.1	73.3	81.4	483
Rutsiro	83.4	2.1	79.3	87.5	482
Rubavu	91.9	1.4	89.1	94.7	480
Nyabihu	72.2	2.3	67.8	76.6	483
Ngororero	84.7	2.0	80.9	88.6	487
Rusizi	90.5	1.9	86.8	94.1	487
Nyamasheke	92.5	1.6	89.4	95.6	481
Rulindo	81.3	2.1	77.2	85.4	484
Gakenke	92.1	1.5	89.1	95.1	482
Musanze	84.2	2.4	79.4	89.0	485
Burera	81.2	2.3	76.7	85.7	483
Gicumbi	89.7	1.6	86.6	92.8	486
Rwamagana	97.8	0.8	96.3	99.4	484
Nyagatare	95.0	1.1	92.8	97.3	484
Gatsibo	86.3	2.0	82.4	90.2	483
Kayonza	91.7	1.8	88.2	95.3	484
Kirehe	90.4	1.6	87.2	93.6	483
Ngoma	77.1	2.2	72.8	81.3	483
Bugesera	78.9	2.5	74.0	83.7	487

Table B. 4: % of HHs using firewood as primary source of cooking fuel

EICV4	% of HHs using firewoods as primary source of cooking fuel				Unweighted count
	Estimate	Standard error	Lower	Upper	
All Rwanda	83.3	0.7	82.0	84.6	14,419
Province					
Kigali City	25.6	3.2	19.3	31.8	1,363
Southern Province	92.6	1.0	90.6	94.7	3,865
Western Province	88.3	1.5	85.5	91.2	3,383
Northern Province	94.4	1.1	92.2	96.6	2,420
Eastern Province	89.9	1.1	87.8	92.0	3,388
Urban/Rural					
Urban	29.3	2.2	25.0	33.6	2,275
Rural	94.4	0.4	93.6	95.3	12,144
Quintile					
Q1	96.3	0.6	95.2	97.5	2,453
Q2	94.9	0.5	93.9	96.0	2,696
Q3	92.9	0.6	91.7	94.1	2,859
Q4	86.0	0.9	84.2	87.7	3,089
Q5	54.8	1.3	52.2	57.4	3,321
District					
Nyarugenge	18.3	4.6	9.2	27.4	451
Gasabo	33.4	5.5	22.6	44.3	458
Kicukiro	17.2	4.1	9.3	25.2	454
Nyanza	93.2	2.7	87.9	98.5	483
Gisagara	99.2	0.4	98.4	100.1	488
Nyaruguru	98.5	0.7	97.2	99.8	488

EICV4	% of HHs using firewoods as primary source of cooking fuel				Unweighted count
	Estimate	Standard error	Lower	Upper	
Huye	85.8	4.2	77.6	94.0	480
Nyamagabe	93.8	1.7	90.4	97.2	483
Ruhango	89.9	2.5	85.1	94.8	480
Muhanga	87.5	4.6	78.4	96.6	481
Kamonyi	94.2	2.2	90.0	98.4	482
Karongi	91.2	2.8	85.6	96.7	483
Rutsiro	97.1	1.2	94.8	99.5	482
Rubavu	65.3	6.0	53.6	77.1	480
Nyabihu	88.5	2.8	83.0	93.9	483
Ngororero	97.2	1.0	95.1	99.2	487
Rusizi	84.3	3.7	77.0	91.6	487
Nyamasheke	98.7	0.9	97.0	100.5	481
Rulindo	94.6	1.7	91.2	98.0	484
Gakenke	99.2	0.5	98.1	100.2	482
Musanze	86.0	4.3	77.6	94.3	485
Burera	95.6	1.6	92.5	98.7	483
Gicumbi	97.3	0.9	95.6	99.0	486
Rwamagana	85.0	3.6	77.9	92.0	484
Nyagatare	83.5	2.8	77.9	89.0	484
Gatsibo	93.2	2.4	88.4	97.9	483
Kayonza	84.5	3.5	77.6	91.4	484
Kirehe	95.8	1.3	93.3	98.4	483
Ngoma	96.4	1.3	93.8	98.9	483
Bugesera	92.2	2.6	87.2	97.3	487

Table B. 5: % of HHs using charcoal as primary source of cooking fuel

EICV4	% of HHs with using charcoal as primary source of cooking fuel				Unweighted count
	Estimate	Standard error	Low	Upper	
All Rwanda	15.2	0.6	14.0	16.4	14,419
Province					
Kigali City	70.8	3.0	64.8	76.7	1,363
Southern Province	5.8	0.9	4.0	7.6	3,865
Western Province	11.1	1.3	8.6	13.5	3,383
Northern Province	5.1	1.0	3.1	7.2	2,420
Eastern Province	8.1	0.9	6.3	10.0	3,388
Province by Urban/Rural					
Kigali City Urban	86.9	2.0	83.0	90.7	1,055
Kigali City Rural	25.8	5.8	14.4	37.2	308
Southern Province Urban	44.4	6.2	32.3	56.5	324
Southern Province Rural	2.0	0.4	1.3	2.7	3,541
Western Province Urban	57.1	5.3	46.7	67.4	436
Western Province Rural	4.3	0.7	3.0	5.6	2,947
Northern Province Urban	38.9	8.6	21.9	55.8	192
Northern Province Rural	2.1	0.4	1.3	2.9	2,228
Eastern Province Urban	41.8	5.4	31.2	52.5	268
Eastern Province Rural	5.2	0.7	3.9	6.6	3,120
Urban/Rural					
Urban	67.4	2.1	63.3	71.6	2,275
Rural	4.4	0.4	3.6	5.1	12,144
Quintile					
Q1	1.9	0.3	1.3	2.5	2,453
Q2	3.9	0.5	2.9	4.8	2,696
Q3	6.3	0.6	5.2	7.4	2,859
Q4	13.3	0.9	11.6	15.0	3,089
Q5	42.3	1.3	39.8	44.9	3,321

EICV4	% of HHs with using charcoal as primary source of cooking fuel				Unweighted count
	Estimate	Standard error	Low	Upper	
District					
Nyarugenge	76.8	4.4	68.3	85.4	451
Gasabo	64.1	5.4	53.4	74.7	458
Kicukiro	77.9	4.0	70.1	85.7	454
Nyanza	6.6	2.7	1.3	12.0	483
Gisagara	0.5	0.4	-0.2	1.3	488
Nyaruguru	0.8	0.5	-0.1	1.8	488
Huye	14.0	4.1	5.9	22.1	480
Nyamagabe	3.2	1.3	0.7	5.8	483
Ruhango	3.3	1.5	0.4	6.3	480
Muhanga	11.5	4.4	2.9	20.0	481
Kamonyi	5.4	2.2	1.1	9.6	482
Karongi	7.5	2.6	2.5	12.6	483
Rutsiro	2.2	1.1	0.1	4.4	482
Rubavu	34.4	6.0	22.7	46.2	480
Nyabihu	10.9	2.8	5.4	16.4	483
Ngororero	2.6	1.0	0.6	4.7	487
Rusizi	14.9	3.6	7.8	22.0	487
Nyamasheke	0.8	0.8	-0.8	2.5	481
Rulindo	4.7	1.6	1.6	7.8	484
Gakenke	0.8	0.5	-0.2	1.9	482
Musanze	14.0	4.3	5.6	22.4	485
Burera	4.0	1.4	1.2	6.8	483
Gicumbi	1.5	0.7	0.1	2.9	486
Rwamagana	14.3	3.4	7.5	21.0	484
Nyagatare	7.3	2.0	3.5	11.2	484
Gatsibo	6.0	2.3	1.6	10.5	483
Kayonza	14.8	3.3	8.3	21.3	484
Kirehe	4.2	1.3	1.6	6.8	483
Ngoma	3.2	1.3	0.8	5.7	483
Bugesera	7.6	2.6	2.5	12.6	487

Table B. 6: % of HHs using electricity distributors as primary source of lighting

EICV4	% of HHs with using electricity distributors as primary source of lighting				Unweighted count
	Estimate	Standard error	Low	Upper	
All Rwanda	19.8	0.7	18.4	21.3	14,419
Province					
Kigali City	73.3	2.8	67.8	78.7	1,363
Southern Province	9.3	1.1	7.0	11.5	3,865
Western Province	14.7	1.4	12.0	17.4	3,383
Northern Province	10.4	1.3	7.9	12.9	2,420
Eastern Province	15.3	1.6	12.1	18.6	3,388
Province by Urban/Rural					
Kigali City Urban	88.7	1.2	86.3	91.2	1,055
Kigali City Rural	30.1	5.6	19.2	41.0	308
Southern Province Urban	54.4	6.5	41.7	67.2	324
Southern Province Rural	4.8	0.7	3.5	6.1	3,541
Western Province Urban	53.1	5.1	43.1	63.1	436
Western Province Rural	9.1	1.1	6.9	11.2	2,947
Northern Province Urban	53.5	6.6	40.4	66.5	192
Northern Province Rural	6.5	0.9	4.7	8.3	2,228
Eastern Province Urban	56.0	5.7	44.7	67.3	268
Eastern Province Rural	11.8	1.6	8.8	14.9	3,120

Urban/Rural					
Urban	71.8	1.9	68.2	75.5	2,275
Rural	9.1	0.6	7.9	10.3	12,144
Quintile					
Q1	2.9	0.4	2.1	3.7	2,453
Q2	5.9	0.6	4.8	7.1	2,696
Q3	9.5	0.7	8.0	10.9	2,859
Q4	17.8	1.0	15.9	19.7	3,089
Q5	52.8	1.4	50.1	55.6	3,321
District					
Nyarugenge	75.7	4.2	67.3	84.0	451
Gasabo	68.3	4.9	58.7	77.8	458
Kicukiro	80.6	3.7	73.3	88.0	454
Nyanza	10.9	3.5	4.0	17.7	483
Gisagara	0.9	0.5	-	1.9	488
Nyaruguru	2.9	1.1	0.7	5.1	488
Huye	17.2	4.7	8.1	26.4	480
Nyamagabe	5.9	2.2	1.5	10.3	483
Ruhango	8.9	2.9	3.2	14.5	480
Muhanga	17.5	5.0	7.6	27.4	481
Kamonyi	8.9	2.3	4.5	13.3	482
Karongi	9.3	3.2	3.0	15.6	483
Rutsiro	7.3	2.2	3.0	11.6	482
Rubavu	27.7	5.0	17.9	37.5	480
Nyabihu	10.4	2.8	4.9	16.0	483
Ngororero	5.2	2.3	0.8	9.7	487
Rusizi	28.6	5.0	18.7	38.5	487
Nyamasheke	9.4	2.6	4.3	14.4	481
Rulindo	9.0	2.0	5.1	12.8	484
Gakenke	4.6	2.2	0.2	9.0	482
Musanze	23.6	4.5	14.9	32.4	485
Burera	10.0	2.9	4.3	15.6	483
Gicumbi	4.0	1.3	1.4	6.6	486
Rwamagana	26.7	7.6	11.9	41.5	484
Nyagatare	19.8	3.9	12.1	27.6	484
Gatsibo	13.4	3.4	6.7	20.2	483
Kayanza	17.1	3.3	10.6	23.5	484
Kirehe	8.4	2.4	3.7	13.2	483
Ngoma	6.8	2.4	2.0	11.6	483
Bugesera	13.7	4.2	5.4	22.0	487

Table B. 7: % of HHs that incurred expenditure on chemical fertilisers

EICV4	% of HHs that incurred expenditure on chemical fertilisers				Unweighted count
	Estimate	Standard error	Low	Upper	
All Rwanda	36.4	0.7	35.1	37.7	12,746
Province					
Kigali City	16.6	3.0	10.6	22.5	423
Southern Province	35.1	1.3	32.6	37.6	3,705
Western Province	49.4	1.6	46.3	52.4	3,093
Northern Province	48.9	1.6	45.8	52	2,316
Eastern Province	22.5	1.1	20.3	24.8	3,209
Urban/Rural					
Urban	26.0	2.3	21.5	30.4	1,013
Rural	37.4	0.7	35.9	38.8	11,733
Quintile					
Q1	26.1	1.1	24.0	28.2	2,346
Q2	35.6	1.1	33.4	37.8	2,564
Q3	38.4	1.1	36.2	40.6	2,695

EICV4	% of HHs that incurred expenditure on chemical fertilisers				Unweighted count
	Estimate	Standard error	Low	Upper	
Q4	41.0	1.1	38.7	43.2	2,812
Q5	40.1	1.2	37.7	42.5	2,329
Disrtict					
Nyarugenge	10.7	5.2	0.6	20.8	89
Gasabo	19.1	4.1	11.1	27.0	218
Kicukiro	12.8	6.4	0.2	25.3	116
Nyanza	19.2	3.0	13.4	25.1	463
Gisagara	39.8	2.9	34.1	45.5	485
Nyaruguru	56.1	4.6	47.2	65.1	478
Huye	37.4	3.3	30.8	43.9	436
Nyamagabe	51.9	4.6	42.9	60.9	471
Ruhango	19.2	2.7	14.0	24.5	456
Muhanga	31.9	4.7	22.6	41.2	451
Kamonyi	29.5	3.0	23.7	35.3	465
Karongi	50.7	3.8	43.3	58.1	466
Rutsiro	41.0	3.1	35.0	47.1	474
Rubavu	46.5	6.4	34.0	58.9	324
Nyabihu	66.8	4.4	58.1	75.4	449
Ngororero	46.7	3.8	39.2	54.3	477
Rusizi	46.5	4.2	38.3	54.8	430
Nyamasheke	50.2	3.6	43.2	57.2	473
Rulindo	38.4	3.6	31.5	45.4	467
Gakenke	71.8	2.9	66.2	77.4	475
Musanze	58	4.7	48.7	67.3	432
Burera	55.1	3.7	47.9	62.4	464
Gicumbi	22.2	2.7	16.8	27.6	478
Rwamagana	36	3.3	29.5	42.5	445
Nyagatare	14.2	2.6	9.1	19.3	451
Gatsibo	22.2	3.4	15.5	28.8	456
Kayonza	18.0	2.5	13.1	23.0	451
Kirehe	28.1	3.1	22	34.2	471
Ngoma	30.2	3.4	23.5	36.9	473
Bugesera	13.2	2.2	8.8	17.6	462

EICV4 Staff

EICV4 National Coordination

Yusuf Murangwa

EICV4 Technical Coordination

Dominique Habimana

EICV4 Field Coordination

Juvenal Munyarugerero

EICV4 - Environment and natural resources analysis

- Roger KAMANA, Statistician -NISR

EICV4 data processing

- Mario Vaisman
- Juste Nitiema

EICV4 Proof reading, designing and copy-editing

- Jean Claude NYIRIMANZI
- Ruben MUHAYITETO
- Denise UWAMARIYA
- Tharcisse MUSABYIMANA

EICV4 – Fieldwork Supervision

- Mugabo Jean
- Kamana Roger
- Mwizerwa Nicolas
- Nzabonimpa Jean Claude
- Segahwege Astrid
- Serugendo Jean Baptiste

EICV4 Staff - Centre Zone

Province	Number of Center Staff	Province	Number of Center Staff
Kigali City Zone		Western Zone	
Nyarugenge	7	Karongi	6
Gasabo	7	Rutsiro	6
Kicukiro	7	Rubavu	6
Southern Zone		Nyabihu	6
Nyanza	6	Ngororero	6
Gisagara	6	Rusizi	6
Nyaruguru	6	Nyamasheke	6
Huye	6	Eastern Zone	
Nyamagabe	6	Rwamagana	6
Ruhango	6	Nyagatare	6
Muhanga	6	Gatsibo	6
Kamonyi	6	Kayonza	6
Nothern Zone		Kirehe	6
Rulindo	6	Ngoma	6
Gakenke	6	Bugesera	6
Musanze	6		
Burera	6		
Gicumbi	6		

Zones	EICV4 VUP		Zones	EICV4 Panel	
		Number EICV 4 VUP Staff			Number of EICV 4 PANEL Staff
Kigali City Zone		10	Kigali City Zone		3
Southern Zone		7	Southern Zone		3
Western Zone		7	Western Zone		3
Nothern Zone		6	Nothern Zone		3
Eastern Zone		7	Eastern Zone		3

