



**50x2030**

DATA-SMART AGRICULTURE

**A GUIDE TO 50x2030  
SURVEY TOOLS AND SDG  
INDICATOR 5.a.1:  
MEASURING GENDER PARITY  
IN OWNERSHIP AND TENURE  
RIGHTS OVER AGRICULTURAL  
LAND**

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The 50x2030 Initiative to Close the Agricultural Data Gap is a multi-agency effort aimed at supporting 50 low- and lower-middle-income countries to produce fundamental agricultural and rural data through the use of integrated agricultural and rural surveys. For more on the Initiative, please visit [www.50x2030.org](http://www.50x2030.org).

## 1. Introduction

Effective investment and policymaking in relation to agriculture and poverty require an evidence-based foundation. In many low- and lower-middle income countries (L/LMICs), limitations in the scope, quality, and frequency of agricultural data severely constrain the effective planning, financing, and implementation of agricultural development policies. The agricultural data gap in these contexts frequently leads to suboptimal policy design, which may result in increased hunger and poverty.

The 50x2030 Initiative to Close the Agricultural Data Gap (hereafter, the Initiative) aims to empower and support 50 L/LMICs to build strong national data systems that produce and use high-quality and timely data on the agricultural sector<sup>1</sup>.

The Initiative addresses the gap in agricultural data with the goal of promoting evidence-informed decision making to achieve Sustainable Development Goal (SDG) 2 – Zero Hunger – in partner countries. In addition, the Initiative promotes the collection of data that is crucial to understanding gender dynamics in agriculture and women’s engagement in the agricultural sector. As a consequence, Indicator 5.a.1 is one of the four high-priority SDG indicators supported by the Initiative.

This technical note describes how the survey tools of the Initiative satisfy the data requirements of SDG Indicator 5.a.1. It provides guidance on the calculation of the indicator and advises on the potential for detailed analysis beyond the Indicator. Section 2 provides an overview of SDG Indicator 5.a.1; Section 3 discusses the 5.a.1 questions in the survey tools of the Initiative; Section 4 deals with the calculation procedures; Section 5 suggests possible additional analysis. The Excel questionnaires and the STATA routines can be found in the annexes.<sup>2</sup>

## 2. Overview of SDG Indicator 5.a.1<sup>3</sup>

Recognizing that gender equality is critical to achieving the vision set out in the 2030 Agenda for Sustainable Development and that gender equality is indeed an objective in its own right, SDG 5 aims to *achieve gender equality and empower all women and girls*.

SDG Target 5.a directs countries to *undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws*. It is monitored by two indicators: a de facto indicator on women’s land tenure rights (Indicator 5.a.1), and a de jure indicator on women’s land rights in the respective national legal frameworks (Indicator 5.a.2). As custodian agency, the Food and Agriculture Organization of the United Nations (FAO) is committed to promote the monitoring of these indicators through capacity development and technical assistance.

The two SDG 5.a indicators focus on land because it is a key economic resource that is inextricably linked to the access, use and control of other economic and productive resources. Ownership and control of land are critical for poverty reduction, food security, inclusiveness and for the overall objectives of the SDGs. In terms of gender equality, an increase in women’s land rights is strictly linked

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<sup>1</sup> <https://www.50x2030.org>

<sup>2</sup> This paper was drafted by Chiara Brunelli, PhD., Statistician, Food and Agriculture Organization of the United Nations (FAO).

<sup>3</sup> The methodology of Indicator 5.a.1 is based on the Guidelines for Producing Statistics on Asset Ownership from a Gender Perspective, developed by the United Nations Department of Economic and Social Affairs in the context of the Evidence and Data for Gender Equality (EDGE) project. The EDGE project has been jointly executed by the United Nations Statistical Division and the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) in collaboration with National Statistical Offices, the Asian Development Bank, FAO, the Organization for Economic Co-operation and Development (OECD) and the World Bank.

to women's empowerment. Indeed, owning or bearing rights to land reduces women's reliance on male partners and relatives, increases their bargaining power within the household, facilitates access to extension services, credit and producers organizations, and encourages land investments.

SDG Indicator 5.a.1 measures gender equality in ownership and secure tenure rights over agricultural land through two sub-indicators:

- 5.a.1 (a): Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex.
- 5.a.1 (b): Share of women among owners or rights bearers of agricultural land, by type of tenure.

Sub-indicator (a) measures the prevalence of people in the agricultural population with ownership or tenure rights over agricultural land (disaggregated by sex), while sub-indicator (b) focuses on gender parity, measuring the extent to which women are disadvantaged in ownership/tenure rights over agricultural land.

### 2.1. Key terms and concepts

The indicator focuses on **agricultural land**, i.e., land under temporary and permanent crops; land under temporary and permanent meadows and pastures; and land that is temporarily fallow (FAO, 2015).

**The reference population** of the indicator is the agricultural population because tenure rights over agricultural land are relevant only for individuals whose livelihoods rely on agriculture. An official definition of agricultural population does not exist and SDG Indicator 5.a.1 does not aim to develop one. However, for measurement purposes, it is necessary to adopt an operational definition. In the context of Indicator 5.a.1, agricultural population is defined as the number of **adult individuals<sup>4</sup> living in agricultural households**, i.e. households that operated land for agricultural purposes and/or raised livestock for their own account over the past 12 months, regardless of the final purpose of production.

As the indicator aims to measure the rights of women and men over agricultural land, ideally the information shall be collected from the individuals, using a self-respondent approach<sup>5</sup>. Unfortunately, this is rarely done in large-scale surveys due to the financial and time-related implications of the self-respondent approach. As a consequence, surveys normally ask a proxy respondent to provide the information on behalf of the entire holding or household. Under the 50x2030 Initiative, considerations are made for the trade-off between ease of implementation, budgetary constraints and data quality. Given this, the 50x2030 reference questionnaires allow for proxy respondents, though countries may adapt this default protocol to collect self-respondent data for Indicator 5.a.1.

The methodological research conducted under the EDGE project has identified **three proxies** to measure **ownership or tenure rights over agricultural land**. **These proxies are utilized in Indicator 5.a.1:**

1. The name of the individual appears on a legally-recognized land document as owner or right holder.
2. The individual has the right to sell the land.
3. The individual has the right to bequeath the land.

Since, in practice, individuals in some countries may have the right to pass on the land even in the absence of legal documents, the indicator combines legal documentation with the right to sell or bequeath. This is in order to make it applicable in different contexts and to ensure comparability across

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<sup>4</sup> The cut-off age of 18 is set for international comparisons. However, countries may lower the threshold based on national practices.

<sup>5</sup> Research conducted under the umbrella of the EDGE, GAAP, and GAAP 2 projects demonstrated that the collection of data on women, including asset ownership, is strongly biased by the adoption of a proxy-respondent approach.

countries worldwide. Therefore, individuals that present at least one of the three proxies are considered owners or holders of rights over agricultural land under SDG Indicator 5.a.1

It is crucial to emphasize that SDG Indicator 5.a.1 refers to ownership of and secure tenure rights over the land, the latter being more inclusive than the first. In fact, an individual has tenure rights over land when they can control and manage the land they have access to. The variety of rights that the individual enjoys depends on the tenure system in place and type of title. In simple terms, Indicator 5.a.1 goes beyond ownership, as conceived by Western societies, and looks at several aspects of tenure rights. This conceptual choice has an important bearing on the phrasing of the survey questions, which refer to several kinds of legal documents (i.e., title deed; certificate of ownership; certificate of hereditary acquisition; contract of lease or rental). This point is further developed in Section 3.

The data needed for SDG Indicator 5.a.1 can be collected through agricultural surveys or household multi-topic surveys with suitable coverage of agricultural households. The data required for SDG Indicator 5.a.1, as described in Table 1, is collected via 50x2030 reference questionnaires<sup>6</sup>.

**TABLE 1 – MINIMUM SET OF DATA**

Data Items	Purpose
Whether or not the household has operated <b>land</b> for cultivating crops and/or raised <b>livestock</b> over the past 12 months	To identify adult males and females living in agricultural households
<b>Sex</b> of the household member	
<b>Age</b> of the household member	
Whether or not any of the agricultural land accessed, used or held by the household/member has a <b>legally-recognized document</b> that allows for the protection of ownership or tenure rights	To identify landowners/land rights holders
Whether or not the household member is <b>listed as an owner or holder</b> on any of the legally-recognized land documents, either alone or jointly with someone else	
Whether or not the household member has the <b>right to sell</b> any agricultural land, either alone or jointly with someone else	
Whether or not the household member has the <b>right to bequeath</b> any agricultural land, either alone or jointly with someone else	

### 3. SDG Indicator 5.a.1 in the 50x2030 Initiative survey tools

This section discusses how the Initiative has incorporated the data items relating to SDG Indicator 5.a.1 into the standard survey tools proposed to the partner countries. It describes the 50x2030 Survey System, explains which questionnaires include SDG Indicator 5.a.1 questions, and provides an overview of those questions.

<sup>6</sup> The standard survey instruments of the Initiative can be found at: <https://www.50x2030.org/resources/survey-instruments>

### 3.1. The 50x2030 Survey System

The survey programs supported by the 50x2030 Initiative may take two forms depending on the needs and context of the partner country: the Agricultural Survey Program (Agricultural Program) or the Integrated Agricultural and Rural Survey Program (Integrated Program).

**The Agricultural Survey Program** is a modular survey system with an annual core survey questionnaire focused on production (CORE-AG), and a set of specialized questionnaires covering additional topics, such as costs and farm income; labor and productivity; gender decision-making in agriculture; production practices and environmental aspects of farming. These specialized questionnaires are administered at lower frequencies.

Figure 1 presents an example of the sequence and frequency with which the survey tools may be administered, though this sequence may be altered according to country priorities.

In the Agricultural Survey Program, the survey should be representative of the entire agricultural sector, whether in rural or urban areas, covering both household and non-household farms, with the agricultural holding as the unit of analysis (see Figure 2).

**FIGURE 1 – SCHEMA OF THE 50x2030 AGRICULTURAL SURVEY PROGRAM AND THE INTEGRATED AGRICULTURAL AND RURAL SURVEY PROGRAM**

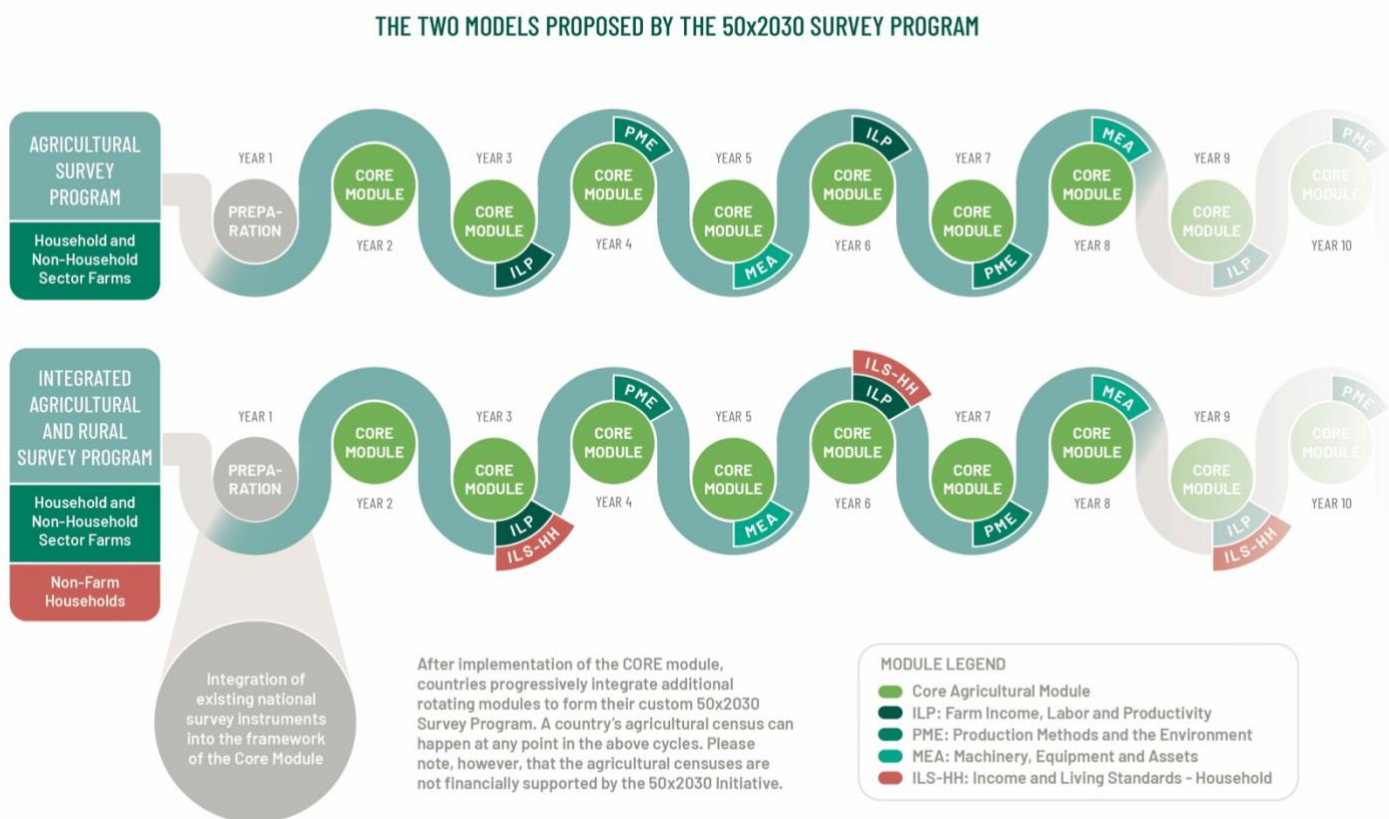


FIGURE 2 – COVERAGE OF THE AGRICULTURAL SURVEY PROGRAM AND THE INTEGRATED AGRICULTURAL AND RURAL SURVEY PROGRAM

	Agricultural sector		Non-Agricultural sector
	<i>Non-household sector holdings</i>	<i>Agricultural households</i>	<i>Non-agricultural households</i>
Rural areas	/	/	
Urban areas	/	/	

Agricultural Survey Program

Integrated Agricultural and Rural Survey Program

The 50x2030 Integrated Agricultural and Rural Survey Program follows the same logic as the Agricultural Program but integrates the agricultural tools with a household survey tool and broadens the target population to incorporate a sample of rural non-agricultural households every three years (as illustrated in Figure 2).

The Integrated Program allows countries to better investigate (i) the drivers and dynamics of rural development, structural transformation, and their linkages with agriculture, and (ii) the linkages between agricultural productivity and income, together with aspects of welfare and livelihoods, such as educational outcomes, non-agricultural income, or shocks and coping. The Integrated Program achieves this through the combination of the Farm Income, Labor, and Productivity (ILP-AG) questionnaire and the Non-Farm Income and Living Standards Household (ILS-HH) questionnaire, which are administered together, ideally every three years (see Figure 1).

The 50x2030 Initiative’s survey system, with its two programs, is composed of a package of survey tools. The specialized agricultural tools – ILP-AG, PME, and MEA – are integrated with the CORE-AG tool. Therefore, agricultural production is captured in the same way annually, with different extensions added every year.



### 3.2. Location of 5.a.1 questions

While some SDG 2 indicators (2.3.1; 2.3.2; 2.4.1) are linked to a specific survey tool, the location of questions relating to Indicator 5.a.1 depends on the survey system and on the geographical coverage of the survey (see Table 2).

**TABLE 2 – TOOLS OF THE 50x2030 AGRICULTURAL PROGRAM AND INTEGRATED PROGRAM**

Survey Tool	Content	SDG Indicator	Recommended Frequency	Target population	50x2030 Survey Program
CORE-AG	Crops, livestock, aquaculture, fisheries, forestry production.		Annual	Agricultural households and agricultural holdings in the non-household sector.	Both the Agricultural Program and Integrated Program.
ILP-AG	Agricultural income, agricultural labor, and productivity; land tenure, gender decision-making.	2.3.1 2.3.2 5.a.1 1.4.2*	Every 3 years	Agricultural households and agricultural holdings in the non-household sector.	Both the Agricultural Program and Integrated Program.
ILS-HH	Household member socio-demographics, education, off-farm labor and time-use, housing, non-agricultural income, shocks and coping.	5.a.1 1.4.2*	Every 3 years	Agricultural and non-agricultural households.	ILS-HH only in Integrated Program.**
PME	Production Methods and Environment; Agricultural Sustainability.	2.4.1	Every 3 years	Agricultural households and agricultural holdings in the non-household sector.	Both the Agricultural Program and Integrated Program.
MEA	Assets, Machinery, Equipment.		Every 3-5 years	Agricultural households and agricultural holdings in the non-household sector.	Both the Agricultural Program and Integrated Program.

\* The ILP-AG covers all items needed to measure Indicator 1.4.2; however, to properly compute the indicator, a nationally-representative sample of households would be needed, which the 50x2030 system does not require.

\*\* SDG 1.4.2 and 5.a.1 are measured through the ILS-HH in the Integrated Agricultural and Rural Survey Program. They are measured through the ILP-AG survey tool in the Agricultural Program.

The 50x2030 Initiative proposes measuring Indicator 5.a.1 through the Farm Income, Labor, and Productivity questionnaire (ILP-AG) if the country adopts the Agricultural Program and through the Non-Farm Income and Living Standards questionnaire (ILS-HH) if the country adopts the Integrated Program.

The rationale for this choice is the similarity between SDG indicators 5.a.1 and 1.4.2, the latter measuring the *proportion of total adult population with secure tenure rights to land, with legally recognized documentation and who perceive their rights to land as secure, by sex and by type of tenure*. The overlap between the two indicators offers the opportunity to measure both through a joint module developed by the custodian agencies<sup>7</sup>. Such a joint module has been included in the survey tools of the Initiative.

As outlined in Table 3, the indicators adopt a similar approach to the proxy questions but they differ on the type of land and the reference population. Indeed, while SDG Indicator 5.a.1 focuses on agricultural land and the agricultural adult population, SDG Indicator 1.4.2 speaks of any land and refers to the entire adult population.

TABLE 3 – 5.A.1 AND 1.4.2 INDICATORS

	SDG indicator 5.a.1	SDG indicator 1.4.2
<b>Definition</b>	(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	proportion of total adult population with secure tenure rights to land, with (a) legally recognized documentation; and (b) who perceive their rights to land as secure, by sex and by type of tenure
<b>Land type</b>	agricultural land	any land
<b>Reference population</b>	agricultural population	entire population
<b>Proxies</b>	<ol style="list-style-type: none"> <li>the name of the individual appears on a legally recognized land document as owner or right holder</li> <li>the individual has the right to sell the land</li> <li>the individual has the right to bequeath the land</li> </ol>	<ol style="list-style-type: none"> <li>the name of the individual appears on a legally recognized land document as owner or right holder</li> <li>the individual has the right to bequeath the land</li> <li>the individual is not at high risk of losing the land</li> </ol>

Partner countries implementing the agricultural survey system are able to report on SDG Indicator 5.a.1 but not on Indicator 1.4.2, notwithstanding the inclusion of all the necessary questions. This happens because the agricultural survey system excludes the non-agricultural households and the land used for non-agricultural purposes (e.g., dwellings; non-agricultural businesses, etc.). Countries adopting an agricultural survey system would inevitably include the questions relating to Indicator 5.a.1 in one of the rotating agricultural questionnaires. The ILP-AG is the recommended survey tool because it contains other gender-related questions that increase the analytical value of the data. However, countries may decide to locate the questions relating to Indicator 5.a.1 in other rotating questionnaires. Indeed, the low data requirements of the 5.a.1 indicator gives the survey designers a good degree of flexibility on the location of the questions.

<sup>7</sup> See FAO, World Bank, UN HABITAT (2019)

FIGURE 3 – LOCATION OF THE 5.A.1 QUESTIONS IN THE AGRICULTURAL PROGRAM

ILP-AG Agricultural Parcel Roster Section				
Ag parcels	Legal doc?	Whose name appears on legal doc?	Who can sell?	Who can bequeath?
Ag parcel 1				
Ag parcel 2				
Ag parcel 3				
...				
Ag parcel n				

Partner countries implementing the Integrated Program are still able to report on SDG Indicator 5.a.1. In addition, they have the opportunity to report on Indicator 1.4.2 if the survey covers urban areas. To do so, the country shall:

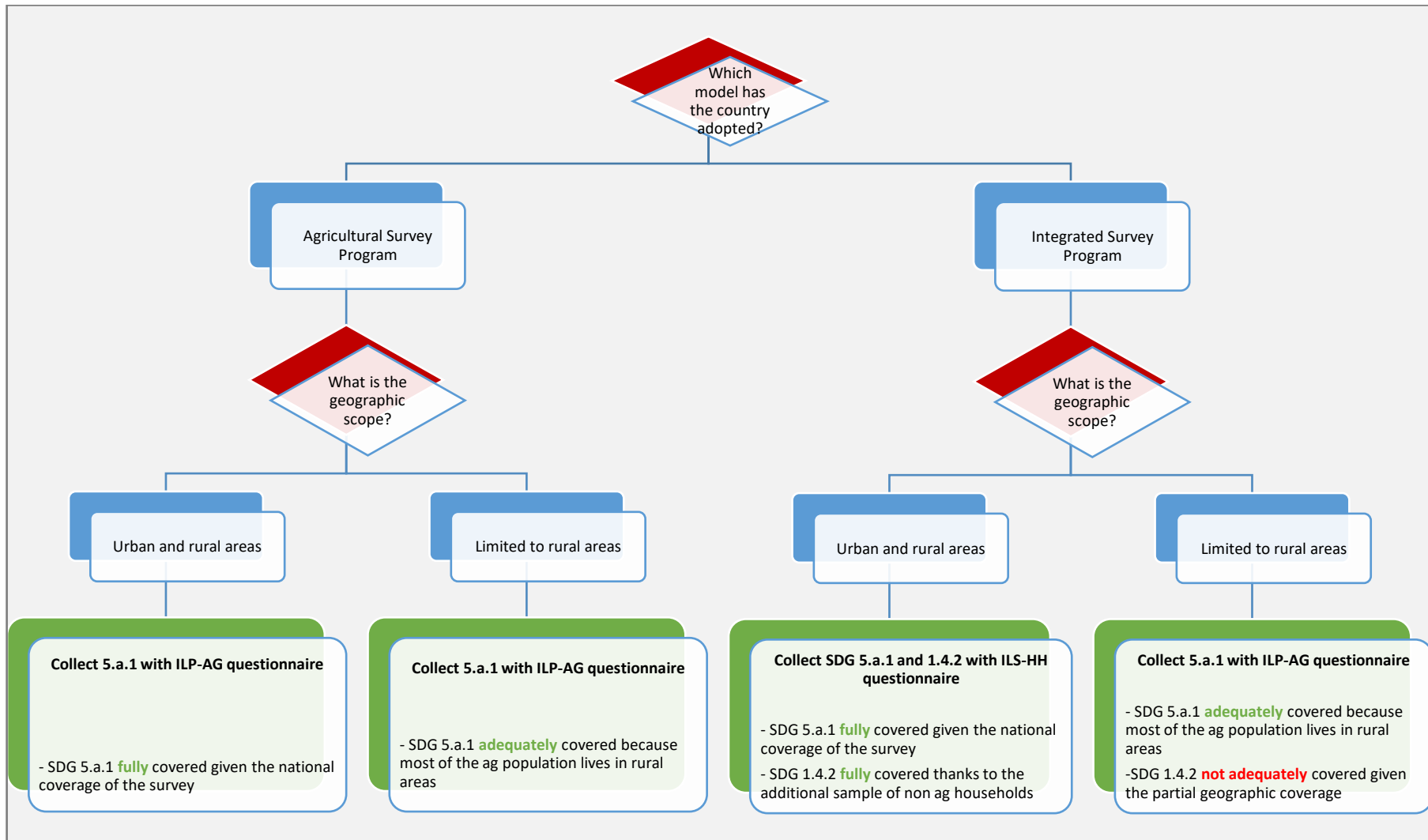
- i) locate the 5.a.1 and 1.4.2 questions into the ILS-HH survey tool because this is the only instrument administered to agricultural and non-agricultural households;
- ii) expand the questions to non-agricultural parcels;
- iii) feed forward the agricultural parcels from the household questionnaire to the agricultural questionnaire for the remainder of the interview

If the integrated survey does not cover urban areas, the country may still decide to adopt the protocol above, acknowledging that the results for the 1.4.2 questions will not be representative of urban areas where the presence of slums, informal dwellings, illegal immigrants and overcrowded areas put the feasibility of accessing safe, decent and secure housing at stake (see Figure 4).

FIGURE 4 – LOCATION OF THE 5.A.1 QUESTIONS IN THE INTEGRATED SURVEY PROGRAMME

ILS-HH Land Tenure Section					
Ag parcels	Legal doc?	Whose name appears on legal doc?	Who can sell?	Who can bequath?	Risk of losing it?
Ag parcel 1					
Ag parcel 2					
Non-ag parcel 1					
Non-ag parcel 2					

FIGURE 5 – DECISION TREE



### 3.3. Question overview

The minimum set of SDG Indicator 5.a.1 data can be collected at the parcel or individual level<sup>8</sup>. While the parcel-level approach is more accurate and allows for additional in-depth analysis, the choice ultimately depends on the type of survey questionnaire in which the 5.a.1 questions are to be included.

Since the survey tools collect the crop list, the area and little additional agricultural data at the parcel (or parcel-plot) level, the 5.a.1 questions are asked at the parcel level<sup>9</sup>. It is not necessary to collect 5.a.1 information at the plot level since all the plots within the same parcel share the same status in terms of tenure rights.

As discussed above, in the **Agricultural Survey Program**, it is recommended that the 5.a.1 questions are inserted into the Agricultural Parcel Roster section of the ILP-AG questionnaire. Figure 6 and Figure 7 show how the section looks once the 5.a.1 questions are inserted. The questions needed for 5.a.1 are shown in green. For each parcel:

- Questions 6 and 7 identify the household members whose names appear on a legally recognized document of the parcel. The questionnaire allows listing up to three documents per parcel and a maximum of four household members per document. However, parcels rarely have more than two documents.
- Questions 8 and 9 identify the household members who have the rights to sell the parcel.
- Questions 10 and 11 identify the household members who have the rights to bequeath the parcel.

In order to be considered an owner or right holder of agricultural land, it is sufficient that a household member appears on the legally recognised document of any agricultural parcel OR that they can sell OR bequeath any agricultural parcel. Neither the number of parcels owned/held, nor the land size are part of the computation formula.

As mentioned earlier, Indicator 5.a.1 goes beyond the idea of ownership, as conceived by Western societies, and looks at other forms of tenure that are more prominent worldwide. This conceptual choice has an important impact on the operationalization of the indicator and on the phrasing of the questions. Indeed, Question 6 asks about the presence of documents issued by (or registered at) the relevant land registry or cadastral agency, and provides an idea of the variety of certificates taken into account. In addition, the document types listed in Question 7 reiterate the importance of building a comprehensive list, including certificates of ownership, certificates of customary ownership, lease contracts and rental contracts. This list shall be customized at country level to include all the legal documents recognised by the national laws.

The other questions appearing in the Agricultural Parcel Roster respond to other objectives of the questionnaire. Some are relevant to conducting a more in-depth gender analysis of tenure rights. For instance, the parcel area can be used to compare the amount of land that belongs to women as compared to men; data on soil type and erosion may reveal gender-based differences in the quality of land owned.

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<sup>8</sup> For more information on the data collection strategies, see the background paper on the indicator methodology, available at: <http://www.fao.org/3/i8808EN/i8808en.pdf> and forthcoming among the FAO Statistics Division (ESS) working paper series.

<sup>9</sup> An overview of how to insert the 5.a.1 questions into questionnaires without parcel rosters can be found at FAO, World Bank, UN HABITAT (2019) and in the technical note *Mainstreaming SDG Indicator 5.a.1 in AGRIS* (forthcoming).

FIGURE 6 – 5.A.1 QUESTIONS IN THE AGRICULTURAL PROGRAM: AGRICULTURAL PARCEL ROSTER (Q1-11)

SECTION 1. AGRICULTURAL PARCEL ROSTER & DETAILS

YES...1  
 NO...2 ► END OF INTERVIEW

Q0. Do you or does any member of your household use, own, or hold use rights for any parcel of land used for cultivating crops and/or raising livestock, either alone or jointly with someone else?  
 ENUMERATOR: AFTER CREATING THE ROSTER OF PARCELS, GO THROUGH THE ENTIRE MODULE ONE PARCEL AT A TIME.

A PARCEL IS DEFINED AS A PIECE OF LAND OF ONE TENURE TYPE ENTIRELY SURROUNDED BY OTHER LAND, WATER, ROADS, FORESTS OF A DIFFERENT TENURE TYPE THAT MAY OR MAY NOT BE USE OR OWNED BY THE SAME HOUSEHOLD.

P A R C E L I D	1. PARCEL NAME  Please tell me about each agricultural parcel for which you or any household member currently uses, owns or holds use rights for, either alone or with someone else.  Please give me the name of each parcel.	2. LOCATION & DESCRIPTION OF THE PARCEL	3. ENUMERATOR: RECORD THE ID OF THE RESPONDENT.  LIST FROM HOUSEHOLD ROSTER	4. Under which tenure system is this [PARCEL]?  CUSTOMARY.....1 FREEHOLD.....2 LEASEHOLD.....3 STATE.....4 COMMUNITY/GROUP RIGHT.....5 COOPERATIVE.....6 OTHER (SPECIFY) : 9	5. Who in the household owns/ holds use rights to this [PARCEL]?  LIST UP TO 4 JOINT OWNERS OR USE RIGHT HOLDERS FROM HOUSEHOLD ROSTER.	6. Does your household have a document for this [PARCEL] issued by or registered at the Land Registry/Cadastral Agency, such as a title deed, certificate of ownership, certificate of hereditary acquisition, lease or rental contract?  YES.....1 NO.....2 ► 13	7. What type of documents does your household have for this [PARCEL], and which household members are listed as owners or use rights holders on each document?  LIST UP TO 3, SHOW PHOTO AID												8. Does anyone in the household have the right to sell [PARCEL], either alone or with someone else?  YES.....1 NO.....2 ► 9 DONT KNOW..98 ► 9 REFUSAL.....99 ► 9	9. Who can decide whether to sell [PARCEL]?  LIST UP TO 4 ID CODES FROM HOUSEHOLD ROSTER AND 1 CODE FROM OUTSIDE HOUSEHOLD, IF APPLICABLE.					10. Does anyone in the household have the right to bequeath this [PARCEL], either alone or with someone else?  YES.....1 NO.....2 ► 11 DONT KNOW..98 ► 11 REFUSAL.....99 ► 11					11. Who can decide whether to bequeath this [PARCEL]?  LIST UP TO 4 ID CODES FROM HOUSEHOLD ROSTER AND 1 CODE FROM OUTSIDE HOUSEHOLD, IF APPLICABLE.				
							DOCUMENT #1				DOCUMENT #2				DOCUMENT #3					CODE FOR NON-HH MEMBER				CODE FOR NON-HH MEMBER										
							DOC TYPE	HHID #1	HHID #2	HHID #3	HHID #4	DOC TYPE	HHID #1	HHID #2	HHID #3	HHID #4	DOC TYPE	HHID #1		HHID #2	HHID #3	HHID #4	HHID #1	HHID #2	HHID #3	HHID #4	NON-HH MEMBER	HHID #1	HHID #2	HHID #3	HHID #4	NON-HH MEMBER		
1																																		
2																																		
3																																		
4																																		
5																																		

FIGURE 7 – 5.A.1 QUESTIONS IN THE AGRICULTURAL PROGRAM : AGRICULTURAL PARCEL ROSTER (Q12-23)

SECTION 1. AGRICULTURAL PARCEL ROSTER & DETAILS (CONTINUED)

12. Is the area of this [PARCEL] reported on the document(s)?  YES...1 NO...2	13. What is the area of this [PARCEL]?  ENUMERATOR: IF AREA IS REPORTED ON THE DOCUMENT, ASK TO SEE THE DOCUMENT  <u>CODES FOR UNIT:</u> ACRE.....1 HECTARE.....2 SQUARE METERS...3 OTHER (SPECIFY)...9		14. How long does it take to reach this [PARCEL] from the dwelling or main farm building?  ON DWELLING/MAIN FARM BUILDING.....1 <10 MINUTES.....2 30 MINUTES-1 HOUR..3 1-2 HOURS.....4 2-3 HOURS.....5 >3 HOURS.....6	15. AREA MEASURED THROUGH GPS DEVICE				16. What are the three main uses of this [PARCEL]?  RESIDENTIAL.....1 CROP PRODUCTION.....2 GRAZING (MEADOWS AND PASTURES).....3 TEMPORARILY FALLOW.....4 FARM BUILDINGS.....5 AGRICULTURE.....6 FOREST.....7 BUSINESS/COMMERCIAL...8 UNUSED.....9 RENTED OUT/SHARECROPPED OUT.....10 GAVE OUT FOR FREE.....11 NO SECOND USE.....12 DON'T KNOW.....99 OTHER (SPECIFY).....99			17. How many crop plots are in this [PARCEL]?  A PLOT IS DEFINED AS A CONTINUOUS PIECE OF LAND ON WHICH A SPECIFIC CROP OR A MIXTURE OF CROPS IS GROWN OR WHICH IS FALLOW OR WAITING TO BE PLANTED.	18. What is the predominant soil type of this [PARCEL]?  READ ANSWERS  SANDY.....1 SANDY & CLAY.....2 CLAY.....3 LOAM.....4 OTHER (SPECIFY).....9	19. How would you rate the extent of erosion on this [PARCEL]?  READ ANSWERS  NO EROSION...1 LOW.....2 MODERATE...3 HIGH.....4	20. What type of erosion control/water harvesting facilities are on this [PARCEL]?  READ ANSWERS  LIST UP TO TWO STRUCTURES. IF NONE, RECORD "1" IN BOTH COLUMNS  NO EROSION CONTROL.....1 TERRACES.....2 EROSION CONTROL BUNDS.....3 GABIONS / SANDBAGS.....4 VEGETER GRASS.....5 TREE BELTS.....6 WATER HARVEST BUNDS.....7 DRAINAGE DITCHES.....8 OTHER (SPECIFY).....9		21. Is there any system of irrigation on this [PARCEL]?  YES...1 NO...2 ▶ NEXT SECTION	22. What is the method of irrigating plants/pouring water on the plants on this [PARCEL]?  READ ANSWERS  MANUAL IRRIGATION.....1 SPRINKLER IRRIGATION.....2 DRIFF IRRIGATION.....3 FLOODING/SURFACE IRRIGATION..4 EQUIPPED WETLAND/ INLAND VALLEY BOTTOMS.....5 EQUIPPED FLOOD.....6 RECESSION CULTIVATION.....7 SPATE IRRIGATION.....8 OTHER (SPECIFY).....9	23. What is the source of water on this [PARCEL]?  READ ANSWERS  WELL.....1 BOREHOLE.....2 LAKE/POND.....3 RIVER/STREAM...4 OTHER (SPECIFY) .9
	AREA	UNIT	CODE	LOCAL UNIT OF MEASUREMENT				1ST	2ND	3RD	NUMBER	CODE	CODE	1ST	2ND	CODE	CODE	

In the **Integrated Program**, the 5.a.1 questions appear in the Land Tenure section of the ILS-HH questionnaire, together with the additional question required for calculating Indicator 1.4.2. The questions needed for 5.a.1 are shown in green in Figure 8 and Figure 9.

For each parcel:

- Questions 10 and 11 identify the household members whose names appear on a legally recognized document of the parcel. The questionnaire allows listing up to three documents per parcel and a maximum of four household members per document. However, parcels rarely have more than two documents. The maximum number of household members and documents may be expanded easily in the case of computer-assisted personal interviewing (CAPI) implementation.
- Questions 13 and 14 identify the household members that have the rights to sell the parcel.
- Questions 15 and 16 identify the household members that have the rights to bequeath the parcel.

The criteria defining an individual as an owner or right holder of agricultural land are the same as above. However, the analyst shall bear in mind that, in the Integrated Program, the ILS-HH lists all the parcels, including non-agricultural parcels. These parcels shall be excluded from the computation of Indicator 5.a.1.

The other questions appearing in the ILS-HH Land Tenure section respond to other objectives of the questionnaire. For instance, the revenues obtained from parcels that are rented out contribute to the calculation of agricultural households' income.



FIGURE 8 – 5.A.1 QUESTIONS IN THE INTEGRATED PROGRAM: LAND TENURE SECTION (Q1-11)

SECTION 12: LAND TENURE

Q0. Do you or does any member of your household use, own, or hold use rights for any parcel of land, either alone or jointly with someone else, irrespective of whether the parcel is used by your or another household, and irrespective of the use of the parcel (ie., including dwelling, cultivated, pastoral, forest and business/commercial parcels)?

YES...1  
 NO...2 ▶ END OF INTERVIEW

ENUMERATOR: AFTER CREATING THE ROSTER OF PARCELS, GO THROUGH THE ENTIRE MODULE ONE PARCEL AT A TIME.

A PARCEL IS DEFINED AS A PIECE OF LAND OF ONE TENURE TYPE ENTIRELY SURROUNDED BY OTHER LAND, WATER, ROADS, FORESTS OR OTHER FEATURES OF A DIFFERENT TENURE TYPE THAT MAY OR MAY NOT BE USED OR OWNED BY THE SAME HOUSEHOLD.

1. PARCEL NAME  Please tell me about each parcel for which you or any household member currently uses, owns or holds use rights, either alone or with someone else. Please describe or give me the name of each parcel, starting with the parcel you reside on, if applicable.	2. LOCATION & DESCRIPTION OF THE PARCEL	3. ENUMERATOR: RECORD THE ID OF THE RESPONDENT.  LIST FROM HOUSEHOLD ROSTER	4. How was this [PARCEL] acquired?  GRANTED BY CUSTOMARY/COMMUNITY AUTHORITIES.....1 ▶8 ALLOCATED BY GOVERNMENT.....2 ▶8 ALLOCATED BY FAMILY MEMBER.....3 ▶8 INHERITED BY THE DEATH OF A FAMILY MEMBER.....4 ▶8 PURCHASED.....5 ▶7 RENTED IN SHORT-TERM (< 3 YEARS).....6 RENTED IN LONG-TERM.....7 SHARECROPPED IN.....8 ▶8 BORROWED FOR FREE.....9 ▶8 BRIDE PRICE.....10 ▶8 GIFT FROM NON-HOUSEHOLD MEMBER.....11 ▶8 MOVED IN WITHOUT PERMISSION.....12 ▶17 OTHER (SPECIFY).....13 ▶8	5. How much do you pay the owner for the use of this [PARCEL]?		6. How many months did this payment cover?	7. How much in total did you pay for [PARCEL] (include both cash and payments in-kind)?	8. Under which tenure system is this [PARCEL]?	9. Who in the household [owns/ holds use rights to] this [PARCEL]?	10. Does your household have a document for this [PARCEL] issued by or registered at the Land Registry/Cadastral Agency, such as a title deed, certificate of ownership, certificate of hereditary acquisition, lease or rental contract?	11. What type of documents does your household have for this [PARCEL], and which household members are listed as owners or use rights holders on each?															
				ESTIMATE THE VALUE OF IN-KIND PAYMENTS, EXCLUDING CROP OUTPUTS							LIST UP TO 3, SHOW PHOTO AID															
				CASH	IN-KIND						DOCUMENT TYPE:															
										YES...1 NO...2 ▶ 12	DOCUMENT #1				DOCUMENT #2				DOCUMENT #3							
	PID		CODE	\$	\$	NUMBER	\$	CODE			DOC. TYPE	HHID CODE #1	HHID CODE #2	HHID CODE #3	HHID CODE #4	DOC. TYPE	HHID CODE #1	HHID CODE #2	HHID CODE #3	HHID CODE #4	DOC. TYPE	HHID CODE #1	HHID CODE #2	HHID CODE #3	HHID CODE #4	
1																										
2																										
3																										
4																										
5																										

FIGURE 9 – 5.A.1 QUESTIONS IN THE INTEGRATED PROGRAM: LAND TENURE SECTION (Q12-23)

SECTION 12: LAND TENURE (CONTINUED)

12. ENUMERATOR: IS THIS PLOT RENTED IN (SHORT TERM), SHARE CROPPED, OR BORROWED FOR FREE ACCORDING TO QUESTION 4 (THAT IS, DOES Q4 EQUAL 6, 8, OR 9)?	13. Does anyone in the household have the right to sell [PARCEL], either alone or with someone else?  YES.....1 NO.....2 ▶ 15 DON'T KNOW..98 ▶ 15 REFUSAL.....99 ▶ 15  YES.. 1 ▶ 17 NO...2	14. Who can decide whether to sell [PARCEL]?  LIST UP TO 4 ID CODES FROM HOUSEHOLD ROSTER AND 1 CODE FROM OUTSIDE HOUSEHOLD, IF APPLICABLE.  CODE FOR NON-HH MEMBER:  RELATIVE.....1 SOCIAL OFFICER...2 CUSTOMARY LEADER..3 OTHER.....4	15. Does anyone in the household have the right to bequeath this [PARCEL], either alone or with someone else?  YES.....1 NO.....2 ▶ 17 DON'T KNOW..98 ▶ 17 REFUSAL.....99 ▶ 17	16. Who can decide whether to bequeath this [PARCEL]?  LIST UP TO 4 ID CODES FROM HOUSEHOLD ROSTER AND 1 CODE FROM OUTSIDE HOUSEHOLD, IF APPLICABLE.  CODE FOR NON-HH MEMBER:  RELATIVE.....1 SOCIAL OFFICER...2 CUSTOMARY LEADER..3 OTHER.....4	17. On a scale from 1 to 5, where 1 is not at all likely and 5 is extremely likely, how likely is [NAME of owner/use right holder] to involuntarily lose ownership or use rights to this [PARCEL] in the next 5 years?  REFER TO ID CODES IN Q9. IF "MOVED IN WITHOUT PERMISSION", ASK ABOUT THE PRINCIPLE COUPLE OF THE HOUSEHOLD.  NOT AT ALL LIKELY...1 SLIGHTLY LIKELY...2 MODERATELY LIKELY...3 VERY LIKELY.....4 EXTREMELY LIKELY...5	18. Is the area of this [PARCEL] reported on the document(s)?  YES...1 NO...2	19. What is the area of this [PARCEL]?  ENUMERATOR: IF AREA IS REPORTED ON THE DOCUMENT, ASK TO SEE THE DOCUMENT  CODES FOR UNIT: ACRE.....1 HECTARE.....2 SQUARE METERS...3 OTHER (SPECIFY)..4	20. ENUMERATOR: REPORT THE SOURCE OF INFORMATION  RESPONDENT DECLARATION...1 DOCUMENT.....2	21. What are the three main uses of this [PARCEL]?  RESIDENTIAL.....1 CROP PRODUCTION.....2 GRADING (MEADOWS AND PASTURES).....3 TEMPORARILY FALLOW...4 FARM BUILDINGS.....5 AGRICULTURE.....6 FOREST.....7 BUSINESS/COMMERCE...8 UNUSED.....9 RENTED OUT/SHARECROPPED OUT.....10 GAVE OUT FOR FREE.....11 NO SECOND USE.....12 DON'T KNOW.....88 OTHER (SPECIFY).....99	21A. ENUMERATOR: is this parcel entirely or partially used for crop production?  YES.....1 NO.....2	21B. ENUMERATOR: is this parcel entirely or partially rented out or sharecropped out?  YES...1 NO...2 ▶ NEXT PARCEL	22. How much do you receive from renting out/sharecropping out this [PARCEL]?  ESTIMATE THE VALUE OF IN-KIND RECEIPTS, INCLUDING CROP OUTPUTS		23. How many months did this payment cover?													
												CASH			IN-KIND												
												\$	\$		\$	\$											
HHID CODE #1	HHID CODE #2	HHID CODE #3	HHID CODE #4	NON-HH MEMBER	HHID CODE #1	HHID CODE #2	HHID CODE #3	HHID CODE #4	NON-HH MEMBER	INDIVIDUAL 1 ID	INDIVIDUAL 1 RESPONSE	INDIVIDUAL 2 ID	INDIVIDUAL 2 RESPONSE	INDIVIDUAL 3 ID	INDIVIDUAL 3 RESPONSE	INDIVIDUAL 4 ID	INDIVIDUAL 4 RESPONSE	AREA	UNIT	1st	2nd	3rd					

#### 4. Parcel-level approach: calculation procedure

When the questions relating to SDG Indicator 5.a.1 are collected at the parcel level, the calculation of the indicator requires working with:

1. the PARCEL dataset, which reveals the ID of the household members with a legal document in their name or with alienation rights (e.g., to sell or bequeath), and
2. the MEMBER dataset, which contains the sex and age of all household members.

In addition, the holding/household-level dataset is needed for the identification of agricultural holdings/households.

Below is a summary of the steps required for the calculating the indicator.

##### **In the holding/household dataset:**

1. Identify the holdings/households engaged in agriculture, i.e., those that are:
  - cultivating crops for their own account, regardless of the destination of the production, and/or
  - raising livestock for their own account, regardless of the destination of the production.

The following computational steps will be conducted only on the holdings/households that meet at least one of the criteria above, because Indicator 5.a.1 refers to agricultural population.

##### **In the PARCEL dataset:**

2. For each individual, count the parcels where the individual appears as owner or right holder on the legal document.
  - The count shall be repeated as many times as the number of names allowed in the questionnaire.
  - The count shall be repeated as many times as the number of documents allowed in the questionnaire<sup>10</sup>.
3. For each individual, count the parcels that the individual can sell.
  - The count shall be repeated as many times as the number of names allowed in the questionnaire.
4. For each individual, count the parcels that the individual can bequeath.
  - The count shall be repeated as many times as the number of names allowed in the questionnaire.

Each count above is stored in a separate 'working' file. The number of files generated may vary between three and 18. Three will be generated if the questionnaire allows recording of only one document per parcel, one name per document, one person with the right to sell and one person with the right to bequeath.

Figure 10 shows the type of count described above. In this example, the individual with ID 4 has been mentioned as the 'first person' with the right to bequeath on all three parcels of the household (H00006211D). In two parcels, ID4 shares this right with ID1, who appears as the 'second person' with the right to bequeath.

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<sup>10</sup> If, for example, the questionnaire allows reporting up to three documents and up to four household members, the count will be done 12 times.

When the statistical software counts the number of parcels that each household member can bequeath 'as first person', it generates a new file where each household member appears with the number of parcels that they can bequeath 'as first person'. The same happens when the software counts the number of parcels that each household member can bequeath 'as second person', and so on.

FIGURE 10 – 5.A.1 COMPUTATION: FROM PARCEL LEVEL DATA TO INDIVIDUAL LEVEL DATA

	household_id	PARCELS_id	canSell_ID1	canSell_ID2	canSell_ID3	canBequeat~1	canBequeat~2	canBequeat~3
1	H00003100D	1	1	.	.	1	.	.
2	H00006211D	1	.	.	.	4	.	.
3	H00006211D	2	.	.	.	4	1	.
4	H00006211D	3	.	.	.	4	1	.
5	H00013579D	1	.	.	.	.	.	.
6	H00013579D	2	.	.	.	.	.	.

↓

	household_id	PID	N_member1_~h
1	H00003100D	1	1
2	H00006211D	4	3
3	H00025441D	1	1

**In the MEMBER dataset:**

5. The information stored in the working files is imported into the MEMBER dataset.
6. Since Indicator 5.a.1 does not aim to report the number of parcels the individuals have rights over, the analyst shall simply combine the imported information in three dichotomous variables:
  - **nameOnDocument.** Equal to 1 if the individual’s name appears at least once on a legally recognized document. Otherwise equal to 0.
  - **canSell.** Equal to 1 if the individual can sell at least one parcel. Otherwise equal to 0.
  - **canBequeath.** Equal to 1 if the individual can bequeath at least one parcel. Otherwise equal to 0.

While these intermediate variables are not necessary to monitoring Indicator 5.a.1, they allow interesting analysis on the types of rights and how they overlap.

7. As a final step, summarize the three variables above into a dichotomous variable (‘rights’) which is equal to 1 if an individual enjoys at least one of the three rights, regardless of the number of parcels they have rights over.
8. Calculate Indicator 5.a.1 – part a: report the frequency distribution of the variable rights, by sex.
9. Calculate Indicator 5.a.1 – part b: report the share of women among the individuals having at least one right. This part requires that the share of women among rights holders is disaggregated by type of tenure. To do so, it is sufficient to repeat steps 2-10 for each tenure type (see Annex III).

### 5. Additional analysis

As mentioned above, parcel-level data allows a more in-depth investigation of women’s land tenure rights. This section proposes additional analysis that can be undertaken to better understand the dynamics of gender-based land tenure disparities.

- Additional analysis may disclose the extent to which the rights overlap, for example, how often individuals whose names appear on the legally recognized documents can also pass the land

on. Such analysis should be conducted at the parcel level and may also take into account differences between men and women, i.e., how often rights overlap in women compared to men.

- Related to the point above, analysts may report gender-based disparities over each single right (i.e., name on document; right to sell; right to bequeath). This type of study helps understand if and to what extent one proxy can adequately represent the gap between men and women.
- In addition to the relationship between the various types of rights, the analysis may look deeper into the differences between men and women. For example, analysts may report:
  - The amount of land individuals have ownership of/rights over<sup>11</sup>, disaggregated by sex of the owner/right holder.
  - The amount of land individuals have ownership of/rights over by soil type and sex of the owner/right holder.
  - The amount of land individuals have ownership of/rights over by erosion level and sex of the owner/right holder.
  - The amount of land individuals have ownership of/rights over by presence of irrigation and sex of the owner/right holder.

These tabulations could disclose gender disparities that may not appear if analysts simply report on Indicator 5.a.1. Additional variables concerning land characteristics may be considered in this analysis, depending on the content of the country questionnaire.

- Finally, at a multivariate level, analysts may assess to what degree receiving a positive score on Indicator 5.a.1 or on one of the rights, determines behavior (e.g., investments on the land) or productivity outcomes (e.g., yield).

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<sup>11</sup> I.e., variable 'rights' equal to 1.

## References

Deere, C. D. and Leon, M. 2003. The Gender Asset Gap: Land in Latin America. *World Development* 31 (6): 925-47.

Deere C. D. and Doss, C. R. 2006. The Gender Asset Gap: What Do we Know and Why Does It Matter? *Feminist Economics* 12 (1-2): 1-50. DOI: [10.1080/13545700500508056](https://doi.org/10.1080/13545700500508056)

Doss C. R., Meinzen-Dick R., Bomuhangi A., 2014. Who Owns the Land? Perspectives from Rural Ugandans and Implications for Large-Scale Land Acquisitions. *Feminist Economics* 20 (1): 76-100. DOI: [10.1080/13545701.2013.855320](https://doi.org/10.1080/13545701.2013.855320)

FAO, 2012. *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forest in the context of national food security*. Rome: FAO.

FAO, 2015. *World Programme of the Census of Agriculture 2020, Volume 1: Programme, Concepts and Definitions*. Rome: FAO.

FAO, World Bank, UN HABITAT, 2019. *Measuring Individuals' Rights to Land: An Integrated Approach to Data Collection for SDG Indicators 1.4.2 and 5.a.1*. Washington, DC: World Bank.

GSARS, 2017. *Guidelines for Collecting Data for Sex-disaggregated and Gender-specific Indicators in National Agricultural Surveys*. Rome.

Panter E. and Arekapudi N. 2018. *Mapping the Legal Gender Gap in Agriculture*. Washington, DC: World Bank.

Slavchevska, V., Doss, C., De La O Campos, A., and Brunelli, C. 2020. Beyond Ownership: Women's and Men's Land Rights in Sub-Saharan Africa. *Oxford Development Studies*. DOI: [10.1080/13600818.2020.1818714](https://doi.org/10.1080/13600818.2020.1818714)

UNSD, 2019. *Guidelines for Producing Statistics on Asset Ownership from a Gender Perspective*. New York: United Nations.

Valera, A., et al. 2018. Women's Land Title Ownership and Empowerment: Evidence from India. *Economics Working Paper Series* (559). Manila: Asian Development Bank.

[Annex I: ILP-PP Agricultural Parcel Roster Section](#)



Annex I: ILP-PP Agricultural  
Parcel Roster.xlsx

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[Annex II: ILS-HH Land Tenure Section](#)



Annex II ILS-HH  
Land Tenure.xlsx

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[Annex III: STATA code and directory for parcel-level dataset](#)



5a1.zip

