

Rwanda - Season Agriculture Survey 2019-2020

National Institute of Statistics of Rwanda

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Identification

SURVEY ID NUMBER

RWA_2019-2020_SAS_v01_EN_M_v01_A_OCS

TITLE

Season Agriculture Survey 2019-2020

COUNTRY

Name	Country code
Rwanda	RWA

STUDY TYPE

Agricultural Census [ag/census]

SERIES INFORMATION

The Seasonal Agriculture Survey (SAS) is a study conducted annually by the National Institute of Statistics of Rwanda from November to September of the following year to gather up-to-date information for monitoring progress on agriculture programs and policies in Rwanda.

The SAS 2019 covered three agricultural seasons:

- Agricultural Season A: starts from September 2018 to February 2019;
- Agricultural Season B: starts from March to June 2019; and
- Agricultural Season C: starts from July to august 2019.

ABSTRACT

The main objective of the Seasonal Agricultural Survey is to provide timely, accurate, reliable and comprehensive agricultural statistics that describe the structure of agriculture in Rwanda mainly in terms of land use, crop area, yield and crop production to monitor current agricultural and food supply conditions and to facilitate evidence-based decision making for the development of the agricultural sector.

The National Institute of Statistics of Rwanda (NISR) has been conducting an annual agricultural survey since November 2012 for the estimation of the national agricultural crop area and production estimates. In 2019/2020 agricultural year, the NISR conducted the second edition of the Upgraded Seasonal Agricultural Survey (USAS) covering the three agricultural seasons. The USAS incorporated an increased sample size to provide more precise estimates. The USAS allows information for monitoring progress on agriculture programs and policies in Rwanda.

KIND OF DATA

Sample survey data [ssd]

UNIT OF ANALYSIS

Agricultural holdings

Scope

NOTES

The scope of 2019 Seasonal Agriculture Survey concerned farm characteristics (Area, yield, production; use of production, agricultural practices; agriculture inputs and land tenure).

Coverage

GEOGRAPHIC COVERAGE

National coverage allowing district-level estimation of key indicators

UNIVERSE

The SAS 2020 targeted potential agricultural land and large scale farmers.

Producers and sponsors

PRIMARY INVESTIGATORS

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

PRODUCERS

Name	Role
National Institute of Statistics of Rwanda	Main producer
Ministry of Agriculture and Animal Resources	Technical partner
Rwanda Agricultural Board	Technical partner
National Agriculture Export Board	Technical partner

FUNDING AGENCY/SPONSOR

Name	Abbreviation	Role
Government of Rwanda	GoR	Funder

Sampling

SAMPLING PROCEDURE

The USAS used a Multiple-Frame Sampling (MFS) methodology providing the basis for conducting probability surveys. This approach is mainly based on complete coverage of the area and enables to avail agricultural data with precise survey estimates. The methodology encompasses two sample frames: the area frame from which the main survey sample is drawn and a list frame of large-scale farmers (LSF) to complement the area frame, with the aim to cover crops mostly grown by large scale farmers which are not easily covered in the area frame. The large-scale farmer should have at least 10 hectares of agricultural holdings to be included. The process of area frame construction is a three-pronged process involving the following steps: land cover classification, land stratification and sampling of segment.

WEIGHTING

Based on the stratified two-stage sample design used with the new area frame, the first stage sampling probability for the sample segments in each stratum is calculated as:

$$p_{1h} = n_h/N_h$$

Where:

p_{1h} = probability of selection of sample segments in stratum h (district by stratum)

n_h = number of sample segments selected in stratum h

N_h = Total number of segments in the area frame for stratum h in each stratum

The second stage probability was calculated at the plot level based on the assumption that the plots within each sample segment were implicitly selected with PPS using the area of the plot as the measure of size.

Therefore, the second stage probability of selection can be expressed as follows:

$$p_{2hi} = G_{hi} \times A_{hij}/A_{hi} \times G_{hij}$$

Where:

p_{2h} = Probability of selection of the plot in segment h

g_{hi} = Number of grid squares selected in the i-th sample segment of stratum h;

A_{hij} = Area of the j-th sample plot selected in the i-th sample segment of stratum h

A_{hi} = Area of the i-th sample segment of stratum h;

g_{hij} = Number of selected grid squares in the j-th sample plot of the i-th sample segment of stratum h

The weight of a sample plot is equal to the inverse of the first and second stage probabilities of selection:

$$W_{phij} = 1/p_{1h} \times p_{2hi} = N_h \times A_{hi} \times G_{hij} / N_h \times G_{hi} \times A_{hij}$$

Where:

W_{Phij} = weight for the j-th sample plot in the i-th sample segment in stratum h

Data Collection

DATES OF DATA COLLECTION

Start	End
2019-09-15	2020-09-15

DATA COLLECTION MODE

Face-to-face [f2f]

Access policy

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The users shall not take any action with the purpose of identifying any individual entity (i.e. person, household, enterprise, etc.) in the micro dataset(s). If such a disclosure is made inadvertently, no use will be made of the information, and it will be reported immediately to FAO

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Metadata production

DDI DOCUMENT ID

DDI_RWA_2019-2020_SAS_v01_EN_M_v01_A_OCS

PRODUCERS

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

Office of Chief Statistician	OCS	Food and Agriculture Organization	Metadata adapted for FAM
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DDI DOCUMENT VERSION

RWA_2019-2020_SAS_v01_EN_M_v01_A_OCS_v01

Data Description

Data file	Cases	Variables
rwa-sas-seasonA_Crop production	32906	49
rwa-sas-SeasonA_PartIII_Fertilizers_Pesticides	18786	28
rwa-sas-SeasonA_PartIV_Agricultural practice	19805	34
rwa-sas-SeasonA_PartV_Land Tenure	63292	17
rwa-sas-seasonA-Screening	46854	24
rwa-sas-seasonB_Crop production	30493	49
rwa-sas-SeasonB_PartIII_Fertilizers_Pesticides	17637	28
rwa-sas-SeasonB_PartIV_Agricultural practice	19222	34
rwa-sas-SeasonB_PartV_Land Tenure	61548	17
rwa-sas-seasonB-Screening	43411	24
rwa-sas-seasonC_Crop production	1667	49
rwa-sas-SeasonC_PartIII_Fertilizers_Pesticides	1832	27
rwa-sas-SeasonC_PartIV_Agricultural practice	1731	33
rwa-sas-SeasonC_PartV_Land Tenure	5400	16
rwa-sas-seasonC-Screening	8311	24