Availability of Official Data to Report on Sustainable Development Goals (SDGs) Land Tenure Indicators 1.4.2 and 5.a.1 in Rwanda

Final Report | July 26, 2021

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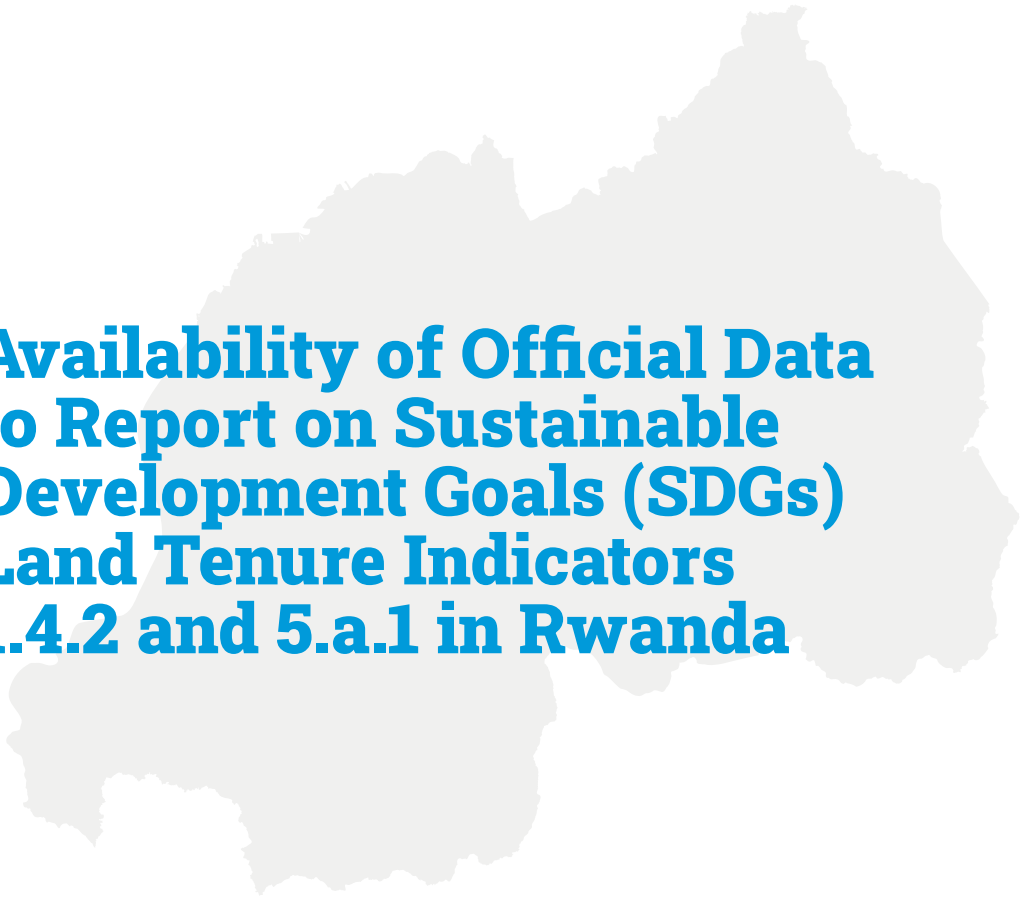
IMPLEMENTING THE NEW URBAN AGENDA

Availability of Official Data to Report on Sustainable Development Goals (SDGs) Land Tenure Indicators 1.4.2 and 5.a.1 in Rwanda



1 NO POVERTY

5 GENDER EQUALITY

Final Report | July 26, 2021

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ACKNOWLEDGMENTS

This report was prepared jointly by the Government of Rwanda through the Rwanda Land Management and Use Authority (RLMUA) in collaboration with the National Institute of Statistics of Rwanda (NISR), Ministry of Agriculture and Animal Resources (MINAGRI), Ministry of Environment (MOE), and United Nations Human Settlements programme (UN-Habitat).

The report was developed by a team led by Donatien Beguy (Data and Analytics Unit, UN-Habitat) as project manager, and comprised of Clinton Omusula (Global Land Tool Network, UN-Habitat), Everlyne Nairesiae (Global Land Tool Network, UN-Habitat) and Jossam Potel (INES-Ruhengeri, Rwanda) as the local consultant. Technical advice from the Government of Rwanda was provided by (listed in alphabetical order) Athanase Akumuntu, Leonard Kayonga, Sam Biraro, and Theophile Ndegeya of RLMUA; and Lambert Uwizeyimana of NISR. The layout and design of the report was done by Dennis Koech (UN-Habitat).

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EXECUTIVE SUMMARY

The international community recognizes land tenure security as highly relevant to the achievement of the 2030 Agenda for sustainable development and its related Sustainable Development Goals (SDGs), the New Urban Agenda (NUA) and Africa Agenda 2063. It is against this background that in September 2015, specific SDG indicators were adopted to measure land tenure security: SDG 1 - Indicator 1.4.2 *"Proportion of total adult population with secure tenure rights to land, with (a) legally recognized documentation and who (b) perceive their rights to land as secure, by sex and by type of tenure"* and SDG 5 – Indicator 5.a.1 *"(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure"*. Monitoring and reporting on these indicators at national and global levels require member States to produce reliable, accurate, sex disaggregated and timely land data and information.

This report highlight the progress made in a project "Enhancing National Statistical Offices' Capacity to Collect Land Tenure Security Data and Report on SDG Indicator 1.4.2" This collaborative project by Global Land Tool Network (GLTN) under the Global Land Indicators Initiative (GLII) and the Data Analystics Unit of UN-Habitat aimed to strengthen national statistical systems to measure, monitor and report on progress in the implementation of the land-related SDGs indicators in four pilot countries: Kenya, Rwanda, Tunisia and Iraq. This report provides useful information on data availability for measuring these 2 indicators but also preliminary analysis of existing data to assess land ownership in Rwanda. Overall, there exists data and information within the National Institute of Statistics of Rwanda (NISR), the Rwanda Land Management and Use Authority (RLMUA), the Ministry of Agriculture and Animal Resources (MINAGRI) and other data agencies and ministries needed to provide insights to the status of land tenure security in the country. In addition to administrative data from the RLMUA, relevant surveys include the Integrated Household Living Conditions Surveys, the Demographic and Health Survey, the Agricultural Household Survey and the Seasonal Agriculture Survey that are conducted on a regular basis in the country.

Despite their inherent value, existing data from NISR, RLMUA or MINAGRI are limited by the nature of their scope, the type of data collected and related level of disaggregation, and thus, are not responsive to the global methodologies for monitoring and reporting of SDG indicators 1.4.2 and 5.a.1. It is therefore important to integrate questions on land tenure security from the globally approved joint module in upcoming surveys to collect relevant data on SDG indicators 1.4.2 and 5.a.1. This requires enhanced collaboration between NISR, the primary government agency for collection, analysis and dissemination of official statistics in Rwanda and RLMUA, MINAGRI as well as with custodian agencies UN-Habitat, the World Bank and FAO. This will help in understanding the data requirements of the two indicators and the data collection and reporting process, thereby enhancing prospects of reporting on the indicators and assessing the impact of land programs and policies in Rwanda. In general, to precisely capture and monitor the status of land tenure security in Rwanda through the two SDG indicators, it is important to promote continuous triangulation of rich administrative data from RLMUA and data provided through surveys by NISR and MINAGRI. There is also need for improved coordination of Rwanda's National Statistical System (NSS), which will be essential in facilitating data flow across the various ministries/ stakeholders to ensure comprehensiveness in reporting on SDG indicators 1.4.2 and 5.a.1 but also to facilitate access to land tenure data for policy decisions and measurement of impacts associated with land tenure policies and programs at all levels.

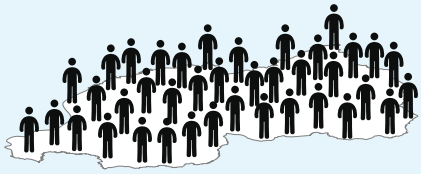
LIST OF ABBREVIATIONS

AHS : Agricultural Household Survey
CORs : Continuous Reference Stations
EICV : Enquête Intégrale sur les Conditions de Vie des Ménages (Integrated Household Living Condition Survey)
EAs : Enumeration Areas
FAO : Food and Agriculture Organization of the United Nations
GLTN : Global Land Tool Network
GLII : Global Land Indicators Initiative
GoR : Government of Rwanda
LAIS : Land Administration Information System
LTR : Land Tenure Regularization
MINAGRI : Ministry of Agriculture and Animal Resources
MINIJUST : Ministry of Justice
NLR : National Land Register
NISR : National Institute of Statistics of Rwanda.
NSO : National Statistics Office
NSS : National Statistical System
NST1 : First National Strategy for Transformation
PSTA : Strategic Plan for Agricultural Transformation
RDB : Rwanda Development Board
RDHS : Rwanda Demographic and Health Survey
RGN : Rwanda Geodetic Network
RLMUA : Rwanda Land Management and Use Authority
RRA : Rwanda Revenue Authority
SAS : Seasonal Agriculture Survey
SDG : Sustainable Development Goals
ToR : Terms of Reference
UN : The United Nations
UN-Habitat : United Nations Human Settlements Programme.
VUP : Vision 2020 Vision 2020 Umurenge Programme

Rwanda

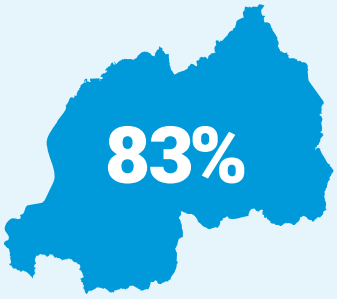
12.9 Million inhabitants

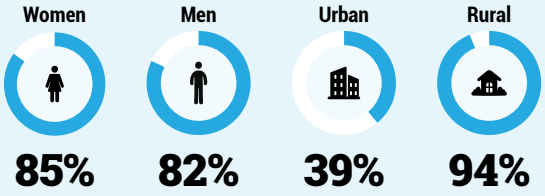
26,338 Km²



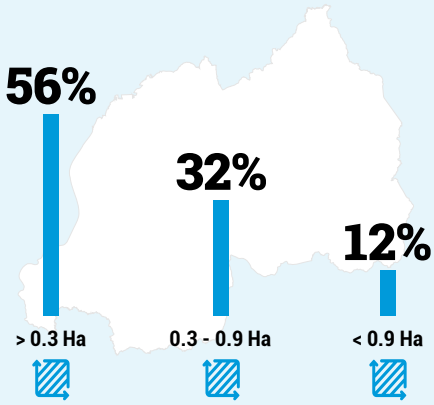
525 Inhabitants per Km²

Percentage of households cultivating at least one parcel land

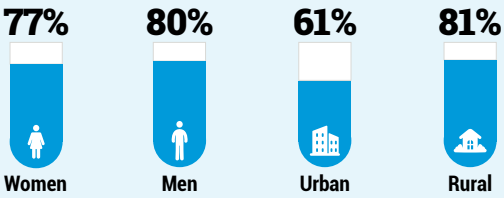




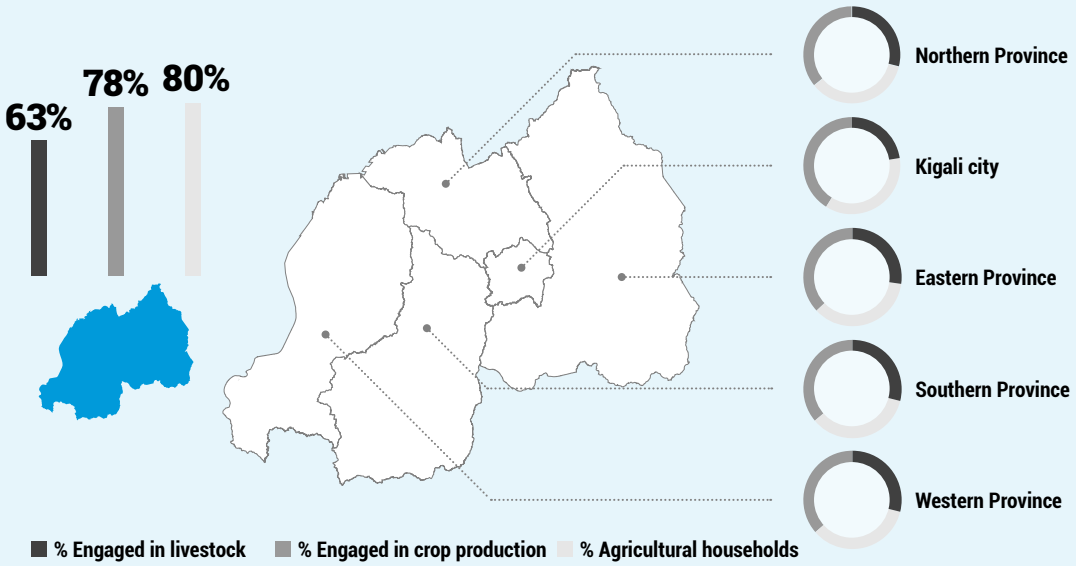
Size of total land cultivated by Household in Rwanda



Percentage of HHs that have the right to sell or use any of their parcels as a guarantee for a loan



Percentage of households engaged in agricultural activities



1. INTRODUCTION

Land in Rwanda, like many other parts of the world, is a key economic resource inextricably linked to access to, use of and control over other economic and productive resources. Rwanda, with a population projected at 12.9 million and spatial area of 26,338 km^2 is one of the most densely populated countries in the world (525 inhabitants per km^2 in 2020) (NISR, 2020). With persistent high population growth rate, this requires the country to place land among the most imperative issues to consider for its future. Between 2010 and 2020, the population of the country grew annually at an average rate of 2.6% (NISR, 2020). Thus, recognizing the pressure on land from the growing population, the history of successive waves of land-related conflicts coupled with displacements and changing climate has driven the demand for Rwanda's decision makers to strengthen tenure security for all.

More than 80% of the Rwanda's projected population of 12.9 million depends on farming. Although about 79% of the country's land is classified as agricultural, only 11% of the land represents permanent crop. The remaining agricultural lands are covered with forests, marshlands and marginal lands in the hillsides where permanent and routine cultivation of crops are not tenable. Over 80% of the population live in rural areas and subsist on smallholder farming. Although land distribution is highly fragmented and skewed in Rwanda, land is the most valuable, productive and contested asset and therefore its proper management is important (Mbonigaba, 2013).

Rwanda has had a history of protracted conflicts that dates back in 1959 and 1994 respectively; resulting into forced displacements that disrupted the relationship that people have with their land. Due to the involvement of arms, these forced displacements forced them to leave their land behind for their own safety. However, the temporary disruption has long-lasting or even permanent effects on land tenure or even on the formal land administration as a whole.

The vacated land is often occupied by secondary and successive occupants, sometimes with the consent and under the direction of authorities as that was the case in 1962 (Potel ***et al***., 2015). Thereafter, conflicts of interests emerged between returning original owners and new settlers because of overlapping interests and conflicting claims, which may each be regarded as legitimate under successive administrations. In addition, returning refugees who fled their homes for their safety often find their original properties destroyed once they are back, leaving them with little proof or evidence to justify their claims. Following the genocide, many households were headed by women and orphaned girls whom the law did not give rights to succession.

In Rwanda's rural areas, land is a basic livelihood asset, the principal form of natural capital from which people produce food and earn a livelihood. Access to land enables family labour to be put to productive use in farming, generates a source of food and provides a supplementary source of livelihood for rural Rwandans. The grazing of livestock on extensive range of lands is a basic livelihood activity for pastoralists and access to pastureland is also important to supplement the livelihood of land. With new reforms, land in Rwanda can be loaned, rented or sold in times of hardship and thereby provides some financial security. At the same time, a heritable asset land is the basis for the wealth and livelihood security of future generations.

The post-conflict government of Rwanda considered a nationwide land reform as a sole solution to all these challenges related to land rights and tenure security by adopting a National Land Policy[1] in 2004 that was updated in 2019. The main objective of this policy is to establish a land tenure system that guarantees tenure security for all Rwandans and give guidance to the necessary land reforms with a view of enhancing food security, tax generation, social equity and preventing land-related conflicts. New laws on land and succession were also adopted and a national systematic land titling program that led to the demarcation of all land and issuance of land titles to the landowners was adopted. In embarking on a major land reform, Rwanda wanted to develop proper land governance and administration program that will enable the population to have a secure form of tenure and bring about proper land utilization, efficient land management, generate taxation income and regulate land market. Though the Land Tenure Regularization (LTR) programme facilitated the realization of the main objective of the national land policy, there is a need to analyze the existing data to interrogate progress in land tenure security in the country.

At the global level, land tenure security has also been recognized as highly relevant to the achievement of the 2030 Agenda for sustainable development and its related Sustainable Development Goals (SDGs), the New Urban Agenda (NUA) and Africa Agenda 2063. As such, specific indicators have been identified under some SDGs to measure land tenure security through ownership and control over land: SDG 1 - Indicator 1.4.2 *"Proportion of total adult population with secure tenure rights to land, with (a) legally recognized documentation and who (b) perceive their rights to land as secure, by sex and by type of tenure"* and SDG 5 – Indicator 5.a.1 *"(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure"*. Monitoring and reporting on these indicators at national and global levels require member State to produce reliable, accurate and timely data and information.

As part of efforts to support member States to build and strengthen their systems to apply appropriate approaches and methodologies to produce reliable, accurate and timely data and information for monitoring and reporting on land tenure security, UN-Habitat through its units - Global Land Tool Network (GLTN) and Global Urban Observatory (GUO) - has developed a collaborative project on "Enhancing National Statistical Offices' Capacity to Collect Land Tenure Security Data and Report on SDG Indicator 1.4.2" to strengthen national statistical systems to measure, monitor and report on progress in the implementation of the land-related SDGs in four pilot countries: Kenya, Rwanda, Tunisia and Iraq. Implementation of this project follows the finalization of a globally approved methodology that provides critical methods and questions that can be integrated in national surveys[2], censuses and other data collection activities to facilitate monitoring and reporting on SDG indicators 1.4.2 and 5.a.1.

The main objective of this report is to examine the availability of data required to produce indicators 1.4.2 and 5.a.1 in Rwanda and to identify their sources as well as their quality and relevance. Data assessed include survey and administrative data from the National Institute of Statistics of Rwanda, the Rwanda Land Management and Use Authority (RLMUA) and the Ministry of Agriculture and Animal Resources (MINAGRI). Qualitative data was also collected from officials of key national land-related ministries and agencies. The outcome of this diagnostic will help identify potential data gaps or areas requiring further development and may contribute to the development of an action plan to improve the quality of data required. In line with Rwanda's resolve for inclusive land reform, monitoring these SDG land indicators at country level is an opportunity to routinely generate comparable, sex-disaggregated data to support evidence-based decision making on responsible land governance for sustainable development.

Apart from the introduction, the remainder of the report is structured as follows: Section 1 provides an assessment on land data availability; section 2 provides an analysis of existing quantitative data and section 3 consists of conclusions and recommendations.

SDG Indicator 1.4.2 "Proportion of total adult population with secure tenure rights to land, with (a) legally recognized documentation and who (b) perceive their rights to land as secure, by sex and by type of tenure"

SDG Indicator 5.a.1 "(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure"

2. DESCRIPTION OF THE DATA SOURCES AND METHODS OF ANALYSIS

The approaches used to conduct this study include an analysis of existing quantitative data from household surveys and administrative sources collected by the statistics office and other relevant agencies in Rwanda but also a desk review of existing documents (reports, policies, technical notes, etc.) and an analysis of qualitative data collected from key informants in the land sector in Rwanda.

A. Data Sources

This study leveraged both primary and secondary data. Primary data consisted mainly of qualitative data that was collected using structured interview guides among officials from key ministries and agencies. The study population consisted of different officials that were purposively selected from the different institutions in Rwanda that deal with land issues including data and statistics on land. These included the following institutions: Rwanda Land Management and Use Authority (RLMUA), Ministry of Agriculture and Animal Resources (MINAGRI) and National Institute of Statistics of Rwanda (NISR).

The guides were designed to collect the data for this situational analysis and were inclusive of both open and closed ended questions. One key element was to understand how land data was produced and used in the country, the linkages among the various institutions that generate land-related data and information, the gaps and challenges in producing/using that data and possible solutions. The questionnaire used for this category of respondents is attached to the report in Annex.

Secondary data consisted mainly of administrative land data collected by the Rwanda Land Management and Use Authority (RLMUA) and survey data from the National Institute of Statistics of Rwanda (NISR). In addition, we complemented the analysis with a desk review of existing documents from various sources including Rwanda Land Management and Use Authority (RLMUA), Ministry of Agriculture and Animal Resources (MINAGRI) and National Institute of Statistics of Rwanda (NISR).

B. Analysis techniques

The qualitative data was collected through face-to-face interviews with responses recorded along with notes, transcribed and then analyzed using NVivo 10, a qualitative data analysis software. Specifically, these qualitative data were synthesized using thematic, content and narrative analyses to provide insights into the land issues including access to and use of land data, key opportunities and challenges, potential adjustments or modifications to improve access and use of land data for evidence-based policies and actions related to land in Rwanda. Quotes were used as supporting evidence where applicable.

Analysis of quantitative data was done with SPSS/Stata using simple frequencies, cross-tabulations with all appropriate statistical tests of significance when necessary. To scan the policy environment and have a good understanding and knowledge of the land issues and related evidence including data and statistics, existing literature, thematic reports, policies, laws and regulations on land issues and documents on SDGs especially those referring to land and indicators 1.4.2 and 5.a.1 were analyzed using a desk review approach. In addition, the desk review helped interpret, qualify, and triangulate findings obtained from the analysis of existing and newly collected data. Some of the documents that were of interest for the desk review analysis included but were not limited to the following:

1. The 2030 Agenda for Sustainable Development Agenda.
2. Closing the SDGs Financing Gap: Trends and Data
3. Measuring Individuals' Rights to Land: An Integrated Approach to Data Collection for SDG Indicators 1.4.2 And 5.a.1
4. Season Agriculture Survey (SAS) 2020 season A and B, NISR, Rwanda
5. The Fifth Integrated Household Living Conditions Survey, EICV5
6. National land policy 2019
7. Law N° 43/2013 of 16/06/2013 Governing Land in Rwanda
8. Law N° 27/2016 of 08/07/2016 Governing Matrimonial Regimes, Donations and Successions
9. Republic of Rwanda, Ministerial Order N° 002/2008 of 01/4/2008 determining modalities of land registration
10. Republic of Rwanda, law N°. 15/2010 of 07/05/2010 creating and organizing condominiums and setting up procedures for registration.

3. ASSESSMENT OF LAND DATA AVAILABILITY

This section aims to present the findings from the assessment of the land data availability. Specially, we looked at: a) the different sources of survey data on land that exist at the NISR, Ministries such as MINAGRI and land agencies such as RLMUA, and any other relevant agency in Rwanda. This was done through a review of existing survey reports and other documents but also through the interviews of key informants at these agencies.

A number of surveys conducted in Rwanda over the past 10 years or so included questions that are relevant for assessing access to land and land tenure security in Rwanda. In total, eight (8) surveys conducted to tackle different issues were found to have collected relevant land data although they may not be appropriate to help compute SDG indicators 1.4.2 and 1.5.1 as conceptualized. 2.1.

A. Assessment of survey data availability

1. Integrated Household Living Conditions Survey

The Integrated Household Living Conditions Survey (EICV) (Enquête Intégrale sur les Conditions de Vie des Ménages) is the series of surveys which started in 2000/01 and is designed to monitor poverty and living conditions in Rwanda as part of the ongoing monitoring of the Poverty Reduction Strategy and other Government policies. This survey is conducted every three years (every 5 years before the fourth survey) and is designed to provide accurate and up-to-date information that are useful to government, analysts, and the public as they seek to monitor and evaluate efforts to reduce poverty based on evidence-based decision making, and planning processes that are grounded on reliable and valid statistics. In total, 5 EICVs have been conducted so far: EICV 1 (2000-01), EICV 2 (2005-06), EICV 3 (2010-11), EICV 4 (2013-14) and EICV 5 (2016-17).

• Integrated Household Living Conditions Survey 1 - EICV 1

The main objective of the EICV 1 conducted in 2000-01 was to provide policy planners and decision-makers with basic data on household living standards in Rwanda. The EICV1 focused on the living conditions in the country by putting much emphasis on the health conditions, literacy, food security, poverty and agricultural output. Although it tackled on agriculture, it only focused on the agricultural output and modes of farming in both Kigali and rural parts of the country. EICV1 provided limited information on the land sector.

Table 1: Summary of EICV 1

Survey	Periodicity/Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Integrated Household Living Conditions Survey – EICV 1	Every 5 years 2000-01	Provide policy planners and decision-makers with basic data on household living standards in Rwanda.	6,450 households	Land ownership and other agricultural activities. Purchase, leasing, "co-exploitation" of land, equipment, size, farming system, type of crop, volume, type of outlet, place of sale, payment details, production costs. Type and size of livestock population	Age, Sex, province

Source: Rwandan Integrated Household Living Conditions Survey – 2000-01.

• Integrated Household Living Conditions Survey 2 - EICV 2

The main objective of the EICV 2 conducted in 2005-06 was to provide information on changes in poverty and living conditions as part of the efforts to assess the impact of the Poverty Reduction Strategy and other Government policies. It provides some relevant information on land and agriculture, although also it did not collect all the necessary information. Like the EICV1, the second EICV, analyses land in only in agricultural context, it only avails providing information related to agricultural land including size in terms of household, and terms of access to agricultural land. In addition, while EICV 2 summarizes agricultural production at household level, it does not provide detailed information on the number of people involved in agriculture sector, the number of men and female farmers, land administration land tenure. This can be explained by the fact that by the year 2007, there was limited data in the land sector in Rwanda since land reform had not yet started.

Table 2: Summary of EICV 2

Survey	Periodicity/Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Integrated Household Living Conditions Survey – EICV 2	Every 5 years 2005-2006	Provide information on changes in poverty and living conditions as part of the efforts to assess the impact of the Poverty Reduction Strategy and other Government policies.	6,900 households	Land ownership and other agricultural activities. Purchase, leasing, "co-exploitation" of land, equipment, size, farming system, type of crop, volume, type of outlet, place of sale, payment details, production costs. Type and size of livestock population.	Age, Sex, province

Source: Rwandan Integrated Household Living Conditions Survey – 2005-06.

• Integrated Household Living Conditions Survey 3 - EICV 3

The third EICV (EICV 3) was conducted in 2010/11 with the main objective of monitoring poverty and living conditions in Rwanda. Given that this period coincided with the land tenure regularization programme in Rwanda, the survey collected considerable information on land tenure, land administration and land management. Given that land is one of the scarcest resources in Rwanda, evidence provided through this survey was key to inform government's policies and actions for proper land management and administration.

Table 3: Summary of EICV 3

Survey	Periodicity/ Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Integrated Household Living Conditions Survey 3 - EICV3	Every 5 years2010-11	To monitor poverty and living conditions	14,310 households in 1,230 sample villages	Agriculture (income and expenditure) : livestock, land and agricultural equipment, details of holding parcels/blocs and agricultural policy changes, crop harvests and use on a large and small scale crop production, harvests and use, transformation (processing) of agricultural products. • Raised type of livestock in last 12 months • Currently own agricultural land • Owned land over last 12 months • Bought land over last 12 months • Sold land over last 12 months • Rented out land over the last 12 months • Sharecropped land in the last 12 months • Received land over last 12 months • Number of hectors of land owned • Given land over last 12 months • Parcel: How land was obtained/cultivating arrangement; Have right to sell/use land as guarantee for a loan	Age, Sex, Location (Rural vs Urban), Province

Source: Rwandan Integrated Household Living Conditions Survey – 2010-11.

• Integrated Household Living Conditions Survey 4 - EICV 4

The fourth EICV provides information on changes in the well-being of the population such as poverty, inequality, employment, living conditions, education, health and housing conditions, household consumption, among others. The EICV 4 survey contains more detailed information on land transaction since this survey was conducted when Rwanda had completed the systematic land registration. However, the survey did not gather relevant data related to land use information, land ownership per sex, province, districts and land distribution data.

Table 4: Summary of EICV 4

Survey	Periodicity/ Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Integrated Household Living Conditions Survey 3 - EICV4	Every 3-5 years Conducted in 2013-14	Provide information on changes in the well-being of the population such as poverty, inequality, employment, living conditions, education, health and housing conditions, household consumption, among others	About 12,310 households (cross-sectional) About 2,000 households (panel) About 2,500 households (VUP)	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 • Raised type of livestock in last 12 months • Currently own agricultural land • Owned land over last 12 months • Bought land over last 12 months • Sold land over last 12 months • Rented out land over the last 12 months • Sharecropped land in the last 12 months • Received land over last 12 months • Given land over last 12 months • Parcel: How land was obtained/cultivating arrangement; Have right to sell/use land as guarantee for a loan	Age, Sex, Location (Rural vs Urban), Province

• Integrated Household Living Conditions Survey 5 - EICV 5

The EICV5 is the latest one of these surveys and was conducted in 2016/2017 with the main objective of measuring the trends in key socioeconomic indicators to enable monitoring of progress towards eradication of poverty but also evaluation of different policies and development programs (First National Strategy for Transformation (NST1), the 2030 Agenda for Sustainable Development, Vision 2020, Vision 2050)[3]. It has three main components: cross-sectional survey, VUP (Vision 2020 Umurenge Programme) Panel Survey and EICV5 Panel Survey. It has collected more data on land issues than previous surveys, making it more relevant for generating strong evidence on land issues in the country.

Table 5: Summary of EICV 5

Survey	Periodicity/ Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Integrated Household Living Conditions Survey 5 - EICV5	Every 3 years Conducted in 2016-17	Measure the trends in key socioeconomic indicators to enable monitoring of progress towards eradication of poverty but also evaluation of different policies and development programs	14580 households 2,460 households for the VUP Survey	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 • Raised type of livestock in last 12 months • Currently own agricultural land • Owned land over last 12 months • Bought land over last 12 months • Sold land over last 12 months • Rented out land over the last 12 months • Sharecropped land in the last 12 months • Received land over last 12 months • Given land over last 12 months • Parcel: How land was obtained/cultivating arrangement; Have right to sell/use land as guarantee for a loan	Age, Sex, Location (Rural vs Urban), Province, district

Source: Rwanda Integrated Household Living Conditions Survey – 2016-17.

2. Agricultural Household Survey

In Rwanda, the agricultural sector plays a central role in achieving poverty reduction goals. As such, it is important to capture conditions of agricultural households in line with agriculture policies and programs put in place by the government. The main objective of the 2017 Agricultural Household Survey (AHS) was to collect data related to socio-economic characteristics of agricultural households, crop production, use of agricultural production, awareness of agriculture technology, government policies and programs, access to inputs, access to finance, agricultural assets and livestock. This is the first agricultural survey collected by NISR, which intends to conduct it every three years. The sample size was 16,057 agricultural households throughout the country.

Table 6: Summary of Agricultural Household Survey

Survey	Periodicity/ Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Agricultural Household Survey	2017	Provide data on agricultural household based on socio-economic characteristics and livestock in Rwanda	16,057 agricultural households in 1,560 sampled segments	What is the agricultural activity of the Household? Did any member of your household own land used for dwelling during Season A Did any member of your household own land used for cropping during Season A Did any member of your household own land used for grazing during Season A Did any member of your household rented land used for cropping for fixed amount of money during Season A 2017? Did any member of your household rented land used for cropping and paid rent cost by giving a part of the production during Season A 2017?	Age, Sex, Province

Source: Agricultural Household Survey – 2017.

3. Seasonal Agriculture Survey

The Seasonal Agricultural Survey (SAS) aims to collect comprehensive agricultural statistics to evaluate the performance of agricultural programs in Rwanda and generate timely evidence to inform decision making in the agricultural sector. It is conducted every year since 2013 by NISR in collaboration with MINAGRI. Data collected include land use, crop area, yield and crop production to monitor current agricultural and food supply conditions. The survey covers all the agricultural seasons: Season A which starts from September to February of the following year; Season B which starts from March to June of the same year, and Season C starts in July and ends in September of the same year.

Table 7: Summary of Seasonal Agricultural Survey

Survey	Periodicity/Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Seasonal Agricultural Survey	Every year (2013-2021)	Collect comprehensive agricultural statistics to evaluate the performance of agricultural programs in Rwanda and generate timely evidence to inform decision making in the agricultural sector	Small scale agricultural farms and large-scale farms	Land use, crop area, yield and crop production to monitor current agricultural and food supply conditions	District

Source: Seasonal Agricultural Survey – 2019.

4. The 2014/15 Rwanda Demographic and Health Survey (RDHS)

The 2014/15 Rwanda Demographic and Health Survey (RDHS) was the fifth Demographic and Health Survey (DHS) to be conducted to provide data for monitoring the population and health situation in Rwanda as part of the worldwide DHS Program. The objective of the survey was to provide estimates of maternal and child health, marriage, sexual activity, fertility, childhood and maternal mortality, family planning, breastfeeding, nutrition, HIV/AIDS and other sexually transmitted infections, and domestic violence.

The 2014-15 RDHS is a nationally representative survey of 12,699 households in which 13,497 women aged 15-49 and 6,217 men aged 15-59 were interviewed. Three types of questionnaires based on questionnaires developed by the worldwide DHS Program were adapted to reflect relevant issues in population and health in Rwanda: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. They are based and on questionnaires used during the 2010 RDHS. The adaption was done in collaboration various stakeholders from government ministries and agencies, nongovernmental organizations, and international donors.

A two-stage sample design was used to allow estimates of key indicators at the national level as well as at levels of province (comparing the five provinces), area of residence (comparing urban and rural areas) and district (comparing the 30 districts for some limited indicators). The first stage involved selecting clusters consisting of Enumeration Areas (EAs) delineated for the 2012 RPHC while the second stage involved systematic sampling of households.

The 2014/15 RDHS had land-related questions at household level and individual level. The household questionnaire had three questions on land ownership. The questions are:

- *Does any member of this household own any agricultural land (Yes vs. No)?*
- *How many acres or hectares of agricultural land do members of this household own?*
- *Does this household own any livestock, herds, other farm animals, or poultry (Yes vs. No)?*
- *How many of the following animals does this household own?*

The individual questionnaire which targeted women aged 15-49 years and men aged 15-54 years included a question on land ownership. The question was:

- *Do you own any land either alone or jointly with someone else? The response choices were: Alone only, Jointly only, Both alone and jointly and Does not own.*
- *Do you own this or any other house either alone or jointly with someone else? The response choices were: Alone only, Jointly only, Both alone and jointly and Does not own.*

The 2014/15 RDHS included questions on land ownership where the dwelling is situated and households that own agricultural land. Information on land ownership for households that are renting their dwellings, but own land elsewhere was not captured. At the same time, information on land tenure, availability of documentation to support ownership and perception of land tenure security was not collected.

Table 8 :Summary of Rwanda Demographic and Health Survey (RDHS) 2014/15

Survey	Periodicity/ Year	Main objective	Target population/ Sample	Question(s) on Land Ownership/ Access/ Use Rights.	Possible disaggregation
Rwanda Demographic and Health Survey	Every 5 years 2014-15	Provide estimates of maternal and child health, marriage, sexual activity, fertility, childhood and maternal mortality, family planning, breastfeeding, nutrition, HIV/ AIDS and other sexually transmitted infections (STIs), and domestic violence	Men (15-54 at individual level, all ages at household level) Women (15-49 at individual level, all ages at household level)	***At Household Level*** *Does any member of this household own any agricultural land (Yes vs. No)?* *How many acres or hectares of agricultural land do members of this household own?* *Does this household own any livestock, herds, other farm animals, or poultry (Yes vs. No)?* *How many of the following animals does this household own?* ***At Individual Level*** *Do you own any land either alone or jointly with someone else?* *The response choices were: Alone only, Jointly only, Both alone and jointly and Does not own.* *Do you own this or any other house either alone or jointly with someone else? The response choices were: Alone only, Jointly only, Both alone and jointly and Does not own.*	Sex, age, type of area of residence (urban vs. rural), province

Source: RDHS 2014/15.

B. Assessment of administrative land data

Findings reported in this section are based on the analysis of primary data collected from key informants using structured interview guides among officials from key ministries and agencies and a desk review of relevant documents and evidence that were collected from the Rwanda Land Management and Use Authority (RLMUA), the Ministry of Agriculture and Animal Resources (MINAGRI) and the National Institute of Statistics of Rwanda (NISR).

1. Data System Currently Existing at the RLMUA

This section describes the sources of data, data use, and frequency of data collection, quality control, key products and challenges from the data system that is currently being used at RLMUA. In 2008, the GoR initiated the Land Tenure Regularization Program (LTRP) with two main objectives: to ensure secure forms of land tenure for citizens and to ensure efficient management and administration of land. Based on the National Land Policy of 2004, the envisaged benefits of having a good land administration were: increased security of tenure through clearly and definitively established property rights; reduction of land disputes; open and flexible land market in both urban and rural areas; increased access to credit by ordinary citizens; increased investment on land and improvement of land productivity; augmented government revenue through the collection of land taxes; efficient and decentralized land administration institutions; improved land administration and management through the use of land information; and improved physical planning through the use of a cadastral system (Biraro, 2015).

As part of its activities, RLMUA collects the following land data routinely: landowner's names and identification, owner's address and their shares, spatial or geographic coordinates, valuation information, land use and planned land use, area of plots, address of the plot, lease term, status of the plot and the cadaster extract.

"RLMUA updates the national land register by collecting information related to land ownership, spatial or geographic data like coordinates, valuation information and land use plans."
- Respondent C from RLMUA noted.

"Rwanda Land Management and Use Authority routinely collects data about land ownership (owners' names and identification, owners address and their shares), rights type or ownership type, land use and planned land use, area, address of the plot, lease term and the cadaster extract. RLMUA also collects information about the status of the plot if there is a caveat or mortgage registered against it or not."
- Respondent A from RLMUA noted.

"Rwanda Land Management and Use Authority routinely collect data from districts on land ownership by gender type both spatial and non-spatial data. RLMUA has an established Land Administration Information System (LAIS) that holds all related data with all land use categories, the system helps to run a query and experts statistical data and report to the management and other stakeholders."
- Respondent D from RLMUA noted.

The respondents indicated that RLMUA frequently collects data on monthly, quarterly and or yearly basis depending on the type of data.

"Information on land ownership is updated on a daily basis in LAIS - Land Administration Information System - depending on citizen application (land transfer, adding or removing a spouse name on a land titles, donation, etc…). Spatial data are collected whenever there is a need to perform a boundary rectification, subdivision or merging, valuation information is updated once a year and this is provided by the Institute of Real Property Valuers of Rwanda; Land use plans are updated after district or secondary cities master plans are approved by the competent authorities."
- Respondent C from RLMUA noted.

"For the very first time, the national land register was fed with data during the systematic land registration, an exercise that took place from 2009 to 2013, after this period the land register is updated on request through land transactions. The national land register count 47 land transactions including land transfer, rectification, area correction, adding landowners, land splitting, land merging etc…all these transactions when performed update the land register, LAIS, receive on a daily basis requests for update when there has been a land transfer or donation or if there is a need to reshape the parcel be it by land subdivision or merging."
- Respondent A from RLMUA noted.

"Land related data are collected monthly, quarterly or yearly basis depending on type of data. RLMUA currently conducts 47 transactions and serves different purposes like land reference prices, land use changes, land use categories, land valuation and information related to land rights (disaggregated by gender)."
- Respondent D from RLMUA noted.

In regard to data collection and management, RLMUA collects data and manages it through the IREMBO[4] platform. Within the platform, the applicant has to fill the application online, get the billing number to pay the service fee after which the application is sent to the sector land manager's office. The application is later reviewed and sent to the district office where a LAIS processor will update the land register by making the necessary data entry. The processed file is reviewed by the zonal Registrar of Land Titles who then approves or rejects it. If the application is approved, the LAIS processor prints the land title otherwise, the applicant is requested to provide any missing document to complete the process.

"For data on ownership, citizens need to make application initially from IREMBO platform and then to the sector's office. The application is processed at the district level and approved at the zonal level by the Registrar of Land Titles. After approval, a land title is produced and the citizen is notified and will have to pick it from the sector office."
- Respondent c from RLMUA noted.

"As stated previously, LAIS is updated through 47 land transactions and the starting point for application is from IREMBO where the applicant has to fill the application online, get the billing number to pay the service fee and the application is sent to the sector land manager's office. From there, the application is reviewed and sent to the district office where LAIS processors will update the land register by making necessary data entry. Processed file is reviewed by the Registrar of Land Title in that particular zone, he/she can approve it or reject it. In case he/she approves the application, the LAIS processor can now print the land title out otherwise, there is a request for action where the applicant is requested to bring missing document in the application or denied the service."
- Respondent A from RLMUA noted.

"All data are collected from the point of document submission which is at sector level then data entry and data processing are done; approval of land registrar is done at zonal level automatically and once the transaction is completed the system updates. In case the application is approved, the LAIS processor can now print the land title out otherwise, there is a request for action where the applicant is requested to bring missing document(s) in the application or denied the service."
- Respondent D from RLMUA noted.

To ensure that quality data has been collected, RLMUA uses the following systems: the LAIS during data collection and the Rwanda Geodetic Network (RGN) for provision of accurate geographical coordinates. These systems are enforced as the only legal channels through which land records should be processed and captured.

"We are using Land Administration Information System and Rwanda Geodetic Network which uses the continuous reference stations (CORS)."
- Respondent C from RLMUA noted.

"Land Administration Information System (LAIS) is used during the data collection but also Rwanda Geodetic Network which is used by surveyors for accurate geographical coordinates' correction. These systems are enforced as the only channels land records should pass through Rwanda Land Management and Use Authority has made the RGN a mandatory system for land surveyors. Whenever a surveyor submits a report, RLMUA has to double-check if the data have been collected by the use of CORS otherwise the report can be rejected."
- Respondent A and D from RLMUA noted.

The data collected by RLMUA is recorded in the national land register (NLR) and kept in the registry. It is used to inform the following: revenue collection, research, collaterals for bank loans, procedures related to building permit, expropriation, production of new titles, etc.

"The data we record in the national land register (NLR) is kept in the registry and is being used for revenue collection, as collaterals for citizen when they apply for loans in banks, as basis for further decisions (building permit, expropriation, agriculture etc…)."
- Respondent C from RLMUA noted.

"The data collected are meant to be used for the production of a new land title to be issued to the right owners. However, these data are not only used in reporting but also by RLMUA public and private partners in various disciplines such as tax collection, mortgage registration, building permits provision, research etc.."
- Respondent A and D from RLMUA noted.

2. Linkage between RLMUA with other agencies

This section describes the relationship RLMUA has with other agencies like NISR, other ministries and agencies as far as data collection, management, storage, analysis and use are concerned. It also describes the nature of these relationships i.e., whether statutory, institutionalized, or ad hoc.

The findings from key informants from RLMUA revealed that RLMUA collaborates with other agencies through partnerships which are made official through signing of a memorandum of understanding (MoU).

> *"RLMUA builds relationships with other agencies through partnership which is official after signing a memorandum of understanding which shows exhaustively area of collaboration."*
> **- Respondent C from RLMUA noted.**

> *"Rwanda Land Management and Use Authority is not working on an island but has partners both in public and private sectors. RLMUA has partnership with NISR as the main agency for data collection, RLMUA shares with NISR statistical reports related to land data on a quarterly basis for them to consolidate the statistical report countrywide. RLMUA is also partnering with Rwanda Revenue Authority and exchange data on land for tax collection purpose. RLMUA is also partnering with Rwanda Development Board as a custodian of registration of business and mortgage. RLMUA helps the banks through RDB to get information on land as a basis for mortgage registration. Land is now seen by the banks as the main tangible and efficient collateral, the mortgage is registered by the Registrar General operating in RDB by using the Electronic Mortgage Registration System."*
> **- Respondent A and D from RLMUA noted.**

The relationships between RLMUA and NISR alongside other ministries can be statutory, institutionalized or ad hoc (for public institutions).

> *"These relations are mostly institutionalized but in some cases, they can be ad hoc."*
> **- Respondent A and D from RLMUA noted.**

3. Linkage between RLMUA and Sub-national Structures

This section describes the relationship RLMUA has with other administrative units and sub-national government structures regarding data collection, management, analysis and use, the roles administrative units play in data collection, management, analysis and use, routine reception of data from other areas e.g., administrative units other than Kigali, types of data, format of data and compliance with districts.

These administrative units play an important role in data collection, management, analysis and use given that different aspects of land ownership processing are addressed at different administrative levels.

> *"The sector land manager who is operating at the sector level is the one to receive land application and the first point of contact in land record collection, the applications are treated at the district level, the approval is done at the zonal or provincial office by the Registrars of Land Titles or by the Chief Registrar of Land Titles who is basing at RLMUA head office."*
> **- Respondents A and D noted.**

RLMUA receives data from other areas for example administrative units other than Kigali. The data shared to the public and other institutions is in form of text and spatial data.

> *"Yes, RLMUA receives data from other administrative units than Kigali as LAIS is decentralized. We receive them in form of textural and spatial data on a daily basis. All districts comply and there is no sanction for those who do not comply. However, RLMUA conducts frequent sensitization campaigns known as land weeks as incentive for both those administrative units and citizens to register their land and avoid informal transactions."*
> **- Respondent A and D from RLMUA noted.**

Once data is received, RLMUA sends feedback to the personnel that has provided the data.

> *"Yes, once the application is received, it is reviewed and later approved or rejected. The feedback is given back to the concerned administrative unit for the way forward which is the printout of the land title or a request for action."*
> **- Respondent A and D noted.**

The feedback is recorded in the LAIS, and the data is submitted on time.

> *"The feedback is recorded in the land administration information system, but in some cases, it can be done in a written communication."*
> **- Respondent A and D from RLMUA noted.**

However, districts sometimes delay submitting the data due to backlogs and poor staffing which necessitates RLMUA's deployment of additional staff for support with the delays and backlogs.

> *"For those who are reporting backlogs, RLMUA manage to find for them the support team."*
> **- Respondent A and D from RLMUA noted.**

In order to ensure that data quality has been checked within the agency, RLMUA has set strict standards for data collection. These standards have enabled spatial and non-spatial data to easily be shared amongst individuals and institutions.

> *"RLMUA has set standards for data collection through the forms, and it is through these form that RLMUA can ensure data provided have required quality."*
> **- Respondent A and D from RLMUA noted.**

RLMUA has also established structures to make sure data collection is efficiently conducted at all levels.

> *"Apart from the national level, RLMUA has established structures to make sure data collection is efficiently done from the sector office, district and zonal office."*
> **- Respondent A from RLMUA noted.**

> *"RLMUA has institutional framework from its headquarters, zonal offices, districts and sector offices if the data is required at any level RLMUA shares the requested data through different channels like email or any means of communication."*
> **- Respondent D from RLMUA noted.**

RLMUA consistently receives data requests from districts either directly through a functioning land dashboard or through emails and letters.

> *"Yes, mostly statistics on land owned by district authorities, maps, land transactions, etc…Those requests are handled by RLMUA, and a feedback is sent back to the requesting authority either by email or letters. RLMUA has also built a Land Dashboard that can be used by these authorities and researchers to find out most requested data."*
> **- Respondent A and D from RLMUA noted.**

4. Linkage between NISR with other Agencies/Ministries

This section describes the linkage between NISR and other agencies/ ministries in the National Statistical System (NSS) in the collection, analysis, coordination, management, and use of data and, the role of the collaborating agencies/ministries in the data initiatives conducted by NISR and the types of data indicators on land tenure security they generate or utilize, the frequency of data request or remittance, level of compliance, routine and other data sources that can help generate information/indicators about land tenure security. Moreover, it elaborates the systems set up for data collection, the role NISR plays in ensuring quality control, the critical priority areas for interventions seeking to improve capacity at agencies/ministries to generate and use data and the capacity of NISR to support ministries/agencies with relevant data for decision-making especially on land-related issues.

From the interview with key informants in NISR, NISR has a strong collaboration with other agencies/ministries in the National Statistical System (NSS) and often involves all stakeholders in its data initiatives.

> *"NISR involves all stakeholders on specific indicators to check the feasibility of their measurement and metadata development. The stakeholders are always informed about the surveys that will be carried out. From the point NISR collects both primary and secondary data from different institutions and all stakeholders are involved in data analysis and provide inputs before the report is approved. However, regarding administrative data, NISR gathers data from related institutions depending on the scope of the research."*
> **- Respondent G from NISR noted.**

> *"Globally NISR discusses with stakeholders about indicators to measure and check together the feasibility/measurement of the each and every indicator. From this step, they plan together the study. NISR proceed from data collection to report writing but can have an outline from main clients. But with administrative data, NISR gather data from related institutions."*
> **- Respondent H from NISR noted.**

> *"MINAGRI submits to NISR key indicators that requires surveys and NISR incorporates agriculture indicators before the survey is conducted. MINAGRI collects data from its affiliated agencies for data collection, and shares with NISR statistical reports related to land data on a quarterly basis for them to consolidate the statistical report countrywide."*
> **- Respondent I from MINAGRI noted.**

It was observed that MINAGRI does not keep land related information, all agricultural land information is currently recorded under RLMUA. However, the Ministry expressed their need to create its national database that will contain all agricultural land information.

Agencies/ministries are responsible for sharing of available administrative data in the routine data collection cycle that NISR manages.

> *"The role of agencies is to share the available administrative data, NISR keeps all types of data /information from all stakeholders or responds for further studies. Related agencies/ministries mobilize related personnel during different steps of the study (survey planning, data collection, cleaning, analysis and report writing) if needed."*
> **- Respondent G from NSIR noted.**

> *Of course, main clients must mobilize funds for the study. Related agencies/ministries mobilize related personnel during different steps of the study (survey planning, data collection, cleaning, analysis and report writing) if needed,'*
> **- Respondent H from NISR noted.**

> *"However, so far there are no systems used to ensure the quality of the data collected, reporting is done through internal procedures and reporting."*
> **- Respondent I from MINAGRI noted.**

Despite the lack of a clear framework on data exchange since there is no clear system / format for reporting, agencies do routinely submit data to NISR.

> *"Before NISR conducts any survey, all responsible institutions submit data to NISR. There is no clear framework on data exchange since there is no clear system / format for reporting. So far there is no sanction applied for non-compliance as long as other institutions don't have a specific mandate to supply data to NISR."*
> **- Respondent G from NISR noted.**

"There aren't any common guidelines for data exchange in different institutions. This depending to the need of clients and reports. There isn't any sanction applied for non-compliance as long as other institutions don't have a specific mandate to supply data to NISR."
- Respondent H from NISR noted.

These agencies/ministries routinely demand/request for data from NISR.

"Report made contains main indicators, but microdata may be available on NISR's website. The demand met depends on funds available. NISR is available to conduct a study if a budget and field materials are availed."
- Respondent G and H from NISR noted.

For agencies/ministries that have set up systems for data collection, NISR provides approval for data collection to any agency/ institution which wants to conduct a study so as to ensure quality control of data.

"NISR provide visa for data collection to any agency/institution which wants to conduct a study. A visa is approved after verification of many parameters such as methodology used, questionnaire, instruction manual, sample size and request also to revise a report made before publication."
- Respondent G and H from NISR noted.

The critical priority areas for interventions seeking to improve capacity at agencies/ministries to generate and use data include: continuous capacity building in data analysis, and setting standards in data reporting.

"Capacity building is required in data analysis and reporting. There is a need to have a uniform format for data reporting."
- Respondent G from NISR noted.

"Mainly on materials availability. Personnel capacity building."
- Respondent H from NISR noted.

However, NISR has the capacity to support ministries/agencies with relevant data for decision-making especially as it relates to land issues.

"NISR has enough capacity to support other institutions only for administrative data that does not require spatial analysis."
- Respondent G and H from NISR noted.

5. Existing and Planned Data Collection in NISR

This section examines: current sources of data that are relevant for national level decision making, mechanisms for sharing these data, data systems at NISR that can produce reliable indicators at national and sub-national levels, data sources within NISR that can generate information/indicators on land, surveys planned in the next months that may be relevant for collecting land tenure security data, the geographical scope of the surveys, the potential of the surveys to generate disaggregated estimates by sex and type of tenure. Moreover, the section interrogates the priority areas/skills needed to enable generation of relevant land-related data for decision-making particularly on land tenure security, challenges faced in providing data for decision-making (accessing, cost, formats), and some of the key areas that should be prioritized in order to ensure regular access to land-related data for decision-making.

NISR collects primary data from the field and secondary data from government agencies.

"NISR collects only primary data and secondary data,"
- Respondent G and H from NISR noted.

When sharing these data, NISR makes formal requests from institutions.

"NISR makes a formal request to all institutions in charge."
- Respondent G and H from NISR noted.

Other than the census, EICV (Enquête Intégrée sur les Conditions de Vie or Integrated Household Living Conditions Survey – IHLCV in English) and SAS (Seasonal Agriculture Survey) are the other data systems at NISR that can produce reliable indicators at national and sub-national levels. Specifically, these 2 surveys collect relevant information on land issues that can help compute indicators on land.

> *"Household survey (EICV) and seasonal agriculture survey (SAS) are also sources of those data at NISR."*
> **- Respondent G from NISR noted.**

The findings revealed that land-related statistics are collected quarterly by NISR from different agencies for compilation of the statistical yearbook. Data collection for compilation of the 2021 statistical yearbook is planned in the next months and is relevant for computing SDG indicators 1.4.2 and 5.a.1.

> *"The survey will be conducted in 2021-2022 fiscal year, and it will cover the whole country."*
> **- Respondent G and H from NISR noted.**

NISR always yields disaggregated estimates by sex, type of tenure, etc.

> *"Yes, data are always disaggregated by gender, sex and this data are report by the Land Authority on regular basis."*
> **- Respondent G from NISR noted.**

> *"MINAGRI in collaboration with NISR collects data through seasonal agriculture survey conducted twice in a year which informs the status on use of arable/agriculture land. The data is collected on a quarterly basis."*
> **- Respondent I from MINAGRI noted.**

To enhance collection of relevant data for decision-making on land specifically on land tenure security, availability of adapted and sufficient field material and capacity building training are the priority areas/skills that need strengthening in NISR.

> *"Availability of materials: adapted and enough field materials, licenses of some software used. Capacity building trainings."*
> **- Respondent H from NISR noted.**

Respondent H from NISR noted. The challenges faced in providing data for decision-making are lack of data sharing techniques and budget constraints). However, the key areas that should be prioritized in order to ensure regular access to data for decision-making as it relates to land are: budget availability and development of an online dashboard that will facility data sharing and use.

> *"Field budget availability. Developing an online software that will facilitate in monitoring and reporting."*
> **- Respondent G and H from NISR noted.**

4. ANALYSIS OF EXISTING QUANTITATIVE DATA

This section presents the results of analytical work done leveraging data from administrative sources and past surveys conducted in Rwanda. The data analyzed consisted of secondary datasets that were collated from RLMUA and NISR. The RLMUA data was collected at national level and it includes the following: parcels owned per province, number of parcels per owner type, number of transactions per owners category, number of parcels per size, number of men and women owning parcels, land use category by size, parcels per land use category, and parcels per tenure type. Survey data presented are from the RDHS, EICVs and AHS.

A. Key findings from survey data

SDG Indicator 1.4.2 is defined as the proportion of total adult population with secure tenure rights to land, (a) with legally recognized documentation, and (b) who perceive their rights to land as secure, by sex and type of tenure. In practice, the indicator is computed as two sub-indicators: One that captures the proportion of the adult population with legally documented tenure rights to land and the other that measures the proportion of the adult population who perceive their land tenure rights as secure, regardless of whether these rights are legally documented.

From the 2014/15 RDHS dataset, questions on land ownership were asked at household and individual level. Questions asked at household level were:

- Does your household own the land on which the structure (house, flat, shack) sits? Does any member of this household own any agricultural land?

The question that was asked at individual level is:

- Do you own any land either alone or jointly with someone else (Alone only, Jointly only, Both alone and jointly, Does not know)?
- Do you own this or any other house either alone or jointly with someone else ((Alone only, Jointly only, Both alone and jointly, Does not know)?

The question targeted women aged 15-49 years and men aged 15-54 years. The 2014/15 RDHS did not include questions on perception of land tenure security and proof of land ownership by legally recognized documents for those who answered affirmative to owning land. Also, there is no other available data from previous surveys/censuses that collected data on the perception of land tenure security.

This means that only the proportion of the adult population (aged 18-49 for women and 18-54 for men) who own land irrespective of the availability of legal documents to support ownership can be calculated from the 2014/15 RDHS data. Those aged 15-17 years were dropped in the analysis because they do not fall in the adult category (of 18 years and above) which is the target population of SDG indicator 1.4.2.

In the 2014/15 RDHS, the question on land ownership for the household questionnaire did not target/cover households that owned land elsewhere apart from where they lived. As a result, land ownership information for households that live in rented dwellings and own land other than agricultural land elsewhere was not captured. Hence the data on land ownership does not help to assess directly SDG indicator 1.4.2.

Table 8 shows land ownership among women aged 18-49 by their area of residence and age group. According to the data, 52.2. per cent of the adult female aged 18-49 years reported to own land in the country either alone or jointly. Women living in rural areas (57.7 per cent) are more likely to own land compared to their counterparts in urban areas (29.3 per cent).

The data reveals that land ownership increases with the increase in the age, with the proportion of women owning land going from 33.2 per cent among those aged 18-29 to 77.2 per cent among those aged 40-49 (Table 8).

Table 9: Land Ownership among Women (18-49) by Area of Residence and Age

	% Who own land	
Area of Residence	**%**	**Number**
Urban	29.3	2,281
Rural	57.7	9,470
Age		
18-29	33.2	5,782
30-39	66.7	3,723
40-49	77.2	2,246
TOTAL	**52.2**	**11,751**

Source: 2014/15 Rwanda Demographic and Health Survey.

Overall, 56.7 per cent of the adult males aged 18-54 years owned land alone or jointly in the country as shown in Table 9. Men are more likely to own land in rural areas, with the proportion of men aged 18-54 years living in rural areas that self-reported to own land being 62.8 per cent while that of those in urban areas was 35.0 per cent. Land ownership increases with age with the proportion more than doubling from age 18-29 years which was 34.3 per cent to 86.3 per cent among those aged 50-54.

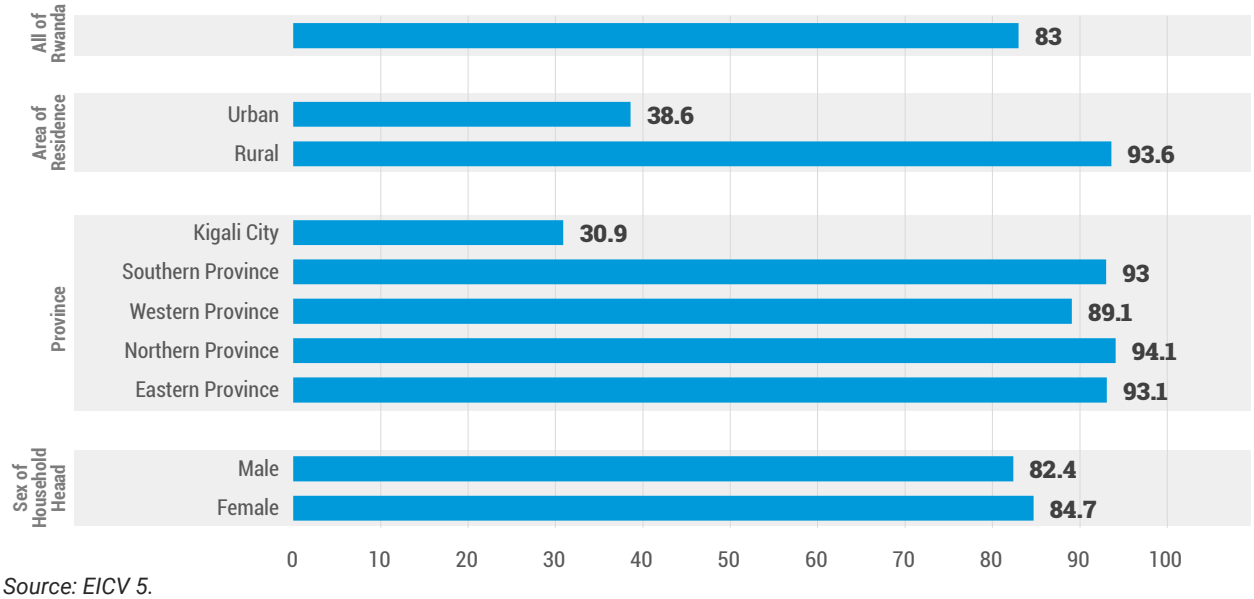
Table 10: Land Ownership among Men (18-54) by Area of Residence and Age

	% Who own land	
Area of Residence	**%**	**Number**
Urban	35.0	1,108
Rural	62.8	4,011
Age		
18-29	34.3	2,412
30-39	72.7	1,497
40-49	79.1	859
50-54	86.3	351
TOTAL	**56.7**	**5,119**

Source: 2014/15 Rwanda Demographic and Health Survey.

Agriculture has always been among the surveyed areas in the EICV surveys. It therefore easy but also important to analyze these EICV reports by comparing the agricultural data from all surveys. Figure1 shows that 83% of households were cultivating at least one parcel of land at the moment of the EICV5 in 2016/17. Households that live in urban areas on one hand and those that live in Kigali city are much less likely to cultivate a parcel of land.

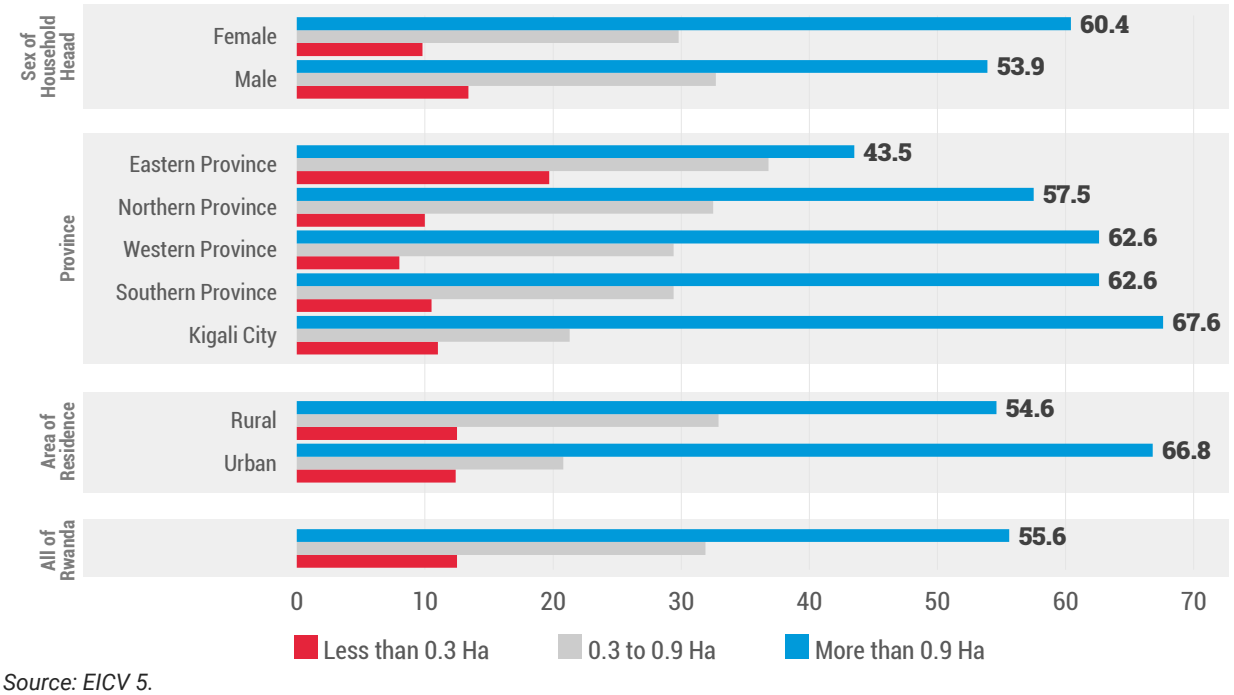
Figure 1: Percentage of households cultivating at least one parcel land by province, area of residence and sex of the head of the household.



Source: EICV 5.

Data in Figure 2 suggest that most of households in Rwanda cultivate very small pieces of land. Overall, half (56%) of households cultivated only less than 0.3 ha in 2016/17. The percentage of households who cultivate less than 0.3 ha is highest in Kigali city (67%) and lowest in Eastern province (44%). This proportion is higher in urban areas (67% vs. 55% in rural areas).

Figure 2: Size of total land cultivated by Household according to province, area of residence and sex of head of household



Source: EICV 5.

Table 11 shows the mode of acquisition of parcels being cultivated at the moment of the survey. Overall, majority of landholders in Rwanda had acquired land through ascending partition – inheritance from parents to children (63%); 46% purchased their parcel of land while 24% received it for free and 22% leased it. Inheritance seems to be more prevalent in rural areas, and lowest in Kigali city (40%). Men are more likely to purchase or lease their parcel of land.

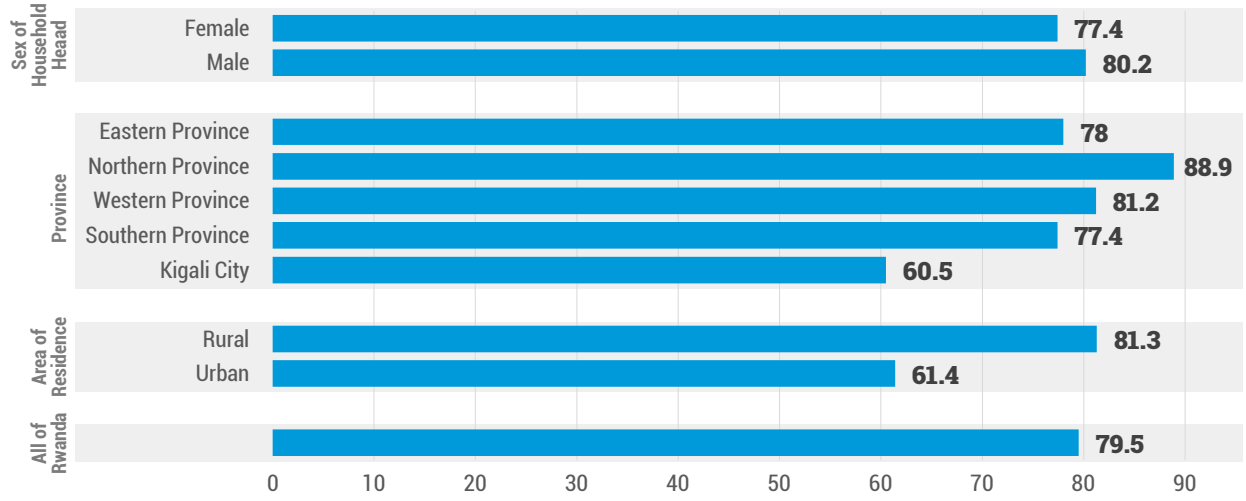
Table 11 : Percentage of Households cultivating any parcel by mode of acquisition, province and sex of Household Head

EICV5	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	62.9	46.4	13.6	24.2	0.5	14.9	21.7	2,221
Urban/Rural								
Urban	33.4	42.1	10.8	29.6	0.6	8.9	18.4	185
Rural	65.6	46.8	13.9	23.7	0.5	15.5	22	2036
Province								
Kigali City	39.5	33.8	7.4	42.4	1.1	10.1	13	114
Southern	72.5	39.7	9.6	31.4	0.5	12.4	27.9	578
Western	70.8	46	11.8	20	0.1	17.3	21.8	508
Northern	78.5	51.4	14.5	19.7	0.3	9.4	18.8	396
Eastern	42.1	52.2	19.4	20.5	0.8	19.7	19.3	626
Sex of head of household								
Male	62.4	50.3	12.6	24.2	0.5	16.3	24.3	1652
Female	64.6	35.2	16.7	24.1	0.6	10.8	14.2	569

Source: EICV5.

The right to sell or use land as a guarantee or collateral to get a loan can be seen as a proxy for security of ownership land rights. Figure 3 shows that 8 out 10 households have the ownership right to sell or use the land they were cultivating as a guarantee for a loan, with households in urban areas being less likely than their rural counterparts to enjoy this right. Also, when it comes to difference by province, the lowest percentage is observed in Kigali city (61%) while the Northern Province has the highest percentage (89%).

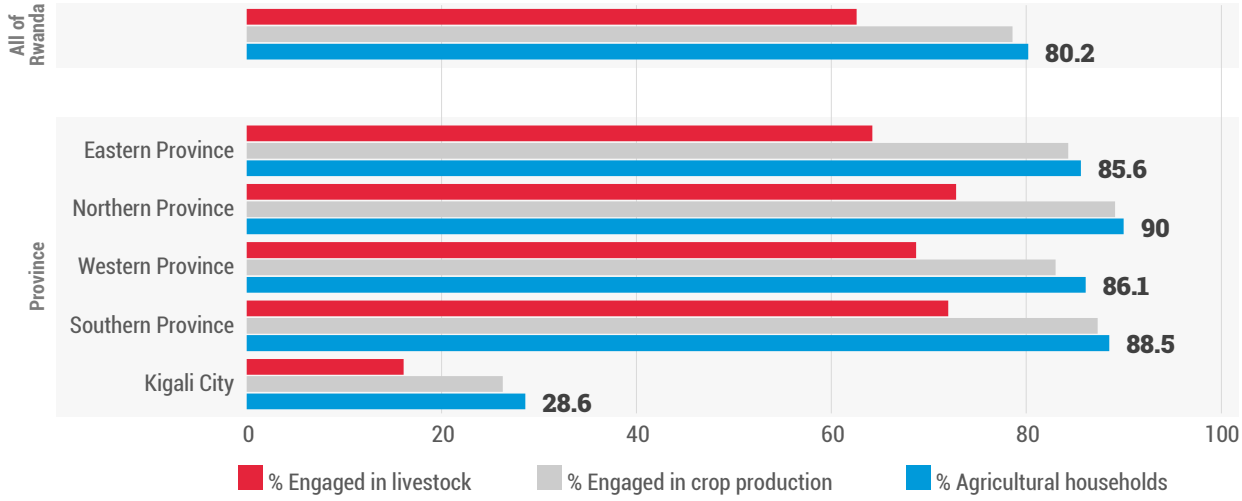
Figure 3: Percentage of HHs that have the right to sell or use any of their parcels as a guarantee for a loan by area of residence and province.



Source: EICV5.

Overall, according to the 2017 Agricultural Household Survey, about 80% of households were involved in agricultural activities in 2017 with 79% engaged in crop production and 63% engaged in livestock. Less than a third of households (29%) are engaged in agricultural activities in Kigali while close to 90% were engaged in this type of activity on all the other provinces (Figure 4).

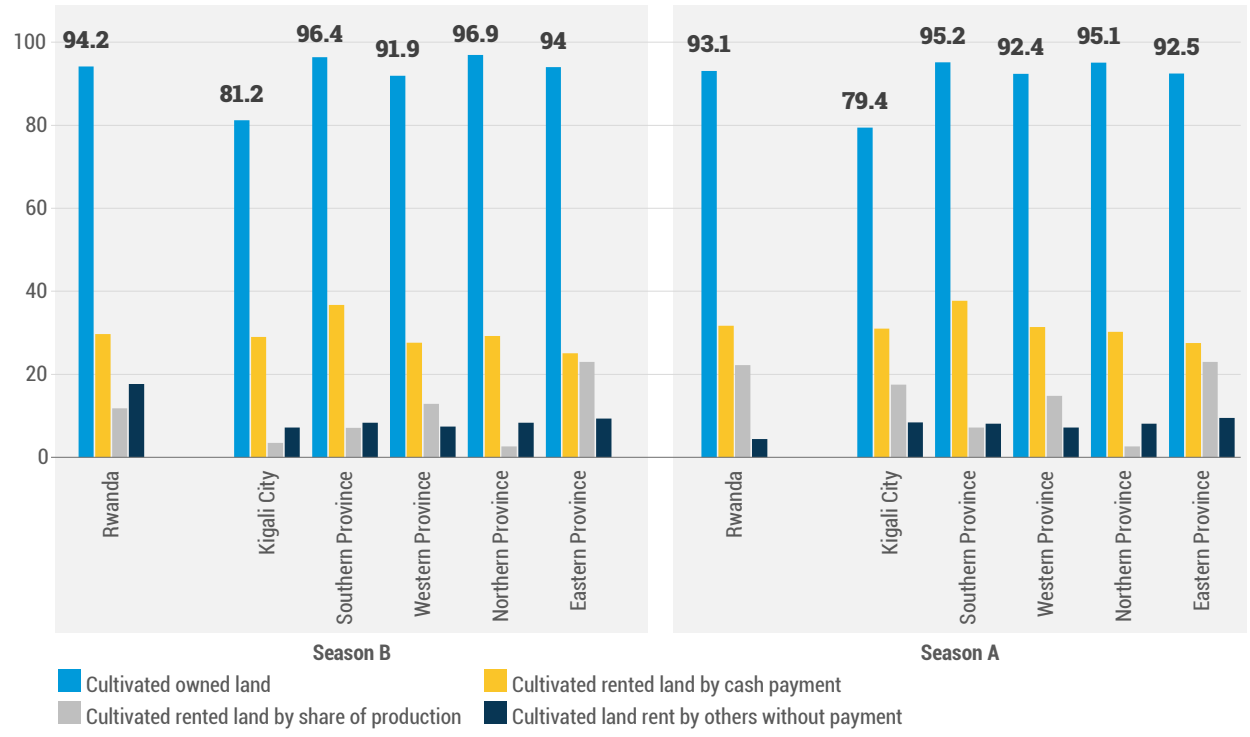
Figure 4: Percentage of households engaged in agricultural activities, by type or activity, 2017



Source: AHS 2017.

Evidence from the 2017 Agricultural Household Survey shows that most agricultural households cultivated their own land in the whole of Rwanda (93.1 per cent in Season A and 94.2 per cent in Season B). The second mode of operating agricultural land is through cash payment (31.7 percent in Season A and 29.7 percent in Season B). Season A is one of the main agricultural seasons that starts from September to February of the following year and Season B starts from March to June. The same pattern is observed in all the provinces.

Figure 5: Percentage of agricultural households by mode of operating agricultural land by agricultural season and province



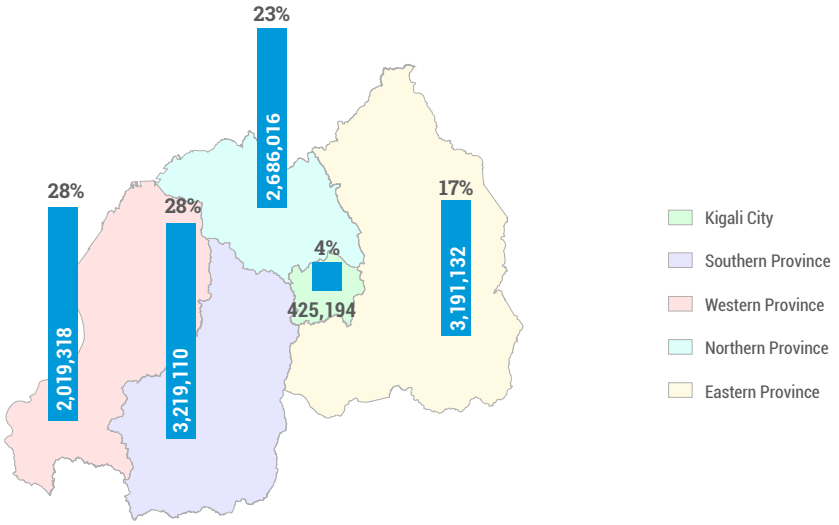
Source: AHS 2017.

B. Key findings from administrative data

1. Ownership of Parcels

Figure 6 below depicts the number of parcels owned per province. As earlier stated in the introduction, Rwanda has a well-functioning cadaster that is updated on daily basis. The parcel recording in Rwanda's land administration is based on government administrative boundaries to determine their locations. Rwanda is divided into five provinces that is Eastern Province, Western Province, Northern Province, Southern Province and the City of Kigali were registered/owned in Rwanda. The findings revealed that as of 22nd February 2021, a total of approximately 11,540,770 parcels are owned within the country as a result of the Land Tenure Regularization (LTR) programme in Rwanda. This program aimed at issuance of registered titles to every landholder within the country. Out of these, 3,219,110 parcels (28%) are owned in the Southern province, 3,191,132 parcels (28%) are owned in the Western province, 2,686,016 parcels (23%) are owned in the Northern province, 2,019,318 parcels (17%) are owned in the Eastern province and only 425,194 parcels (4%) are owned in Kigali City.

Figure 6: Number of Parcels owned per province



Source: RLMUA as of 22nd/February/2021

Between 2007 and 2009, a feasible approach that was developed and tested to LTR, which led to the Strategic Road Map for Land Tenure Reform. Titles were then issued to every landholder through a one-off, low-cost community-based process of LTR, securing land assets and facilitating investment to 90% of predominantly poor households that own some farming land. The process was fundamental to unlocking future fair and sustainable economic growth in Rwanda (Hoza, 2018).

Table 12 below depicts the distribution of parcels per category owner. It was observed that as of February 22nd, 2021; 11,494,640 (99.6%) are owned by people with national identity cards, meaning that they are nationals, 43,636 (0.38%) are owned by non-natural persons which include government, private business registered companies, Cooperatives and social associations like Churches, while 2,494 (0.02%) parcels are owned by foreigners. As per article 23 of the law governing land in Rwanda, foreigners shall be entitled to an emphyteutic lease on land, whether acquired from private persons or the State. The lease period cannot exceed forty-nine (49) years and shall be based on a land use plan and business plan approved by competent authorities. The lease period shall be renewable. Thus, there are different parcels owned by foreigners in Rwanda as depicted in the table below.

Table 12: Distribution of parcels by category of owner

Ownership category	Number of Parcels	Percentage %
National ID	11,494,640	99.6
Non-natural persons	43,636	0.38
Foreigners	2,494	0.02
Total Parcels	11,540,770	100.0

Source: RLMUA as of 22nd/February/2021.

In June 2012, Rwanda's national land registry completed a nearly four-year project that mapped the country's 11.4 million parcels and issued for 7.2 million land titles to the landholders. It was an unprecedented accomplishment considering the lack of land titling had weighed on the economy and led to escalating conflict over access to land. The mapping program promised to reduce tensions by establishing an orderly system for registering and transferring land ownership. However, the system could work only if Rwandans registered every transaction, and in 2012, about one of every eight land owners hadn't even bothered to pick up their official titles (Hoza, 2018).

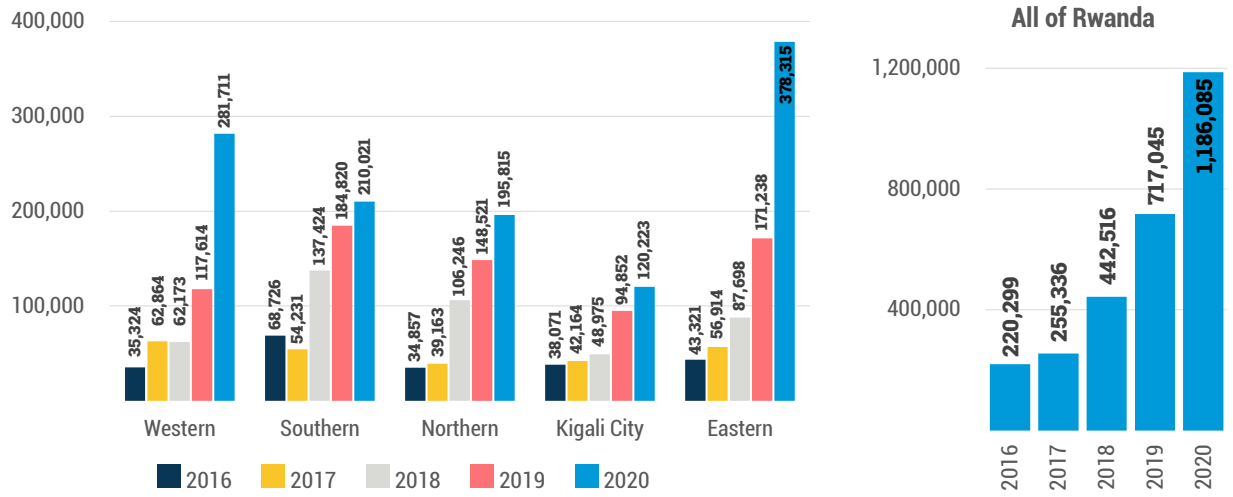
2. Land Transactions

The process of registering a transfer of property in Rwanda requires submission of required documents to the sector land manager (SLM) at sector level which act as a point of submission at local level or District One Stop Center), transmission of the information to the registrar of land titles at zonal level who approves the transaction, and issuance of new documents. Documents, which need to be submitted by the buyer(s) in person, together with the seller (including co-owners) and properly witnessed, include the following: proof of identity and land ownership, marriage certificate and the transaction agreement together with supporting documents that may include an extract from the cadastral plan for sub-division, tax clearance, stamp duty and registration fee. Upon verification of authenticity and completeness of the submitted documents, the District One Stop center enters relevant data and scanned documents into the computerized LAIS. The registration request is then automatically forwarded to one of the five zonal offices for approval by the Registrar of land title and printing of the certificate if satisfied with the documentation. One copy of the certificate is sealed, signed and stored in the regional office while another one is transferred to the District One Stop Center office for issuance to the applicant who can then sign the certificate in the presence of the notary. Throughout this process, the applicant is notified of the progress via SMS at different stages.

The RLMUA had to make it easier to register transactions and build public awareness about the importance of keeping the land database up-to date. A registry team launched a nationwide campaign to raise awareness about the importance of titling and of reporting all land transactions. The government simplified procedures and registration forms. To provide greater access in rural areas where titling was nearly unknown, the registry decentralized services and introduced a new software platform to speed transactions. By mid of 2017, more than 7.2 million people had collected their titles, and registrations of sales, purchases, and other kinds of transfers had begun to improve. Still, the number of transactions reported in 2016 fell short of the registry's target, indicating that further work laid ahead (Schreiber, 2017).

Figure 7 shows land transactions per province through buying, selling, and exchange. This data spans the period of five years from 2016 to 2020. This data provides insight into the level of formal transactions as well as the changes over time. There is an increase in the number of land transactions from 2016 to 2020. Overall, the number of transactions grew almost five times between 2016 and 2020, going from 220,299 in 2016 to 1,186,085 in 2020. It is worth noting that in 2019, the RLMUA announced a deadline for the registration of all non-registered land and all parcels without full information; with landowners who fail to observe the deadline seeing their land being registered in the name of the government of Rwanda. This bold step forced many people to undertake formal transfers and register their transactions. We also note that this increase in the number of transactions reported by LAIS (formal transfers) corresponds with a dramatic decrease in the number of ongoing informal transfers from 70% in 2017[5] to 15% in 2019 (RLMUA, 2021).

Figure 7: Land transactions per province



Source: RLMUA, as of 22nd February 2021.

3. Number and Size of Parcels

Table 13 below depicts the number of parcels by size. As of February 2021, it was observed that the vast majority of parcels are between 0 and 1 Ha (11,271,931 parcels i.e. 98%). Only 0.1% have a size of more than 5 ha.

Table 13: Number of Parcels per Size.

Parcel Size (Hectares)	Parcel(s)	Percentage
0 - 1 Ha	11,271,931	97.7%
1 - 2 Ha	182,820	1.6%
2 - 5 Ha	63,561	0.6%
>5 Ha	13,450	0.1%
Total	11,540,770	100.0%

Source: RLMUA as of 22nd/February/2021.

Table 14 below profiles the number of parcels owned at country level. As of February 2021, it was observed that almost half (49%) of parcels are jointly owned by both men and women (5,625,560); 11% of parcels (1,271,407) are owned by men alone, and 19% of parcels (2, 159, 3436) are owned by women alone. About 1 in 5 parcels (22%) are under different types of ownership (2,484,460 parcels). These are parcels that are commonly owned by more than two individuals, parcels under government ownership, and private non-natural persons like associations and cooperatives.

Table 14:Distribution of parcels according to their ownership

Type of Ownership	Total Parcels	Percentage
Parcels owned by women alone	2,159,343	19%
Parcels owned by men alone	1,271,407	11%
Parcels owned jointly by men and women	5,625,560	49%
Other types of ownership (More than two owners)	2,484,460	22%
Total	11,540,770	100%

Source: RLMUA as of 22nd/February/2021.

In Rwanda, the law regulating matrimonial regime gives married couples equal rights and share on property and the land law prohibits any form of sex discrimination regarding allocation, acquisition and ownership of land. It is therefore not surprising that majority of land in Rwanda is owned under joint ownership especially between wives and their husbands or brother and sisters on inherited land. It is widely known that women with land rights contribute a greater proportion of income to the household than men, allocating more money for the children's education and sufficient food for the family (Abbott, 2015).

Since 2008, the Government of Rwanda has been implementing a land tenure regularization program, where land rights for both men and women were adjudicated and recorded. Different scholars point out that there is still persistence of traditional beliefs where some members of the community do not recognize or respect women's rights to land and this may perpetrate land conflicts and vulnerability for women to defend their land rights (Mugisha, 2016).

Table 15 below profiles the numbers of parcels owned per province. As of 22nd February 2021, it was observed that in the Eastern province, about a third of parcels are owned by only women (380,170 i.e., 31.9%), and 30.8% of parcels (367,602) are owned by moral persons. In Kigali city, most of parcels are jointly owned by both men and women (82.7% i.e. 1,020,438). In Northern province, more than half of parcels are jointly owned by men and women (57.4% i.e., 1,622,182) while about (17.6%) parcels are owned by only women (496,338) and 17.2% are owned by moral persons (487,264 parcels). In Southern province, 1,231,767 (37.6%) parcels are jointly owned by both men and women, and 982,534 (30%) parcels are owned by moral persons. In Western province, about 1,466,365 parcels (48.7%) are jointly owned by both men and women; 642,651 (21.3%) parcels are owned by only women, and 578,391 (19.2%) parcels are owned by moral persons.

Table 15: Profile of the number of parcels owned per province

Province	Men		Women		Both men and women (Co-owned)		Others		Total %
	Total parcels	% Owned	Total parcels	% Owned	Total parcels	% Owned	Total parcels	% Owned	
Eastern	239,249	20.1	380,170	31.9	204,996	17.2	367,602	30.8	100.0
Kigali City	65,284	5.3	78,895	6.4	1,020,438	82.7	68,669	5.6	100.0
Northern	221,555	7.8	496,338	17.6	1,622,182	57.4	487,264	17.2	100.0
Southern	501,999	15.3	561,289	17.1	1,231,767	37.6	982,534	30.0	100.0
Western	323,132	10.7	642,651	21.3	1,466,365	48.7	578,391	19.2	100.0
Sub-Total	**1,351,219**	11.7	**2,159,343**	18.7	**5,545,748**	48.1	**2,484,460**	21.5	100.0
Total	**11,540,770**								

Source: RLMUA as of 22nd/February/2021.

4. Land use category by size

Table 16 below depicts the land use category by size. As of February, it was observed that majority of parcels (68.5%) was used for agricultural purposes in Rwanda, covering about 1,470,582 ha, 13.8% of parcels were used for forestry (covering 222,060.55 ha), 12.5% were used for residential purposes (covering 193,103 ha) while the rest of parcels were used for other purposes (administrative, social, commercial, industrial, tourism and fishing).

Table 16: Land use category by size

Land Use Category	Number of parcels	% of parcels	Size in HA
Fishing	182	0.001	134
Tourism	2,660	0.02	2,656
Industrial	13,996	0.12	3,524
Commercial	20,871	0.18	31,535
Social	30,200	0.3	19,096
Administration	534,576	4.6	26,762
Residential	1,446,202	12.5	193,103
Forestry	1,587,610	13.8	222,037
Agriculture	7,904,473	68.5	1,470,582
Total	**11,540,770**	**100.0**	**1,969,429**

Source: RLMUA as of 22nd/February/2021

The Government of Rwanda has put in place policies and legislation governing land use, to ensure rational utilization and protection of land and environment in general, for sustainable development. The government has taken the liberty to sensitize the population to create awareness and acceptance of the laws and modalities of their implementation and enforcement. Soil Protection is the first priority in 80% of Rwanda's districts. Sustainable management of natural resources, including soil and water conservation, is one of the 14 Subprograms (under 4 Programmes) of the Strategic plan for Agricultural Transformation (PSTA), currently under implementation by MINAGRI (MINAGRI, 2007).

5. Type of tenure of parcels

Rwandan land law provides two tenure types through which land can be held. That is Conditional Freehold Title or Freehold Title and a Certificate of Registration of Emphyteutic Lease. However, there is also condominium rights provided for by law No. 15/2010 of 07/05/2010 creating and organizing condominiums and setting up procedures for registration. Condominium is a type of joint ownership of real estate in which portions of the property are commonly owned and other portions are individually owned. This type of land tenure is applied only in urban or developed areas planned for investment. The required document for registering a condominium are Proof of legal personality for condominium association, Building plans indicating the size of each condominium unit, Occupation permit, Land documents for the parcel and notarized Memorandum of association indicating shares of every shareholder, in case among persons to be registered there are foreigners and Rwandans co-owning land or a business company, an organization or association with legal personality in which foreigners are shareholders.

According to the Rwandan land law, Freehold is a type of land tenure granting full and indefinite rights over the land. Freehold is granted to only nationals on a land of five hectares and to foreigners whose land property are located in the designated Special Economic Zone, on reciprocal basis and on co-ownership of land (if at least 51 percent of its stake is owned by Rwandan citizens).

Emphyteutic lease is a long-term contract between the State and a person to exploit land in return for a periodic agreed fee payment. An emphyteutic lease is a type of real estate contract specifying that the leasee must improve the property through construction.

Rwanda adopted an emphyteutic leasing system in its land law by offering 99-year leases for agricultural land to its citizens, 20-year leases for residential land, 30 years for commercial and 49 years for foreigners. Although a tenant does hold rights to real property, a leasehold estate is typically considered personal property. According to Rwandan land law, all landholders under leasehold tenure are given emphyteutic lease; this is a long-term contract between the State and a person to exploit land in return for a periodic agreed fee payment.

Table 17 below depicts the parcels per tenure type. As of February 2021, it was observed that; majority of land in Rwanda is under leasehold thus, implying that many people possess emphyteutic lease contract.

Table 17: Number of parcels by ownership, tenure type and annotation types

Distribution of parcels by ownership		
Types of Ownership	Total Parcels	Percentage %
Total parcels registered	11,540,770	100.0
Privately owned parcels	10,461,320	90.6
State owned land including wetlands	1,079,450	9.4
Distribution of parcels by tenure types		
Parcels under leasehold	10,893,304	94.4
Parcels under freehold (privately owned)	647,407	5.6
Parcels registered as condominium	59	0.0
Distribution of parcels by types of annotation		
Mortgaged parcels	47,085	

Source: RLMUA as of 22nd/February/2021.

In addition, the law states that freehold is only reserved rights for Rwandans, but foreigners may be granted freehold title under certain conditions. These include when the foreigner acquires the land through an international convention that Rwanda is signatory to or under the condition of reciprocity deriving from bilateral agreements or when the foreigner acquires land in Special Economic Zones and can be treated as a Rwandan national. For a group of individuals co-owning land, a business company, an organisation or association with legal personality, freehold title can only be granted if at least 51% of its stake is owned by Rwandan citizens, except for land designated as Special Economic Zones.

The law states that freehold is issued on developed commercial, residential, social and industrial land. It is not possible for agricultural land to be upgraded from leasehold to freehold.

Table 18 shows the distribution of agricultural household population by sex and province. Overall, 52.8 percent of agricultural households were headed by women while 47.2 were male headed in 2016/2017. The percentage of female-headed agricultural households is lowest in Kigali city (51.8 percent) and highest in in Northern Province (53.8 percent).

Table 18: Distribution of agricultural household population by sex of household head and province

Provinces	**Agricultural Household populations (000s)**	**Sex**		
		Male	**Female**	**Total**
Kigali City	436	48.2	51.8	100.0
Southern Province	2449	47	53	100.0
Western Province	2194	47.2	52.8	100.0
Northern Province	1837	46.2	53.8	100.0
Eastern Province	2767	47.8	52.2	100.0
Rwanda	9682	47.2	52.8	100.0

Source: Agricultural Household survey 2017.

The table 19 below shows the percentage of households owning agriculture land and average farm size operated per province. Northern Province has the most households with agricultural land, with 98%, 96% and 91% for the 3 EICV surveys. This is due to the fact that the province has the most fragmented parcels of land and many rural districts compared to other provinces. At national level, the percentage of households owning agriculture land declined by 13.6% and the average area per plot of cultivated land decreased by 0.07 Ha over the period 2011-2017.

Kigali has the lowest proportion of households with agriculture land (37% in 2017). This is because Kigali city is an urban area and therefore it has limited agricultural land where most of the land within Kigali city is used for commercial, social and residential use. Average farm size declined in most of provinces between 2011 and 2017 (except Northern Province). This could be due to generational land subdivision or selling of part of a plot (densification). For instance, in Kigali city, the average size of owned agricultural land decreased by 16.6% between 2010 and 2013, and by a further 22% between 2013 and 2017.

Table 19: Percentage of households owning agricultural land and size operated on per province as per EICV reports

Households with agricultural land (%)				**Average farm size (Ha)**		
	EICV3 2011	**EICV4 2014**	**EICV5 2017**	**EICV3 2011**	**EICV4 2014**	**EICV5 2017**
All Rwanda	92.9	88.9	79.3	0.55	0.53	0.48
Kigali City	67.9	59.3	37.0	0.33	0.27	0.28
Southern	96.0	94.1	87.9	0.54	0.51	0.58
Western	95.3	89.7	84.1	0.47	0.40	0.35
Northern	97.7	96.2	91.1	0.51	0.51	0.51
Eastern	94.2	92.5	85.7	0.76	0.78	0.62

Source EICV 3, EICV 4 and EICV 5.

5. CONCLUSION AND RECOMMENDATIONS

A. Conclusion

The project *Enhancing National Statistical Offices' Capacity to Collect Land Tenure Security Data and Report on SDG Indicator 1.4.2 and 5.1a in Rwanda* provides an in-depth analysis of the availability of relevant data for the monitoring and reporting of SDG land indicators in Rwanda. It provides an opportunity not only to interrogate the available secondary data at national level to report on the two indicators but also to strengthen the capacity of Rwanda's National Statistics Office (NSO) and related data agencies to adopt the globally approved methodology for collecting data and reporting on the indicators. Data collected are centered on the two indicators which monitor the status of land tenure rights in Rwanda. SDG indicator 1.4.2 monitors the *proportion of total adult population with secure tenure rights to land with a) legally recognized documents and b) who perceive their rights as secure, by sex and type of tenure* while SDG indicator 5.a.1 monitors the *proportion of total agricultural population with ownership or secure rights over agricultural land by sex; and b) the proportion of women among owners or rights-bearers of agricultural land, by type of tenure*.

Given the fact that the land data were collected from RLMUA which updates its cadastral data on daily basis, MINAGRI which collects agricultural household survey and avails agricultural production and NISR which avails statistical data on both indicators in its EICV survey reports, where it provides both agricultural land and land ownership information. These data can be computed together to evaluate the national implementation of both two indicators.

This report confirms that to a significant extent, there exists data and information within RLMUA, NISR, MINAGRI and other data agencies and ministries that could provide insights to the status of land ownership and tenure security. For land related survey information, RLMUA information are highly trusted, because they represent the national land information than other data, while MINAGRI data can be trusted on agricultural production. These data and information, however, are limited by the nature of their scope, collection, disaggregation, and analysis thus, do not directly respond to the data needs of SDG indicators 1.4.2 and 5.a.1. To precisely capture and monitor the status of land tenure security in Rwanda through the two SDG indicators, therefore, necessitates a continued collaboration between the indicators' custodian agencies (UN-Habitat, the World Bank and FAO) and the Government of Rwanda through the relevant ministries and data agencies to adopt the globally-approved methodology for collecting data and reporting on the indicators leveraging sustained survey data collection and administrative data analysis.

B. Recommendations

Rwanda having formalized land tenure through land titling facilitated the collection and recordation of spatial and non-spatial data. Thus, most landholders in Rwanda perceive their tenure rights as secure based on guarantee and security given by the state through possession of land titles and the landholders' right to bequeath the land. As reported, the data sources used for reporting on Indicator 1.4.2 are multi-topic survey spatial data, non-spatial data conducted by Rwanda Land Use and Management Authority in collaboration with other ministries and agencies like National Institute of Statistics of Rwanda.

- Given that MINAGRI collects agricultural data annually. Given that MINAGRI collects agricultural data annually, the Ministry is encouraged to include data on agricultural outputs by sex. This will help in availing information related to the number females involved in agriculture and their production.
- Although RLMUA records and keeps information related to all land including agricultural land, it does not have updated information on agricultural production.
- The Ministry of Agriculture in collaboration with RLMUA should work together to enforce the land use masterplan, by protecting agricultural land is facing pressure from other land use categories like residential, industry and commercial.
- NISR, being the primary government agency responsible for collection, analysis and dissemination of official statistics in Rwanda provides the best platform for integration of essential questions on land tenure security in upcoming surveys to collect data on SDG indicators 1.4.2 and 5.a.1. Thus, enhanced collaboration between NISR, RLMUA, MINAGRI, FAO and UN-Habitat in understanding the data requirements of the two indicators and the data collection and reporting process would enhance Rwanda's prospects for regular reporting on the indicators.
- There is need for improved coordination within National Statistical System). This is critical in facilitating data flow across the various ministries/ stakeholders to ensure comprehensiveness in reporting on SDG indicators 1.4.2 and 5.a.1 among other SDG indicators to achieve sustainable development
- The upcoming/ ongoing compilation of the Statistical Yearbook by NISR is an opportunity that needs to be leveraged in reporting on SDG indicators 1.4.2 and 5.a.1 in Rwanda. Already, data available on these indicators can be featured in this book as the country strives to provide updated and more appropriate data in the near future. Therefore, continued collaboration between the Government of Rwanda through its ministries, RLMUA and NISR is necessary to develop a structure for sustained data collection and reporting on SDG indicators 1.4.2 and 5.a.1.

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4 *IREMBO* is a Government to Citizen e-Service portal, which facilitates the citizen to submit the application and make the payment for various services. This is a joint project by Government of Rwanda and Rwanda Development Board (www.irembo.gov.rw)
5 An investigation into informal transactions under the Land Tenure Regularization programme in Rwanda, 2017

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ANNEX

Questionnaire Guide for Government Institutions

Name of Respondent..... Role:.....

Telephone..... Email.....

For RLMUA

1. **Learning about the data system currently existing at the RLMUA – sources, frequency, quality control, use, key products from the data system, and challenges**
   - **a.** Please can you describe what sorts of data your agency collects routinely?
   - **b.** For each type of routine data, how frequently do you collect them?
   - **c.** Please describe how the data collection and processing are managed?
   - **d.** What systems do you have for ensuring the quality of the data you collect? How are these enforced?
   - **e.** What do you primarily use the data for? Do you use the data routinely – how?

2. **Relationships with other agencies – other ministries, NISR, others in data generation, analyses, and use**
   - **a.** Please describe any relationships RLMUA has with NISR, other ministries and agencies as far as data collection, management, storage, analyses and use are concerned?
   - **b.** Probe if these relationships are statutory, institutionalized or ad hoc.

3. **Links and relationships with sub-national structures of the ministry**
   - **a.** Please can you describe any relationships RLMUA has with other administrative units and sub-national government structures as far as data collection, management, analyses and use are concerned?
   - **b.** What roles do these administrative units play in your data collection, management, analyses and use?
   - **c.** Do you routinely receive data from other areas e.g. administrative units than Kigali? What types of data? In what format? How frequently? Do all districts comply? Any sanctions/incentives for compliance/non-compliance?
   - **d.** Do you send feedbacks to them on the data you receive from them?
   - **e.** What are the mechanisms for providing feedback to these administrative units about the data they provide?
   - **f.** Are these data submitted on time? Would you say they are Always on time, Sometimes on time, Rarely on time, Never on time?
   - **g.** If Sometimes on time, Rarely on time, Never on time]: Why do you think districts delay submission of data?
   - **h.** What measures have you put in place to improve the timeliness of these data?
   - **i.** What mechanisms have been put in place for checking data quality at your level once you receive the data? If yes, how do you ensure that they are enforced?
   - **j.** Do you share data with these administrative units routinely? – What types of data? In what format? How frequently?
   - **k.** Apart from the national level, what structures/systems/operations does the ministry have at sub-national level and what roles do they play in data collection, management, analyses and use?
   - **l.** Do you receive requests from districts for data? How are these handled?

4. **Collection of available materials – reports, documentations, questionnaires, forms, sample data, etc.**
   - **a.** Can you share with us any documents that can help us understand better what types of data the ministry collects and how these are used?
   - **b.** Instruments and forms used for routine data collection
   - **c.** Reports generated routinely from the data
   - **d.** Operation manuals/guidelines governing data processing, management, quality control, etc.
   - **e.** Sample routine data that you collected.

1. **Other issues**
   a. Do you collect other one-off studies like national surveys? Examples of these? Frequency of each? Etc.
   b. Do you receive data routinely from other organizations/agencies? Examples of this? Frequency? Etc.
   c. If one is interested in monitoring the situation of land in Rwanda, are there other institutions and data systems you know of that can help provide the data? What are these?
   d. In general, what are the main challenges you see in maintaining the information system at RLMUA? How can these be addressed?
   e. What are some of the key areas that should be prioritized in order to ensure regular access to data for decision making as it relates to land?

On SDGs Data

2. **Indicator 1.4.2: Questions regarding the data needed for computing the indicators e.g. is there any questions on possession of officially recognized documentation or on perceptions on land tenure security**
   a. Can you share the comprehensive list of all tenure types applicable to the country;
   b. Comprehensive list of land tenure-related documents, specifying which ones the government considers as legally recognized;
   c. Please share with us the Images of the documents considered legally recognized;
   d. What are the specific legal definition and arrangements of alienation rights
   e. What can you say about the tenure security here in Rwanda?
   f. Linkages between survey and administrative data
   g. Can you provide a list of all the legal documents as per country's legal framework, that can be used to safeguard land tenure security
   h. What is the percentage of land owners that have proof of land ownership?

For NISR

1. **Relationship with other agencies/ministries as far as data is concerned**
   a. Please can you describe the relationships NISR has with other agencies/ministries as it relates to data systems – collection, management, curation, analyses, and use?
   b. What role do agencies/ministries play in any routine data collection NISR manages?
   c. Do agencies/ministries routinely submit data to NISR – what types of data, how frequently, level of compliance, sanction/incentives for none / compliance, etc.
   d. Do these agencies/ministries routinely demand/request for data from NISR? What type of data do they usually request? How much of the demand is NISR able to meet?
   e. Specifically for indicators on land tenure security, what routine and other data sources can help generate information/indicators land tenure security?
   f. For agencies/ministries that have set up systems for data collection, what role does NISR play in ensuring quality control?
   g. To the best of your knowledge, what do you see as the critical priority areas for interventions seeking to improve capacity at agencies/ministries to generate and use data?
   h. Overall, do you think NISR has the capacity to support ministries/agencies with relevant data for decision-making especially as it relates to land issues?

2. **Existing and planned data collection efforts that may have relevance for land**
   a. What are the current sources of data (primary, secondary) that are relevant for county decision-makers within your institution? Within other government agencies?
   b. Specifically, what are the sources of data that are relevant for decision-makers on issues relating to land within your institution? Within other institutions?
   c. If yes, what are the mechanisms for sharing these data?
   d. Other than the census, what other data systems at NISR can produce reliable indicators at national and sub-national levels? Other data systems at other agencies?
   e. Specifically for indicators on land, what routine and other data sources can help generate information/indicators on land?
   f. Are there any data collection planned in the next months that may be relevant for land? If yes, probe to get further information?

g. When will these surveys be conducted? Probe for each survey.
h. Will they cover all the districts? Probe for each survey.
i. Will they be able to yield disaggregated estimates by sex, type of tenure, etc.?
j. What are some of the priority areas/skills your organization needs the most in order to enable more relevant data for decision-making as it relates to land and specifically land tenure security?
k. What are some of the challenges you face in providing data for decision-making (accessing, cost, formats)? Probe for data on land issues.
l. What are some of the key areas that should be prioritized in order to ensure regular access to data for decision-making as it relates to land?

3. **Collection of available materials – reports, documentations, questionnaires, forms, sample data, etc.**
   a. Can you share with us any documents that can help us understand better what types of data NISR collects and how these are used?
   b. Instruments and forms used for routine data collection
   c. Reports generated routinely from the data
   d. Operation manuals/guidelines governing data processing, management, quality control, etc.
   e. Sample routine data that you collected.

For Ministry of Agriculture

4. **Learning about the data system currently existing at the Ministry – sources, frequency, quality control, use, key products from the data system, and challenges**
   a. Please can you describe what sorts of data your Ministry collects routinely?
   b. For each type of routine data, how frequently do you collect them?
   c. Please describe how the data collection and processing are managed?
   d. What systems do you have for ensuring the quality of the data you collect? How are these enforced?
   e. What do you primarily use the data for? Do you the data routinely – how?

5. **Relationships with other ministries, and other government agencies on data generation, analyses, and use**
   a. Please describe any relationships MINAGRI has with NISR, other ministries and agencies as far as data collection, management, storage, analyses and use are concerned?
   b. Probe if these relationships are statutory, institutionalized or ad hoc.
   c. What role does MINAGRI play in any routine data collection?
   d. Do these MINAGRI routinely demand/request for data from NISR? What type of data do they usually request? How much of the demand is NISR able to meet?
   e. Specifically for indicators on agricultural land, what routine and other data sources can help generate information/ agricultural land?
   f. What are other data that are collected by the Ministry?

SDGs Data

6. **Indicator 5.a.1: Learning about country's roadmap to achieve gender equality and empower all women and girls especially in agricultural sector, percentages of land holders and land use**
   a. Do women have user rights in agricultural land?
   b. Can you share the percentages of land holders in Rwanda;
   c. List some of the user rights owned by women in agricultural land.
   d. What is the percentage of agricultural land use owned jointly by women and their partners?
   e. Are there tenure rights on agricultural land? What are the tenure rights on agricultural land?
   f. Does the land title correspond to the landholders' true identity?
   g. Does a landholder have rights to disposition?
   h. Can a jointly owned land be disposed by one individual?
   i. Do land owners have bequeathing rights, alone or with the approval of a joint landholder?

Additional Tables

Table A.1: Women's land ownership by age, residence, province, education and wealth quintile.

Percentage Who Own Land						
Age	**Alone**	**Jointly**	**Alone and Jointly**	**Percentage who do not own land**	**Missing**	**Number**
15-19	4.0	3.9	0.1	91.9	0.1	2,768
20-24	6.5	21.1	0.3	72.2	0.0	2,457
25-29	7.2	41.4	0.2	51.2	0.0	2,300
30-34	10.0	53.2	0.1	36.6	0.1	2,151
35-39	12.6	58.0	0.6	28.7	0.1	1,575
40-44	18.6	55.8	0.1	25.4	0.1	1,269
45-49	25.5	54.4	0.6	19.5	0.0	977
Residence						
Urban	7.0	19.2	0.1	73.7	0.0	2,626
Rural	10.6	40.2	0.3	48.9	0.0	10,871
Province						
Kigali City	8.1	19.0	0.1	72.8	0.0	1,799
South	9.1	41.8	0.3	48.7	0.0	3,214
West	9.0	33.6	0.2	57.2	0.0	2,965
North	14.3	38.9	0.3	46.4	0.1	2,211
East	9.4	40.3	0.3	49.9	0.0	3,308
Education						
No Education	15.8	50.5	0.4	33.2	0.0	1,665
Primary	10.2	40.0	0.2	49.5	0.0	8,678
Secondary and Higher	6.1	17.7	0.3	76.0	0.0	3,154
Wealth Quintile						
Lowest	13.5	31.9	0.3	54.3	0.0	2,561
Second	12.4	39.6	0.2	47.7	0.1	2,631
Middle	9.4	44.8	0.4	45.4	0.0	2,597
Fourth	7.6	41.8	0.3	50.2	0.1	2,634
Highest	7.1	24.4	0.2	68.3	0.0	3,073

Source: Rwanda Demographic and Health Survey 2014-15.

Table A.2: Men's land ownership by age, residence, province, education and wealth quintile

Percentage Who Own Land						
Age	**Alone**	**Jointly**	**Alone and Jointly**	**Percentage who do not own land**	**Missing**	**Number**
15-19	6.9	0.9	0.2	92.0	0.0	1,282
20-24	18.1	7.8	0.3	73.6	0.1	994
25-29	28.2	25.5	0.2	46.0	0.0	946
30-34	32.4	37.4	0.8	29.4	0.0	930
35-39	26.5	48.4	1.3	23.9	0.0	567
40-44	27.0	50.3	0.4	22.3	0.0	473
45-49	26.6	55.5	0.4	17.4	0.0	385
Residence						
Urban	18.3	13.3	0.1	68.3	0.0	1,169
Rural	22.7	28.3	0.6	48.3	0.0	4,408
Province						
Kigali City	20.9	12.4	0.1	66.6	0.0	804
South	27.7	19.7	0.2	52.4	0.0	1,327
West	17.1	28.4	0.3	54.1	0.1	1,182
North	27.3	29.9	0.9	41.9	0.0	851
East	17.4	32.1	0.9	49.7	0.0	1,413
Education						
No Education	28.9	37.6	0.2	33.3	0.0	496
Primary	23.1	28.9	0.6	47.3	0.0	3,636
Secondary and Higher	16.1	11.6	0.2	72.1	0.0	1,445
Wealth Quintile						
Lowest	23.3	23.6	0.1	52.9	0.1	819
Second	23.2	29.8	0.6	46.4	0.0	991
Middle	23.4	31.6	0.7	44.3	0.0	1,097
Fourth	21.0	27.0	0.5	51.5	0.0	1,234
Highest	19.6	16.5	0.4	63.6	0.0	1,436

Source: Rwanda Demographic and Health Survey 2014-15.

Table A.3: Land transactions by Provinces

Province	2016	2017	2018	2019	2020
Eastern	43,321	56,914	87,698	171,238	378,315
Kigali City	38,071	42,164	48,975	94,852	120,223
Northern	34,857	39,163	106,246	148,521	195,815
Southern	68,726	54,231	137,424	184,820	210,021
Western	35,324	62,864	62,173	117,614	281,711
TOTAL	**220,299**	**255,336**	**442,516**	**717,045**	**1,186,085**

Source: RLMUA.

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