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COMPUTING PRODUCTIVITY AND INCOME OF SMALL-SCALE FOOD PRODUCERS TO MONITOR TARGET 2.3 OF THE 2030 AGENDA

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Summary

Target 2.3, one of the outcome targets of SDG 2, aims to double, by 2030, "the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment." The progress in achieving this target will be monitored by indicators 2.3.1 and 2.3.2, which are "volume of production per labour unit by classes of farming/pastoral/forestry enterprise size", and "average income of small-scale food producers, by sex and indigenous status", respectively. The purpose of this note is to inform and propose an appropriate statistical methodology for computing and monitoring target 2.3 and measure progress in SDG indicators 2.3.1 and 2.3.2. TO this end, the target population must be identified, that is, the "small-scale food producers".

The FAO proposes to define small-scale food producers using a combination of two criteria, namely the physical size of the food producer, as expressed by the amount of operated land and number of livestock heads in production, and the economic size of the food producer, as expressed by its revenues. These criteria are applied in relative terms. Indicator 2.3.1 focuses on labour productivity. The numerator is the volume of agricultural/livestock/fisheries/forestry production and the denominator is the labour input. SDG indicator 2.3.2 focuses on income from on-farm production activities, that is, on the production of agricultural and food products, including crops, livestock, fishery, aquaculture and forestry products.

I. Introduction

Following the adoption of 2030 Agenda for Sustainable Development, the UN Statistical Commission agreed on a list of 232 unique global indicators to track the progress of the 169 targets and 17 Sustainable Development Goals (SDGs). Each Goal is composed of several targets. Goal 2 includes 5 outcome targets and 3 targets on "means of implementation".

Target 2.3, one of the outcome targets of SDG 2, aims to double, by 2030, "the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment." The progress in achieving this target will be monitored by indicators 2.3.1 and 2.3.2, which are "volume of production per labour unit by classes of farming/pastoral/forestry enterprise size", and "average income of small-scale food producers, by sex and indigenous status", respectively.

The purpose of this note is to inform and propose an appropriate statistical methodology for computing and monitoring target 2.3 and measure progress in SDG indicators 2.3.1 and 2.3.2. These indicators are currently classified as Tier III in the SDGs monitoring framework, as an international methodology for measuring them is not yet agreed among member countries.

The methodology entails three steps. First, the target population must be identified and selected, that is, the "small-scale food producers". Second, the "volume of production per labour unit by classes of farming/pastoral/forestry enterprise size" must be computed. Finally, the "average income of small-scale food producers, by sex and indigenous status" must be calculated.

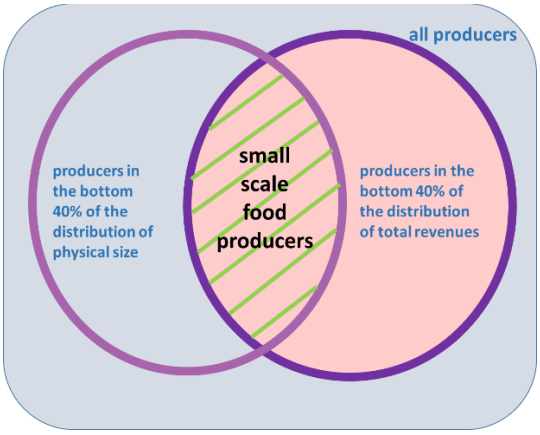
II. A proposal for defining and identifying "small-scale food producers"

The FAO proposes to define small-scale food producers using a combination of two criteria, namely the physical size of the food producer, as expressed by the amount of operated land and number of livestock heads in production, and the economic size of the food producer, as expressed by its revenues. These criteria are applied in relative terms.

In practice, FAO proposes to define small-scale food producers as producers who:

- Physical size
    - operate an amount of land falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of land size at national level (measured in hectares); and
    - operate a number of livestock falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of the number of livestock per production unit at national level (measured in Tropical Livestock Units – TLUs); and
- Economic size
    - obtain an annual economic revenue from agricultural activities falling in the first two quintiles (the bottom 40 percent) of the cumulative distribution of economic revenues from agricultural activities per production unit at national level (measured in Purchasing Power Parity Dollars).

A visual demonstration of the definition is provided below.



It is important to highlight that the definition of small-scale food producers" proposed here is only meant to serve the purpose of computing and monitoring SDG indicators 2.3.1 and 2.3.2, and it is not intended to replace country-specific definitions. National definitions reflect national policy priorities, while the proposed international definition ensures global reporting of the SDG indicators. Therefore countries will be requested to collect data in a way that allows monitoring both national and international definitions.

The proposed definition and the associated method to identify "small-scale food producers" was submitted to member countries through a mechanism put in place by UNSD and endorsed by the Chairs of the IAEG-SDG in August 2017. Feedback was received from 58 national and regional institutions. The results of the consultation led the custodian agency to conclude that the proposed definition constitutes a viable option for monitoring the SDG indicators 2.3.1 and 2.3.2.

Why using a combination of two criteria? The choice of relying on land size and the size of herds reflects the aim of capturing structural constraints in production. The assumption is that producers with small endowments of key resources are likely to be disadvantaged vis-à-vis those operating on a larger scale. However, the physical size fails to consider the quality of the land and the livestock, the type of crops grown, the farming systems, and the many and wide disparities that exist across countries and regions in terms of socio-economic and agro-ecological characteristics and distribution of resources. As an obvious example, one hectare of specialized horticultural production in high-tech greenhouses in a rich peri-urban area well connected to markets is not comparable to one hectare of cassava in a remote small village.

To overcome these limitations, it is proposed to combine the physical size of the food producer with its economic size, expressed by the revenues from farming activities (revenues from other type of activities, instead, are not be considered). This additional criterion provides a more accurate view and a more precise identification of small-scale food producers compared to land and herds' size only. Consistent with the spirit of target 2.3 of SDG-2, the combination of physical constraints and economic results allows capturing and identifying as small-scale food producers those producers that have limited access to land, resources, input and technology, and obtain poor economic results. The use of revenue as an additional criterion, in other words, reduces the risk of classifying as small-scale food producers who manage to achieve substantive economic results, even from a small resource base.

One limitation of the revenue as a measure of economic size is that it does not take into account differences in production costs among farms, which can be significant. This variable is preferable to any proxy of income – or the gross margin – as indicator 2.3.2 is aimed at measuring income. Moreover, data on costs of production are more difficult to obtain and less frequently collected than data on revenues. Similarly, another limitation that is worth noting is the fact that all the variables chosen to

identify smallholders – land, livestock heads and revenues – exhibit some degree of correlation with income and productivity. This is the case for virtually any variable that can be used to describe the scale of production.

It is also important to underline that the proposed definition of small-scale producers can be applied to fisheries, aquaculture and forestry producers, only to the extent that these activities are conducted in combination with farming activities. The specificities of production in these sub-sectors allow using only the economic revenues, while the other two criteria proposed are not applicable to these particular cases. For what concerns forestry, production happens to a large extent on land which is not owned, nor exclusively accessed by individual households. Thus, measuring the size of land operated by a single farm for forestry-related activities is not straightforward. Similar considerations apply to the fisheries and aquaculture sectors, where variables other than land size and TLUs may be necessary to define the physical size of the holding, such as the number of boats in the case of fisheries.

The proposed methodology uses a relative approach to define thresholds in criterion variables. A relative approach sets thresholds at the same point in the cumulative distribution of the three variables; examples are any percentile of the distribution of land, herds and revenues in each country. In this way, thresholds are established with a unique criterion, but its application yields different thresholds in each country, depending on the shape of the distribution of the criterion variables. Depending on the distribution of land, livestock heads and revenues in a given country, therefore, thresholds that identify small-scale food producers can be, for example, 5 hectares in one country and 10 hectares in another; or 3 livestock heads in one country and 6.5 livestock heads in a another; or 1,500 $ in one country and 2,800 $ in another. An absolute definition, instead, would assigns for each criterion variable the same exact threshold in all countries – say, for instance, 5 hectares, 5 livestock heads and 1000 $ of revenue -- regardless of agro-ecological and socio-economic conditions.

The absolute approach has the advantage of enhancing comparability across countries. However, this approach makes it difficult and somewhat arbitrary the identification of unique thresholds and disregards differences among national contexts. For instance, a 5-hectare land size may capture virtually all producers in a country where natural conditions and the organization of production determine a small average farm size. However, the same threshold may be capturing a negligible share of producers in countries where the average farm size is much larger.

The relative approach, instead, identifies producers in each country who are relatively disadvantaged in terms of access to land, availability of livestock and economic revenues with a homogeneous criterion. This approach reflects more effectively the differences in agro-ecological, demographic, economic and technological characteristics that shape the distribution of land, herds and revenues in each country.

Moreover, for the purpose of monitoring SDG indicators 2.3.1 and 2.3.2, the relative approach shows another key advantage over the absolute approach. If defined by an absolute threshold, the composition of the small-scale producers group will inevitably change over time, and more likely decrease in size. The best performing producers will "graduate" to a non-small-scale condition, while the worst performing producers will not; and some bad performers may enter the small-scale's group. An absolute threshold, in other words, would generate an adverse selection bias, which would lead to monitor the worst performers. This may yield paradoxical results. For instance, a country in which the number of small-scale food producers would be drastically reduced may report no progress on indicators 2.3.1 and 2.3.2, if those few remaining below the "small-scale food producers" thresholds were to show no progress in income and labour productivity. With a relative threshold, instead, that same country would report progress, as the improvements of producers' access to land, herds and revenues would affect the distribution of these variables, and thus signal the changed conditions of producers located in the designated part of the distribution.

The proposed definition, being based on a relative approach, has the advantage of maintaining comparability among countries, in the spirit of the 2030 Sustainable Development Agenda, while at the same time acknowledging the wide diversity of national contexts in which small-scale food producers operate.

The choice of the bottom 40%, as many relative and absolute thresholds, is somewhat arbitrary. However, the bottom 40% -- or two quintiles of the distribution – is consistent with experts' recommendations, and with common practices. For example, it is used by the World Bank in its measurement of Shared Prosperity.

The amount of land available to an agricultural producer must be considered in terms of the "operated" land. This is defined as the amount of land effectively used; it includes the land that is cultivated with temporary and permanent crops, the land rented in, and fallow land (that is, the areas left uncropped at the time of data collection, and not dedicated to grazing). Excluded from the operated is the land rented out, the forestland and the land abandoned prior to the reference period.

Computation of the threshold of the bottom 40% of operated land size distribution is done by first creating a variable that is the cumulative distribution of the operated land size. From this variable, the point that corresponds to the 40% of the cumulated distribution is identified. This point is chosen as the threshold that separates the bottom 40% from the top 60%. Producers included in the bottom set constitute those who fulfill the first criterion.
The second criterion of the physical size is the size of livestock holdings of the food producers. The number of livestock available to a producer must be considered in terms of Tropical Livestock Units (TLUs). This is a conversion scale developed by FAO for global comparisons, which standardizes different livestock types in a single measure through conversion factors valid for specific livestock varieties in each region of the world. The mean of comparison is the basal metabolic rate, which is the energy expenditure per unit of body weight per unit time.
Finding the bottom 40% of the TLU distribution requires the same methodology applied above for the operated land. The cumulative distribution of the TLUs of the country is considered, to find the point that corresponds to the 40% of the cumulated distribution. This is identified as the bottom 40% threshold. Producers included in the bottom set constitute those who fulfil the second criterion.

Revenues from agricultural activities include those generated by crop, livestock fisheries, aquaculture and forestry. Given i agricultural activities, including crops, livestock, fisheries and forestry activities, for each producer k, revenues can be written as

$$R_k^t = \sum_k V_{ik}^t p_{ik}^t$$

where:

V_{ik}^t is the physical volume of agricultural product i sold by producer k during year t;

p_{ik}^t is the constant selling price received by the small-scale food producer k for the agricultural product i during the same year t.

In details, physical volumes V_{ik}^t are derived, for each k producer, from the following items.

Crop revenues: crop sold, crop for own consumption, crop used as feed, crop saved for seed, crop stored, crop used for by-products, crop given as gift, crop used for paying labour, crop used for paying rent, crop used for paying inputs, crop given out in sharecropping agreement

(sharecrop out), crop wasted. Similar criteria apply for the computation of revenues from tree crops and forestry products.

Livestock revenues: livestock sold (alive), livestock gifts given away (component can only be kept if stock variation is possible to construct), livestock by-/products sold, livestock products self-consumed, livestock by-products self-used (also a cost in crop, for example dung used as fertilizers), livestock by-/products pay away, livestock by-/products credit away.

Forestry revenues: products sold, forestry products for own consumption, forestry products stored, forestry products used for paying labour, forestry products used for paying rent, forestry products used for paying inputs, forestry products given out in sharecropping agreement, Forestry products wasted.
Fisheries revenues: captured fresh fish sold, captured processed fish sold, captured fresh fish for own consumption, captured processed fish for own consumption, traded fresh fish sold, traded processed fish sold.

Significant difficulties are likely to arise in the identification of p_ik, that is, of a vector of constant prices to be attributed to each of items listed. First, detailed data on selling prices at the farm level are not always available. When they are not, convenient proxies need to be identified for the closest available territorial entity, such as median prices referred to the same district, province or even at the national level. Second, for all the items which are not sold in the market -- such as own-consumed products or products used for in-kind payment and barters -- market prices do not apply. A correct evaluation would require an assessment of the shadow prices for each such item, indicating their opportunity cost, which are heavily dependent upon context-specific conditions. In fact, it looks unlikely that the computation of revenues of a large sample of producers, such as the one required in this case, can rely on credible and detailed shadow prices. Thus, market prices are likely to be used as proxies in this context.

To maintain comparability of the revenues across countries, all values in local currency units need to be converted in Purchasing Power Parity Dollars (PPP $) .

As mentioned, fisheries, aquaculture and forestry producers can only be considered in this context in terms of the second criterion, that is, the economic size. In addition to the complexity of the statistical operationalization of physical constraints in forestry, fisheries and aquaculture, additional constraints in these sub-sectors originate from the lack of consistent accessible data.

The computation of the threshold for the economic size criterion is the same as that of the physical size. A variable is generated that takes the cumulative distribution of revenues in the countries. The point that is at the 40 per cent of the cumulative distribution is identified, and this number is applied as the threshold for economic size – the producers which have revenues that are less than this number creates the third set of producers that fulfil the final criterion of the definition. Both the physical and the economic criteria must be satisfied if data is available.

III. Computing SDG indicator 2.3.1: production per labour unit of small-scale food producers

The Manual for Measuring Productivity published by the OECD in 2001, provides a standard definition of productivity, which is as follows: “Productivity is commonly defined as a ratio of a volume measure of outputs to a volume measure of input use.” Productivity measures the amount of output produced by an economic unit (country, industry, sector, farm or other economic operators) given a set of resources

and inputs. Productivity can be measured for a single economic entity, such as the farm or commodity, a group of farms, at any geographical scale depending on the purpose of the inquiry.

In the context of SDG indicator 2.3.1, which specifically focuses on labour productivity, the numerator is the volume of agricultural/livestock/fisheries/forestry production and the denominator is represented by the labour input. Given i agricultural activities, including crops, livestock, fisheries and forestry production, and j [1,…,n] small-scale food producers defined as in the previous section as a subset of all N [1,…,k] food producers, the SDG indicator 2.3.1 must be computed using the following formula:

$$SDG\ 2.3.1 = I^t_{2.3.1} = \sum_{j=1}^{n} (\frac{\sum_i V^t_{ij} p^t_{ij}}{Ld^t_j})/n$$

where:

V^t_{ij} is the physical volume of agricultural product i sold by the small-scale food producer j during year t;

p^t_{ij} is the constant sale price received by the small-scale food producer j for the agricultural product i during same year t;

Ld^t_j is the number of labour days utilized by the small-scale food producer j during year t;

n is the number of small-scale food producer.

In detail, physical volumes V^t_{ij} are derived as indicated above, in the section on the implementation of the economic size criterion for identifying small-scale producers.

As made clear by the expression above, this indicator is a measure of the average productivity of labour, to be computed on the target population of "small-scale food producers" identified by the criteria described in the previous section.

As the considered indicator is referred to a set of production units – those of a small-scale — the numerator needs to summarize information on the entire production undertaken in each unit. This requires that volumes of production are reported in a common numeraire, given that it is impossible to sum up physical units. The most convenient numeraire for aggregating products in the numerator is a vector of constant prices. When measured at different points in time, as required by the monitoring of the SDG indicators, changes in constant values represent aggregated volume changes, which is the change required by the description of SDG indicator 2.3.1. To ensure comparability of values across countries, constant values must be computed in Purchasing Power Parity Dollars (PPP $) . Another difficulty that is likely to arise in this case is the identification of suitable prices to be attributed to each of the items included in the revenue calculation. Information on selling prices for small-scale producers are not likely to be available at a conveniently granular scale, and the number of items that are not exchanged in the market tend to be higher for small-scale food producers than for other food producers. This makes the calculation of revenues even more challenging.

The denominator of the indicator must capture the entire volume of labour input employed by small-scale food producers in a given period, including all forms of paid and unpaid labour such as family labour and exchange labour, together with hired labour. Labour input can be referred to different time units. Recent contributions in the literature indicate that the most accurate measure of labour volumes, which ensures an appropriate comparability of productivity across different farms' size and economic activities, is obtained in terms of the number of hours worked. In fact, hours worked in agriculture differs significantly by type of worker. However, accurate and detailed information on hours worked is seldom available in agricultural surveys.

Collecting this information requires close monitoring of the working time devoted to the many activities which are usually undertaken in agriculture. For this reason, it is proposed here to refer to the number of working days devoted to agriculture in a year, for which information can be more easily approximated. Another conceptual difficulty of computing labour input is the lack of consideration of elements such as the quality of labour input when aggregating the number of labour units employed in the holding.. Indeed, one day of work of a specialized professional supplying veterinary or agronomic services should not be treated as one hour of unspecialized basic services, such as those employed in massive operation like, for instance, manual harvesting. One way to overcome this difficulty would be considering labour inputs in value terms, assuming that wages capture quality differences. However, this would not be consistent with the formulation of the indicator – which mandates to derive labour input, and not labour costs – and pose significant problems in terms of identifying convenient proxies for the value of unpaid labour and family contributions. These are particularly widespread in small-scale food production units.

IV. Computing SDG indicator 2.3.2: average income of small-scale food producers

SDG indicator 2.3.2 specifically focuses on income from on-farm production activities, which is related to the production of agricultural and food products. Household income from on-farm activities includes income from crop production, livestock production, fisheries and aquaculture production, and from forestry production.
In this context, these income components refer to gross income. Gross income is defined as revenues minus operating costs – also referred to as the operating surplus -- without taking into account the depreciation of assets. Moreover, due to difficulties in measuring taxes in rural contexts, direct taxes or employment-related obligations are also not deducted from the calculation of income.

Given i agricultural activities, including crops, livestock, fisheries and forestry activities, and j [1,…,n] small-scale food producers defined as in the first section as a subset of all N [1,…,k] food producers, the SDG indicator 2.3.2 must be computed using the following formula:

$$\text{SDG } 2.3.2 = I^t_{2.3.2} = \sum_{j=1}^{n} \left(\sum_i (V^t_{ij} p^t_{ij} - C^t_{ij} \right) / n$$

Where:

V^t_{ij} is the physical volume of agricultural product i sold by the small-scale food producer j during year t;

p^t_{ij} is the constant sale price received by the small-scale food producer j for the agricultural product i during year t;

C^t_{ij} is the production cost of agricultural product i supported by the small-scale food producer j during year t;

n is the number of small-scale food producer.

In detail, physical volumes V^t_{ij} must be derived as indicated above, in the section on the implementation of the economic size criterion for identifying small-scale producers.

Production costs C^t_{ij} are meant to include operating costs. These comprise all variable costs (payments in cash and kind of agricultural inputs as fertiliser, seeds, and occasional labour) and fixed costs (hired labour, land rent and technical assistance costs).

In more details, costs C^t_{ij} generally include the following items:

- Costs of crop activities: inputs paid in cash, land rent, technical assistance/extension costs, crop saved for seed, crop used for paying labour, crop used for paying rent, crop used for paying inputs, crop given out in sharecropping agreement (sharecrop out), crop wasted, crop used for producing by-products, total value of input purchased, including those reimbursed in kind
- Costs of livestock activities: livestock bought, livestock additional expenditures, crop used as feed, technical assistance/extension costs for livestock,
- Costs of forestry activities: input costs (seedlings, fertilisers, hired labour, etc.), machine rental costs, land rental costs, other related costs.
- Costs of fisheries and aquaculture activities: fishing gear expenditures, hired labour expenditures, trading activities, fresh fish purchases, processed fish purchases, other related costs

To obtain comparable results across countries in the case of income, values must be expressed in International Dollars at Purchasing Power Parity (PPP $), based on the conversion provided by the World Bank International Comparison Project.

Gross income from livestock activities must take into account the balance between the sales and the purchases of livestock heads during the year, together with the value of the additional cash expenditures incurred for obtaining livestock production, including hired labour, fodder, medicine, vaccinations, utensils, the monetary value of crops used as feed, and the costs of technical assistance. The revenues include the value of the sales of both products and by-products, plus own consumption of products and by-products used to pay for reimbursements for land, labour (or any other services received and for reimbursements for inputs borrowed or acquired on credit), minus the total value of production expenditures, including land, labour, services received, payments for credit, additional input and transport.

In principle, income from livestock should also take the overall animal stock variation into account, computed as the difference between the closing stocks (value of herds at the end of the year) and the initial stocks (value of herds at the beginning of the year). This calculation requires information on the type and number of animals and in the final and initial reference periods, together with the corresponding unit prices. Income from fish catching and processing activities equals the monetary value of all fresh and processed fish for market and final consumption utilisation, minus the operating costs. Income from fish trading includes the proceedings of sales in wholesale or retail fresh or processed fish bought from others, together with net from purchase expenditures and other operating costs. The criteria to be used for aquaculture are largely similar to those that apply to livestock production. The methodology for income from forestry follows the general principles presented in the other sections taking into account cash and in-kind revenues minus operating costs.

V. Data sources

Given that indicators 2.3.1 and 2.3.2 are measured on a target population of producers – those considered as small-scale -- the ideal data source for measuring them is a single survey that collects all the information required with reference to individual production units. It would be difficult, in other words, to use data on labour input from one survey and on production volumes from another, as this would make it difficult to refer the calculation to the target population, that is, to the small-scale food producers.

In fact, surveys collecting all the required information simultaneously at the farm level are very few. The most appropriate data source for collecting information on the total volume of agricultural production and on labour input adopted on the agricultural holding are agricultural surveys. However,

in many countries, especially in a developing context, agricultural survey are seldom conducted on a systematic and complete basis, especially at the level of the holdings.

To fill this key data gap, the FAO has recently promoted a new approach to agricultural surveys, with the Agricultural Integrated Surveys (AGRIS) project. AGRIS proposes a set of integrated farm-level surveys, bridging the 10-year gap that normally exists between Agricultural Censuses. AGRIS collects data every year for a core module – which includes current agricultural production and its value – while other modules are administered less frequently, to collect structural information on the key technical characteristics of small-scale producers. One such module is entirely dedicated to collect information on the economic accounts of the holding, while another is dedicated to collect information on labour. In the AGRIS approach, all modules are based on a consistent sampling frame. For the purposes of monitoring indicator 2.3.1 and 2.3.2, the surveys that AGRIS is promoting will play a key role in improving quality and consistency of data collected at the national level.

At present, reliable and useful reference for the type of measurement required for SDG indicators 2.3.1 and 2.3.2 are the surveys undertaken by the Living Standards Measurement Study (LSMS) of the World Bank. In certain countries, the LSMS surveys include an Integrated Surveys of Agriculture, known as LSMS-ISA. These surveys use the households, and not the agricultural holding, as a sampling unit; however, the approximation of these two entities can be acceptable in several contexts, especially where the majority of agricultural production units, and especially the smaller ones, are run by households. LSMS-ISA surveys provide a wealth of granular information on farm size, disaggregated by geographic areas, type of activities, and type of households. They collect information on both values of output, production costs (at least explicit costs), and the number of hours devoted to specific activities, from which it is possible to compute working days. For what concerns labour input, LSMS-ISA surveys allow obtaining relatively good quality data on labour units used for cropping activities. However, even these surveys collect very little information on labour inputs in livestock, forestry, fisheries and aquaculture activities. Furthermore, given the level widespread seasonality and multi-activity that characterizes labour in agriculture at the same time, it is difficult to obtain credible information on the effective amount of total labour input on an annual basis. This implies using very long recall periods in surveys, which may affect the precision of the information collected.

A recent joint initiative of FAO, the World Bank and IFAD is compiling harmonized indicators of rural livelihoods from national household surveys and from the LSMS project. This platform is called RuLIS – Rural Livelihoods Information System. RuLIS provides more than 180 harmonized indicators disaggregated by gender, rural/urban areas, income quintiles, degree of engagement in agriculture and farm size. RuLIS will allow the monitoring of SDG indicator 2.3.1 and 2.3.2 to measure the productivity and the income of small-scale food producers and can offer substantive contribution to the monitoring of other targets.

Agricultural censuses also report some information on agricultural production, economic variables and labour input. These surveys are undertaken in a large number of countries, albeit in scattered time periods. However, censuses usually do not collect detailed information on labour input – that is, the effective involvement of each labour unit in the production process – and they report information at low frequency, as they are usually conducted every 10 years.

Administrative data sources can also be leveraged to monitor the indicators, notably farmers' registries. These tools can be useful to the extent to which they ensure sufficient coverage of the targeted population, and they report details allowing to compute statistically representative values for the variables described, notably revenues, costs and labour input.

Finally, it is worth underlining that, when computing indicator 2.3.1, it is important to maintain consistency between the information included in the numerator and the denominator; and when computing indicator 2.3.2 it is crucial to maintain consistency between information on revenues and costs. If information on labour input is only available for crop activities, the numerator of indicator 2.3.1 should also report only revenues from crops, and exclude those from livestock, fisheries and forestry. The same criterion should obviously apply to the comparison of revenues and costs in indicator 2.3.2. Should this not be the case, the resulting average productivity and income estimates would be biased.

VI. Conclusions and recommendations

Indicators 2.3.1 and 2.3.2 of the SDG Monitoring Framework are classified as "tier III" indicators, as there hasn't been to date an agreed and internationally comparable methodology to measure them, nor consistent data is available. As the custodian Agency of the indicators, FAO is recommending the use of an appropriate methodology, which is described in details in the previous section. Measuring output per unit of labour and income, as requested by indicator 2.3.1 and 2.3.2, respectively, is relatively straightforward. While there may be challenges in identifying and making available the appropriate data, the criteria to obtain these indicator is well identified in the literature. What is contentious about the two indicators is the identification of the target population on which they have to be measured, that is, the "small scale food producers". A large number of diverse definitions of small scale producers are currently available, together with definitions that point to similar concepts, such as "family farms" and other, similar ones. Many such definitions are currently used in policy-making at the national and sub-national level.

The FAO recommends using a definition based on relative thresholds in three criterion variables, namely land size, number of livestock heads and economics revenues. Based on this definition, small-scale food producers are those who fall in the bottom 40 percent of the cumulative distribution of these variables. This definition is recommended as is strikes a balance between the consideration of national specificities -- through the relative threshold -- and the need to maintain international comparability.

The distinguished Delegates are kindly invited to comment on

- the international definition of "small-scale food producer" proposed by FAO, and how this is positioned vis a vis similar in use at national level ;
- the challenges of collecting data for computing agricultural income labour input in agriculture ;
- the requirements in terms of capacity development for monitoring indicators 2.3.1 and 2.3.2.