Rwanda - Integrated Household Living Conditions Survey - Wave 5, Cross-Sectional Sample, 2016-2017.

National Institute of Statistics Rwanda (NISR)

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Overview

Identification

ID NUMBER
RWA_2016-2017_EICV-W5-CS_v01_EN_M_v01_A_OCS

Overview

ABSTRACT
The EICV5 survey (Enquête Intégrale sur les Conditions de Vie des ménages) was conducted over a 12-month cycle from October 2016 to October 2017. Data collection was divided into 10 cycles in order to represent seasonality in the income and consumption data. A main cross-sectional sample survey, a panel survey and a VUP sample survey were conducted simultaneously.

The objectives of the EICV5 Panel Survey are to measure the trends in key socioeconomic indicators over time for a nationally representative panel of households. EICV5 aims to provide timely and updated statistics to facilitate monitoring progress on poverty reduction programmes and evaluation of different policies as stipulated in the First National Strategy for Transformation (NST1), the 2030 Sustainable Development Goals (SDGs), as well as the Vision 2020 and Vision 2050. The survey data are also very important for national accounts and updating the consumer price index (CPI).

KIND OF DATA
Sample survey data [ssd]

UNITS OF ANALYSIS
Households

Scope

NOTES
The scope of the EICV5 includes:

-Household listing

-Migration: internal and international, reasons for migration

-Health: disability and health problems, health insurance, consultations

-Education: general education, literacy/learning/training, education expenses

-Housing: background and status of the housing occupancy, expenses, services and installations, physical characteristics of the dwelling, access and satisfaction towards basic services

-Employment: usual activity, employment status, salaried workers, business activities, underemployment and unemployment, domestic and ancillary work

-Agriculture: livestock, land and agricultural equipment, details of holding parcels/blocs and agricultural policy changes, crop harvests and use on a large scale, small scale crops, other income from agriculture, cost and expenditure on agricultural activities, transformation of agricultural products

-Household expenditure and subsistence farming: expenditure on non food items, food expenditure, subsistence farming and consumption of own production

-Transfers of incomes, other revenues and expenditures: transfers made by household (transfer-out), transfers received by the household (transfer-in), VUP, UBUDEHE and RSSP schemes, income support programmes and other revenues, other expenditure

-Credit, durables and savings: credit, durable household goods, deposit and savings

TOPICS

Topic	Vocabulary	URI
Poverty	World Bank	
Education	World Bank	
Agriculture & Rural Development	World Bank	
Health	World Bank	
Labor & Social Protection	World Bank	
Environment	World Bank	
Social Development	World Bank	

Coverage

GEOGRAPHIC COVERAGE
National coverage.

UNIVERSE
All household members

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
National Institute of Statistics Rwanda (NISR)	Ministry of Finance and Economic Planning

FUNDING

Name	Abbreviation	Role
Government of Rwanda	GoR	Financial Partner
World Bank	WB	Financial Partner
UKaid	Ukaid	Financial Partner
European Union	EU	Financial Partner
One UN	One UN	Financial Partner

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Office of Chief Statistician	OCS	Food and Agriculture Organization	Metadata adapted for FAM
Ruben MUHAYITETO		National Institute of Statistics of Rwanda	Documentation of the study

DDI DOCUMENT VERSION
RWA_2016-2017_EICV-W5-CS_v01_EN_M_v01_A_OCS_v01

DDI DOCUMENT ID

Sampling

Sampling Procedure

The sampling frame for the EICV5 cross-sectional survey is based on the NISR master sample data. More recently, the NISR used the 2012 Census frame to select a large master sample of villages 3,960 that can be used for the different national household surveys in Rwanda. The primary sampling units (PSUs) for the Master Sample are individual villages, or a combination of small villages, with the number of households tabulated from the 2012 Census data. A new listing of households was conducted in order to update the frame for the EICV5 cross-sectional survey. The sample households in the EICV5 sample villages were selected from the new listing.

1) The EICV5 Cross-sectional survey sample size

The sample size for the EICV5 cross-sectional survey depends on the level of precision that is required for key indicators at the district level, as well as on resource constraints and logistical considerations. It is very important to ensure good quality control in order to minimize the non-sampling errors. The estimates of the sampling errors for the poverty rate by district from the EICV4 data were examined in order to determine whether it would be necessary to adjust the sample size. For EIVC4 the number of households selected per cluster was 9 for Kigali Province, which is mostly urban, and 12 for the remaining provinces, which are mostly rural. This sampling strategy has been consistent for all the EICV surveys because it is statistically efficient and is also effective for the EICV logistics of the fieldwork and the workload of the team of enumerators each cycle. The urban areas generally have a higher intraclass correlation for socioeconomic characteristics between households within a cluster compared to rural areas. There is also a different interviewing schedule for the sample households in Kigali Province, so only 9 households are interviewed in each cluster. In terms of the number of sample clusters allocated to each district, it should be a multiple of 10 so that the sample can be evenly distributed to the 10 cycles. In the case of EICV4 the districts in Kigali Province were assigned 5 sample clusters each month, and in the other provinces each district was assigned 4 sample clusters each month.

In EICV5, the sample was increased for the districts in Kigali Province because the estimates of the poverty rate for those districts had higher coefficients of variation (CVs) or relative standard errors (RSEs) compared to the other districts. However, one reason why the RSEs for the districts of Kigali Province were higher is that the value of the poverty rate is lower for these districts. It was pointed out that in the case of estimates of percentages or proportions, it is more effective to use the margin of error to study the sample size. The margin of error is equal to half of the width of the 95% confidence interval, or 1.96 times the standard error. Therefore, the margins of error for the estimates of the poverty rate by district were also examined. In this case the margins of error were also higher for the districts of Kigali Province, given the relatively higher design effects (especially for Gasabo District), and considering that the number of sample households for these districts in EICV4 was only 450, compared to 480 sample households in the districts of the other provinces. For these reasons, it was decided to increase the number of sample PSUs for each district in Kigali Province from 50 to 60, for a total increase of 30 sample clusters and 270 sample households. For the districts in the other provinces it was decided to have the same sample size of 40 clusters and 480 households each cycle, since the level of precision of the EICV4 results for these districts was considered satisfactory.

The sample PSUs in each district were allocated to the urban and rural strata proportionately to the number of households in the 2012 Census frame. In the case of districts where the proportional number of sample PSUs was only 1 for the urban stratum, the number of sample PSUs was increased to 2. For the selection of sample villages for EICV5, it was assumed that the Master Sample villages for each district were explicitly stratified by urban and rural areas. A separate subsample of villages was selected within each stratum from the Master Sample.

At the national level, there are 1,260 sample villages and 14,580 sample households. In the urban strata there are 245 sample villages and 2,526 sample households, and in the rural strata there are 1,015 sample villages and 12,054 sample households. The sample size for the EICV5 cross-sectional survey has 30 more sample PSUs and 270 more sample households than the corresponding sample for EICV4.

In the case of EICV4 the national sample of 177 villages selected from EICV3 for the Panel Survey were also used as part of the EICV4 cross-sectional survey. However, for EICV5 it was decided to select a completely separate sample of villages for the cross-sectional survey.

2) Assignment of sample villages to cycles and sub-cycles

Similar to the EICV4 methodology, a nationally-representative sample of clusters will be assigned for the EICV5 data collection each cycle, so that the sample is geographically representative over time. A subsample serial number from 1 to 10 can be assigned systematically to the geographically ordered list of all sample clusters in each district. In order to assign the cycles to the EICV5 cross-sectional sample villages, random cycle numbers from 1 to 10 were generated to identify the selection

sequence. For the 27 districts outside of Kigali Province, the sub-cycle numbers of 1 or 2 were assigned systematically with a random start. This process ensured that the final distribution of the sample clusters to cycles and sub-cycles was geographically representative within each district.

Response Rate

The response rate for EICV5 (cross-sectional) is 100%. All households sampled(14,580) were interviewed with no refusal.

Weighting

The EICV5 Cross-Sectional Survey is designed to represent the current household-based population in each of the 30 districts of Rwanda. A stratified multi-stage sample was selected for the EICV5 Cross-Sectional Survey, based on the NISR Master Sample selected from the 2012 Rwanda Census frame. For the data collection a reserve random sample of 3 households per cluster (in Kigali Province) or 4 households per cluster (in the other provinces) was selected for possible replacements. It was possible to replace all non-interview households to complete the target number of 9 household interviews in each sample cluster of Kigali Province, and 12 household interviews for each sample cluster in the other provinces. The weights for the EICV5 Cross-Sectional Survey were calculated based on the probabilities of selection from each sampling stage. This will ensure that the data will be weighted up to represent the total household-based population of Rwanda. Generally, it is necessary to adjust the weights to take into account the non-interview households in each sample village. However, if all of the non-interview households are replaced during the EICV5 Cross-Sectional Survey data collection in each sample village, the final number of completed households will be exactly 9 for each sample village in Kigali Province, and 12 for each sample village in the remaining provinces. In this case there is no need to adjust the EICV5 Cross-Sectional Survey weights for non-response.

Questionnaires

Overview

The same questionnaire was used for cross-sectional, panel and VUP samples. Part A of the questionnaire contains modules on household and individual information. Part B is on agriculture and consumption. The questionnaire was developed in English, and translated into Kinyarwanda.

Questionnaire design took into account the requests raised by major data users and stakeholders, as well as consistency with the previous EICV questionnaires. In addition to methodological improvements, some simplifications were made:

-The major changes introduced in this survey were changes to Section 6, the Economic Activity. Further questioning was added on unemployment and underemployment in response to questions from users, and also to comply with international standards. The section was simplified to enable the analysis to be undertaken by local analysts.

-The Section on the VUP participation was expanded to provide more information, better classification of beneficiaries and to provide greater consistency within the questionnaire. The same questionnaire is to be used on the separate VUP sample which runs in parallel with the EICV5

Questionnaire was tested in pilot surveys and amended in time prior to the fieldwork starting in October 2016. The complete questionnaire is provided as external resources.

Data Collection

Data Collection Dates

Start	End	Cycle
2016-10-13	2016-11-14	1
2016-11-20	2016-12-22	2
2016-12-28	2017-01-29	3
2017-02-04	2017-03-08	4
2017-03-14	2017-04-15	5
2017-04-21	2017-05-23	6
2017-05-29	2017-06-30	7
2017-07-06	2017-08-07	8
2017-08-13	2017-09-14	9
2017-09-20	2017-10-22	10

Data Collection Mode

Face-to-face paper [f2f]

Data Collection Notes

A pilot survey was conducted throughout in July and August 2016. A one-month enumerator training was conducted from end of August to September before enumeration.

For the 27 predominantly rural districts, the survey calendar for 12 months is divided into 10 cycles, and each cycle is divided into two sub-cycles, for a total of 20 enumeration periods of 16 days each. Each enumerator visited a group of 3 sample households every other day. A team of enumerators covers two sample EAs in each sub-cycle, or four EAs during a full cycle. In other words, each sample household in rural districts was visited 8 times over a period of 16 days. Questionnaire section 8Aiii, 8B and 8C were asked on every visit, while the other sections were spread out over the 8 visits (e.g. section 0-3 during 1st visit; section 4, 5a-5d, 8Ai, 8Aii during 2nd visit; section 5e, 6a-6c on 3rd visit; section 6d-6f on 4th visit; section 7a-7c on 5th visit; section 7d-7h on 6th visit; section 9 on 7th visit; section 10 on 8th visit).

In the case of the three predominantly urban districts in Kigali Province, the data collection in each sample EA was conducted over a period of 33 days (one cycle). The 9 households in each sample EA were divided into 3 groups of 3 households each. Each enumerator visited one group of 3 sample households each day, so each sample household was visited every three days. Five EAs are covered in each cycle. In other words, each sample household in Kigali was visited 11 times over a period of 33 days. Questionnaire section 8Aiii, 8B and 8C were asked on every visit, while the other sections were spread out over the 11 visits (e.g. section 0 and 1 on 1st visit; section 2 and 3 on 2nd visit; section 4 on 3rd visit; section 5 on 4th visit; section 6a-6c on 5th visit; section 6d-6f on 6th visit; section 7a-7c on 7th visit; section 7d-7h on 8th visit; section 9 on 9th visit; section 10 on the 10th visit).

Each enumeration is preceded by household listing.

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Questionnaire was tested in pilot surveys and amended in time prior to the fieldwork starting in October 2016. The complete questionnaire is provided as external resources.

Data Collectors

Name	Abbreviation	Affiliation
National Institute of Statistics of Rwanda	NISR	Ministry of Finance and Economic Planning

Data Processing

Data Editing

A day before the interview started, the enumerator, accompanied by a controller, did an introduction to household, explaining how often they will come in that household and delivering a letter indicating that the HH has been selected.

During the field work, after each cycle, the data processing team produced tables and reports of inconsistencies, which were checked by the field supervisor. The data entry system also contained consistency checks that alerted the data entry operators. In case of an alert, the questionnaire was sent back to the supervisor of data entry for correction.

Data Editing

Data Appraisal

No content available