Use of AGRISurvey data for computing SDG’s and national indicators
Experience in three countries

AGRISurvey Country brief

The Food and Agriculture Organization of the United Nations (FAO) AGRISurvey programme helps countries strengthening their national agricultural surveys systems and promotes the access and use of agricultural statistics.

Since its launch in 2017, the programme has been assisting ten countries, providing methodological and/or financial support to improve the existing national agricultural surveys.

In 2019, select AGRISurvey countries, including the three featured in this brief, transitioned to the 50x2030 Initiative to Close the Agricultural Data Gap.

> AGRISurvey supports countries in monitoring the targets set by the 2020 Development Agenda for the agricultural sector. In particular, the programme has provided support to Cambodia, Senegal and Uganda in monitoring the Sustainable Development Goals (SDG) Indicators 2.3.1, 2.3.2, 2.4.1 and 5.a.1.

> Thanks to AGRISurvey, Senegal and Cambodia were able to generate national and sub-national estimates of SDG indicator 2.3.1, on labor productivity, and Senegal computed estimates of SDG indicator 2.3.2, on income of small scale farmers.

> Uganda has been the first AGRISurvey partner country to report on SDG indicator 5.a.1, on gender-based inequalities on land tenure rights.

> AGRISurvey has contributed to improving the country capacity to monitor the progress of the agricultural sector and to use the data for policy design.
The FAO AGRISurvey programme helps countries strengthening the national agricultural surveys systems and promotes the access and use of agricultural statistics. Through a farm-based multi-year survey programme, AGRISurvey promotes the collection, dissemination and use of sound, timely and regular data on agriculture. The programme considers the social, economic, technical and environmental characteristics of agricultural holdings and aims to produce data that support evidence-based policy decisions.

Since its launch in 2017, the FAO AGRISurvey programme has been assisting ten countries, providing methodological and/or financial support to improve the existing national agricultural surveys. In 2019, select AGRISurvey countries, including the three featured in this brief, transitioned to the 50x2030 Initiative to Close the Agricultural Data Gap.

The 50x2030 Initiative is a multi-partner programme that seeks to bridge the global agricultural data gap by transforming country data systems in 50 countries in Africa, Asia, the Middle East and Latin America by 2030.

While responding to national data needs and policies is at the core of the AGRISurvey and of the Initiative, monitoring the targets set by the 2030 Development Agenda for the agricultural sector is paramount – particularly, the increase of productivity and incomes of small-scale food producers (target 2.3), the adoption of sustainable and resilient agricultural practices (target 2.4) and the promotion of gender equality in access to economic resources (target 5.a) (Figure 1).

This brief uses the example of Cambodia, Senegal and Uganda to demonstrate how the Programme can make the difference in improving the country capacity to monitor the progress of the agricultural sector and to use the data for policy design.
Based on the data from the survey cycle 2018–19, the EAA reveals that small-scale holdings represent 64 percent of the total holdings operating in household sector, and that their labour productivity is equal to 1 361 CFA francs or 5.67 PPP (constant 2011 international US Dollars), which is considerably lower than the non-small-scale holdings (CFA 2 849 or 11.9 PPP).

Looking at the three principles distinguishing the small-holders from the non-small-scale holders – i.e., land, livestock and volume of production – all the small-scale holders in Senegal operate less than five hectares of land and 80 percent of them operate less than three hectares; they all have a Tropical Livestock Unit (TLU) index lower than 10.5 and their volume of production is smaller than 3 433 PPP.

**Sustainable Development Goal 2.3.1 – Labour Productivity**

Monitoring the labour productivity of small-scale food producers recognizes the essential role that small-scale farmers have in promoting food production across the world, while facing great constraints in accessing land, inputs and other productive resources, knowledge, financial services, markets and opportunities.

Thanks to the successful implementation of the AGRISurvey programme, Senegal and Cambodia were able to generate national and sub-national estimates of Sustainable Development Goal 2.3.1 through their national agricultural surveys.

### Senegal

**Three cycles of the annual surveys** (Enquête Agricole Annuelle - EAA) have been successfully conducted under the technical and financial assistance of the AGRISurvey Programme: EAA 2017–18, EAA 2018–19 and EAA 2019–20. The methodological improvements made on the EAA allowed the calculation and the dissemination of SDG indicator 2.3.1 already through the EAA 2017–18 data.²

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³ Labour productivity is the volume of production per labour day. Volume of production is expressed in monetary terms; labour is expressed in man-days.

⁴ See http://anads.ansd.sn/index.php/catalog/218/related-materials. Due to data availability, the indicator 2.3.1 is computed only crop production, including rain-fed crops and horticulture. In addition, given the survey coverage, the small-scale holders refer only to the household sector.

⁵ Franc adopted by the Financial Community of Africa (FCA) and used in Western and Central Africa.

⁶ Purchasing power parity.

⁷ TLUs convert livestock numbers to a common unit. TLUs are compiled by multiplying the metabolic conversion rates for each livestock unit by the number of livestock.
In spite of their high proportion (almost 2/3) in the total number of holders, in the agricultural year 2018–19, the small-scale farmers generated a volume of crop production equal to 381 973 276 PPP, which constitutes only 31 percent (almost 1/3) of the total volume of crop production (1 227 652 103 PPP).

Cambodia

In Cambodia, the data required for the calculation of SDG 2.3.1 were included already in the first survey round conducted under the auspices of the programme – i.e., the Cambodia Inter-Censal Agriculture Survey 2019 (CIAS 2019).

The CIAS 2019 reveals that 75 percent of the total holdings of the country are small-scale. In Cambodia, the productivity gap between small and non-small farms is larger than the one observed in Senegal. In fact, the labour productivity of the small holders is equal to 13 182 Riel or 9.02 PPP (constant 2011 international USD) per labour-day, against 78 554 Riel or 53.8 PPP per labour-day of the non-small holders. This gap is not surprising, since the CIAs includes the non-household sector holdings while the Senegal EAA covers only the farms operating in the household sector.

All the small-scale holders in Cambodia operate less than 3.2 hectares of land; they all have a TLU lower than 2.85 and their volume of production is smaller than 34 380 PPP. During the agricultural year 2019, the small-scale holders generated 14 percent of the total volume of production produced in the country (3 522 926 998 out of 24 901 492 423 PPP).

The global level monitoring of SDG 2.3.1 requires the collection of comparable data on the value of production, labour input and the physical and economical size of the farms in the entire agricultural sector. Yet, national surveys have their own specificities or restrictions. Table 1 provides an overview of the data availability in Senegal and Cambodia and reminds of the caution needed when comparing data across countries and time.
Use of AGRISurvey data for computing SDG’s and national indicators Experience in three countries

**TABLE 1. Availability of the 2.3.1 data in Senegal and Cambodia**

<table>
<thead>
<tr>
<th>DATA REQUIRED</th>
<th>SENEGAL</th>
<th>CAMBODIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Sector coverage</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Non-Household Sector coverage</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Agricultural Area</td>
<td>☒ For crop production ☒ For crops and aquaculture</td>
<td></td>
</tr>
<tr>
<td>Number of Animals</td>
<td>☒ But excluded from calculation</td>
<td></td>
</tr>
<tr>
<td>Value of Crop Production</td>
<td>☒ For rain-fed crops and horticulture ☒ For 20 main crops</td>
<td></td>
</tr>
<tr>
<td>Value of Livestock Production</td>
<td>☒ But excluded from calculation</td>
<td></td>
</tr>
<tr>
<td>Value of Aquaculture Production</td>
<td>☒ But excluded from calculation</td>
<td></td>
</tr>
<tr>
<td>Value of Fishery Production</td>
<td>☒ But excluded from calculation</td>
<td></td>
</tr>
<tr>
<td>Value of Forestry Production</td>
<td>☒ ☒</td>
<td>☒ ☒</td>
</tr>
<tr>
<td>Labour Input (time)</td>
<td>☒ For crop production only</td>
<td>☒</td>
</tr>
</tbody>
</table>


**FIGURE 4. Value of crop production (PPP) per labour-day of small holders in Uganda**

Source: FAO analysis on the Uganda Annual Agricultural Survey 2018 data.

**FIGURE 5. Percentage of agricultural households by use of inputs and services across agro-ecological zones**


**Uganda**

In Uganda, official 2.3.1 estimates will be computed using the Annual Agricultural Survey (AAS) 2019; yet the 2018 data allow for an interesting analysis on the labour crop productivity of the second crop season.

The AAS 2018 indicates a large difference on the value of crop production per labour-day (PPP) between the small-scale holders (5.2 PPP) and non-small-scale holders (12.7 PPP). The labour productivity of the small-holders shows clear associations with the use of agricultural inputs. For instance, the small-holders applying inorganic fertilizers have a value of crop production per labour-day as high as 7.3 PPP against 5 PPP of the small-holders not using inorganic fertilizers (Figure 4). These results will be validated with the 2019 data, which will cover the two crop seasons and include both crop and livestock.

These findings remind the strategic importance of modernizing the Ugandan agricultural sector, which is still predominantly rain-fed, based on traditional seeds, and with limited use of fertilizers and disease control products, and is characterized by a low penetration of extension services (Figure 5). Subsidy programmes may help overcoming the main reason why fertilizers are not applied in Uganda (i.e., their cost).
However, sensitization campaigns and extension services are equally important to contrast the common belief according to which the Ugandan soil does not need fertilization, due to its high productivity (reported by the 24 percent of holders).

Sustainable Development Goal 2.3.2 – Income of small-scale producers

The SDG indicator 2.3.2 refers to the average income of small-scale holders. Like the previous, this indicator is vital for governmental efforts to drive the nation’s economy, eliminate hunger and poverty and reduce inequality.

Estimates of the income of small-scale holders have been generated in Senegal using the EAA 2018–19. The survey reveals that the average income of the small-scale holders is 1,058 PPP, which is one fourth the average income of the non-small-scale holders (4,682 PPP). When disaggregating by sex, female small-scale holders show an average income lower than their male counterparts (Figure 6).

<table>
<thead>
<tr>
<th>Holding Size</th>
<th>Male-Headed Small Scale</th>
<th>Female-Headed Small Scale</th>
<th>Non-Small Scale</th>
<th>All Holdings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Income (PPP)</td>
<td>1,094</td>
<td>794</td>
<td>4,682</td>
<td>2,421</td>
</tr>
</tbody>
</table>

Source: FAO analysis on the EAA 2018–19.

Sustainable Development Goal 5.a.1 – Women’s land tenure rights

Indicator 5.a.1 measures the extent of women’s disadvantages in their land tenure rights over agricultural land. Together with indicator 5.a.2, it provides a basis for policy measures aimed at securing equal opportunities and access to rights and resources that are relevant for the agricultural sector.

Uganda is the first AGRISurvey partner country that reported on SDG indicator 5.a.1. The survey findings show that, in spite women work on the farm more than men; they do not enjoy the same tenure rights on the agricultural land. Forty percent of the adults living in agricultural households hold rights over the agricultural land they cultivate. This proportion gets as high as 49 percent among men, while it is only 31 percent among women (see figure 7.a).

Similar results are observed focusing on the strongest of the three 5.a.1 proxies – i.e., having the name on the land legal document. Overall, 13 percent of adults have their name on a legally recognized document. Such percentage is higher among men (18 percent) than women (9 percent).

The income is defined as the value of total production from on-farm activities minus the operating costs. It includes crop, livestock, fishery, aquaculture and forestry.


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Use of AGRISurvey data for computing SDG’s and national indicators: Experience in three countries

Data use for policymaking: the Uganda experience

AGRISurvey promotes the use of empiric evidence for the design and the monitoring of development plans for the agricultural sector.

In Uganda, the Annual Agricultural Survey (AAS) is well placed to respond to the data required by the National Development Plan II (NDP II) and the AGRISurvey Programme supported the country in ensuring a regular monitoring of the National Standard Indicators (NSI). In fact, of the ten agricultural sector outcome indicators that are eligible to be collected by a farm-based survey, the AAS survey tools cover eight indicators, either partially or totally. The partial coverage is often due to the impossibility to provide data for all the priority and strategic commodities, especially the rare ones that would require their own expanded sample.

In Uganda, relying on the established institutional coordination processes, FAO supported the Ministry of Agriculture, Animal Industry and Fishery (MAAIF) in establishing some main objectives of the Uganda NDP-III 2020–2025 Agro-industrialization Programme Implementation Action Plan (AgroPIAP) and promoted the use of the ASS 2018 estimates in identifying challenges and cross-cutting issues relevant to agricultural sector performance and determining benchmarks for the next quinquennium.

In particular, thanks to the AGRISurvey programme, the AgroPIAP benefited from AAS estimates concerning production, area and yields of food security and cash crops, agricultural extension services, inputs, irrigation, land tenure, credits and shocks. Such data allowed the defining of realistic targets for the strategic plan and they will allow the establishment of a robust monitoring system.

The importance of this achievement in Uganda is even more evident since one of the main shortcomings of the previous plan (NDP-II) was precisely the lack of data which prevented an objective quantification of the progress made over the 2015–2020 period.

Next steps

The adoption of new survey tools covering SDG indicators requires an initial investment and sometimes needs alignment with other methodological changes undertaken by the survey system. However, as shown in figure 9, as time progresses almost all AGRISurvey countries will be able to cover at least one SDG indicator. In some cases, the decision not to address an indicator is made with the awareness that other survey instruments will cater the required information. The activities in the three countries will continue under the 50x2030 Initiative to Close the Agricultural Data Gap.