Measuring Decent Work and Youth Employment in Agriculture

Methodological issues and gaps

April 2018
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Acronyms and Abbreviations

AGRIS Agricultural and Rural Integrated Survey
AGRIS-LIM AGRIS Labour Input Module
AGRIS-LFM AGRIS Labour Force Module
AGRIS-LM AGRIS Labour Module
DW Decent Work
DWA Decent Work Agenda
DWI Decent Work Indicator
FAO Food and Agriculture Organization of the United Nations
GDP Gross Domestic Product
GSARS Global Strategy to Improve Agricultural and Rural Statistics
HBS Household Budget Survey
HSAH Household-Sector Agricultural Holding
ILO International Labour Organization
LDES Labour Demand Enterprise Survey
LFS Labour Force Survey
LSMS-ISA Living Standard Measurement Surveys Integrated Surveys on Agriculture
NHSAH Non-Household Sector Agricultural Holding
NSS National Statistical System
PSU Primary Sampling Unit
SSU Secondary Sampling Unit
SWTS School-to-Work Transition Surveys
TME Tripartite Meeting of Experts
TUS Time Use Survey
UCW Understanding Children’s Work
UNICEF United Nations Children’s Rights and Emergency Relief Organization
WDI World Development Indicators
Background and Introduction

The purposes of collecting data on the labour market are to monitor the ability of a given economy to generate sufficient employment opportunities and to measure the unutilized labour supply. The first initiative to compile national-level statistics on employment was the 1880 census conducted in the United States of America, which collected information on the work of all individuals 10 years of age or above. However, the current definition of unemployment was formulated during the Great Depression of the late 1930s, and was first implemented in the Enumerative Check Census conducted in the United States of America to compile statistics on people who were not working but were actively searching for jobs (Card, 2011). Since then, the definition of unemployment has not changed and indicators such as the unemployment rate, employment-to-population ratio, etc. are widely used to monitor labour market conditions throughout the world. In most cases, these indicators are compiled using data from nationally representative labour force surveys (LFSs).

Although employment indicators such as those mentioned above provide a quantitative assessment of the performance of the labour market, they are insufficient to assess qualitative features relating to labour and the conditions that workers actually experience. Figure 1 shows Gross Domestic Product (GDP) per capita on the vertical (y) axis and unemployment on the horizontal (x) axis. By assuming that GDP per capita is a good proxy of the standard of living of a population (that is, *ceteris paribus*, the higher GDP per capita, the higher the living standards), Figure 1 shows that there is no discernible relationship between living standards and unemployment. In the lower left-hand corner, many low- and lower middle-income countries may be seen to experience very low unemployment rates, some almost reaching zero. However, it may be erroneous to simply conclude from this graph that workers are better off in low-income/low-unemployment countries compared to their counterparts in upper middle-income countries with higher rates of unemployment. It follows that a comparison of labour markets based solely on unemployment rates may be somewhat naïve and lead to incorrect conclusions.
A common feature of the labour markets in low-income countries is a high share of employment in agriculture. Figure 2 shows that the share of employment in agriculture is positively related to the share of working poor, which is the number of employed persons who live in households with incomes that fall below the national poverty line.\(^1\) The dotted line illustrates this general relationship. At the top right of figure 2, a cluster of low-income countries has both a high share of employment in agriculture (more than 60 percent) and a high share of working poor (more than 50 percent). This signals the presence of low wages in agriculture and deficits in the functioning of the labour market. In addition, low unemployment rates and high employment in agriculture may indicate that workers have difficulties in finding jobs in more lucrative sectors such as services or industries (Hull, 2009; Lewis, 1954). For these reasons, it is likely that workers in low-income countries employed in agriculture fare worse than their peers in labour markets in other countries, despite experiencing lower unemployment.

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\(^1\) In this technical report, the poverty line is set at 2 Purchasing Power Parity dollars (2010 PPP) per day.
Figures 1 and 2 illustrate the insufficiency of employment indicators to provide a complete picture of the conditions faced by workers. It follows that additional indicators that describe not only the quantity, but also the quality, of jobs are necessary to adequately compare the performance of labour markets across countries, particularly for agriculture.

In this regard, in 2013 the International Labour Organization (ILO) published a framework for measuring labour market performance in a more robust way through Decent Work Indicators (DWIs). In broad terms, the DWIs describe the quantity and quality of work in a given country and can provide a robust picture of Decent Work (DW) in any country (Oya, 2015). Indicators on the prevalence and conditions of youth employment are also included (ILO, 2013). The purpose of this technical report is to review the challenges and opportunities arising from the application of the DWIs to the agricultural sector, with a focus on developing countries.

This report is a joint product of the Global Strategy to Improve Agricultural and Rural Statistics (GSARS) and the Statistics Division of the Food and Agriculture Organization of the United Nations (FAO). It consolidates findings and builds on methodological proposals already advanced under the DW pilot studies performed by the FAO Statistics Division during 2014–2016, the FAO working paper titled Decent Work Indicators for Agriculture and Rural Areas: Conceptual Issues, Data Collection Challenges and Possible Areas for Improvement (2015), and the AGRIS Labour Module: Four-Wave Approach Methodological Note (2016), as well as other initiatives outside of FAO. The objective of this technical report is to serve as the foundation for developing a generalized cost-effective methodology to collect information on DW and youth employment in agriculture. The proposals made in this report are not necessarily

Figure 2. Employment in agriculture (%) and share of working poor by income class, 2012.

meant to be implemented in their entirety, but rather to inform field tests to be implemented in single countries. The results of the field test, studies conducted using this technical report, and any other relevant literature published in the meantime, will form the basis for the *Guidelines on Measuring Decent Work in Agriculture*, to be published in 2018.

Chapter 2 of this technical report describes the ILO framework for measuring DWIs, summarizes the key challenges faced when applying the DWIs to agriculture and developing countries, and briefly describes the availability of DWIs in international databases. Chapter 3 reviews ongoing initiatives to measure DW and youth employment in agriculture, and provides gaps analyses in the respective methodologies. Chapter 4 provides a detailed list of proposed DWIs beyond those already defined by the ILO. Finally, chapter 5 discusses the integration of data collection on decent work and youth employment in the agricultural sector into a National Statistical System (NSS).
Applying the ILO Decent Work Framework to Agriculture

2.1. Measuring working conditions: the ILO statistical framework for decent work

The measurement of working conditions is a complex task that must take into account many aspects of the labour market. In this regard, in 2008, the ILO convened an international Tripartite Meeting of Experts (TME) on the Measurement of Decent Work, consequently adopting a framework of DWIs. The ILO Decent Work Agenda (DWA) offers a conceptual framework to promote DW. According to the DWA, DW materializes through the implementation of four mutually interdependent and strategic pillars: (1) international labour standards and fundamental principles and rights at work; (2) employment creation; (3) social protection; and (4) social dialogue and tripartism. Employment creation and social dialogue and tripartism address the availability of work and successful social dialogue structures in the negotiation, consultation and exchange of information among all actors involved in the world of work. The other two dimensions, instead, are aimed at ensuring that all workers can access at least basic social security – notably, health care and income security – and that fundamental rights at work are fully respected in national legislations (for example through initiatives such as the elimination of forced and compulsory labour or child labour, guaranteeing freedom of association, etc.).

In 2013, the ILO published a revised manual on Decent work indicators: Guidelines for producers and users of statistical and legal framework indicators. According to this manual, the most effective way to provide a full picture of the labour market is to measure employment creation alongside conditions of work, as well as the interrelations existing among all actors involved. To this end, a set of indicators is proposed to capture both the quantity and the quality of jobs created in the labour market. The manual defines 71 indicators, divided into ten conceptual areas cutting across the four DWA pillars (see table 1 below), as well as the dimension of “economic and social context”. This dimension does not
measure decent work *per se*. Rather, it provides users with information on the context of the national economy. The ten conceptual areas of the DW statistical framework concern various characteristics of work and were developed to account for:

1. employment opportunities;
2. adequate earnings and productive work;
3. decent working time;
4. the combination of work, family and personal life;
5. work that should be abolished;
6. the stability and security of work;
7. equal opportunity and treatment in employment;
8. the safety of the work environment;
9. social security; and
10. social dialogue, employers’ and workers’ representation.

These ten conceptual areas represent the structural dimensions of the measurement framework under which both statistical and legal framework DWIs are organized and classified. Statistical indicators are quantitative indicators derived from official national data sources. Legal framework indicators are qualitative and primarily based on legal texts and other related textual information. DW measurement requires the use of both statistical and legal framework indicators to fully understand the full context of the subject. These indicators, taken together, may provide a sufficient overview of DW in labour markets (Oya, 2015); however, the scope of this technical report will be limited to statistical indicators.

The statistical indicators are organized in a three-layered approach: (1) the main indicators, a parsimonious set of key indicators to monitor progress made towards DW; (2) the additional indicators, to be developed on the basis of data availability and specific national circumstances; and (3) future indicators, for which developmental work is yet to be done. The ILO statistical indicators are derived from various national sources – notably, household surveys, including especially LFSs, establishment surveys and administrative records. The list of ILO DWIs, organized according to the thematic areas and pillars, is reported in table 1 below.
Table 1. The DWIs of the ILO statistical framework.

<table>
<thead>
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<th>Pillar</th>
<th>Indicators</th>
<th>ILO priority</th>
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<td>Youth not in employment, education, or training, 15–24 years</td>
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<td>Informal employment rate</td>
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<td>Adequate earnings and productive work</td>
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<td>Employees with low pay rate (below two-thirds of median hourly earnings)</td>
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<td>Manufacturing wage index</td>
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<td>Employees with recent job training (past year/past four weeks)</td>
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</tr>
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<td>Thematic area</td>
<td>Pillar</td>
<td>Indicators</td>
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<tr>
<td>Combining work, family and personal life</td>
<td>1. Standards and fundamental principles and rights at work</td>
<td>Asocial/unusual hours</td>
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<td>Forced labour rate</td>
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<td></td>
<td>Job tenure</td>
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<td>2. Employment</td>
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<td>Additional</td>
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<td>Real earnings of casual workers</td>
<td>Additional</td>
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<td>3. Social protection</td>
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<tr>
<td>Equal opportunity and treatment in employment</td>
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<tr>
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<td>Female share of employment in senior and middle management</td>
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<td></td>
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<td>Gender wage gap</td>
<td>Additional</td>
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<td>2. Employment</td>
<td>Share of women in wage employment in the non-agricultural sector</td>
<td>Additional</td>
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<td>Indicator for fundamental principles and rights at work</td>
<td>Additional</td>
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<td>3. Social protection</td>
<td>Measure for discrimination by race/ethnicity/of indigenous people/of</td>
<td>Additional</td>
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<td>(recent) migrant workers/of rural workers, where relevant</td>
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<td>Measure of dispersion for sectoral/occupational distribution of (recent)</td>
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<td>migrant workers</td>
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<td>Measure for employment of persons with disabilities</td>
<td>Future</td>
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<tr>
<td>Thematic area</td>
<td>Pillar</td>
<td>Indicators</td>
<td>ILO priority</td>
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<tr>
<td>Safe work environment</td>
<td>1. Standards and fundamental principles and rights at work</td>
<td>Occupational injury frequency rate, fatal</td>
<td>Main</td>
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<td>Occupational injury frequency rate, nonfatal</td>
<td>Additional</td>
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<td></td>
<td>Time lost due to occupational injuries</td>
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<td></td>
<td>3. Social protection</td>
<td>Labour inspection (inspectors per 10 000 employed persons)</td>
<td>Additional</td>
</tr>
<tr>
<td>Social security</td>
<td>1. Standards and fundamental principles and rights at work</td>
<td>Share of population above the statutory pensionable age</td>
<td>Main</td>
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<tr>
<td></td>
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<td>Public social security expenditure (percentage of GDP)</td>
<td>Main</td>
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<td>Healthcare expenditure not financed out-of-pocket by private households</td>
<td>Additional</td>
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<td>3. Social protection</td>
<td>Share of economically active population contributing to a pension scheme</td>
<td>Additional</td>
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<td>Share of population covered by (basic) health care provision</td>
<td>Future</td>
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<td></td>
<td>Public expenditure on needs-based cash income support (% of GDP)</td>
<td>Future</td>
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<td>Beneficiaries of cash income support (% of the poor)</td>
<td>Future</td>
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<td>Sick leave (developmental work to be done by the ILO)</td>
<td>Future</td>
</tr>
<tr>
<td>Social dialogue, workers’ and employers’</td>
<td>1. Standards and fundamental principles and rights at work</td>
<td>Trade union density rate</td>
<td>Main</td>
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<tr>
<td>representation</td>
<td></td>
<td>Employers’ organization density rate</td>
<td>Main</td>
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<td>Collective bargaining coverage rate</td>
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<td></td>
<td>4. Social dialogue</td>
<td>Indicator for fundamental principles and rights at work (freedom of association and collective bargaining)</td>
<td>Main/Future</td>
</tr>
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<td></td>
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<td>Days not worked due to strikes and lockouts</td>
<td>Additional</td>
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The ILO notes that the proposed list is not intended to be exhaustive, nor is it representative of every country or every sector of economic activity. Countries are encouraged to expand or revise the list on the basis of their own specific national circumstances.
2.2. The implications of the 19th ICLS Resolution on the measurement of DW in agriculture

DWIs must adhere to the standards and definitions mandated by the Resolution adopted in October 2013 at the 19th International Conference of Labour Statisticians (hereafter, 19th ICLS Resolution), concerning statistics of “work, employment and labour underutilization”. The 19th ICLS Resolution recognizes the need to revise the measurement of employment to take into account paid and unpaid forms of work. As a result, the 19th ICLS Resolution narrowed the concept of employment to work performed in exchange for pay or profit. In other words, the term “employment” now excludes work performed for producing goods that are mainly intended for own final use. This change in definition fundamentally alters how unemployment is measured and better reflects labour market realities, especially in the agricultural sector.

Central to the 19th ICLS Resolution is the concept of work, defined as “any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for own use”, in both market and non-market units. Work activities are further broken down into the following five forms of work:

1. own-use production work, comprising the production of goods and services for own final use;
2. employment work, or work performed for others in exchange for pay or profit;
3. unpaid trainee work, comprising work performed for others without pay to acquire workplace experience or skills;
4. volunteer work, that is non-compulsory work performed for others without pay; and
5. other work activities (not defined in the 19th ICLS Resolution).

These categories are distinguished on the basis of the intended destination of production and of the nature of the transaction between the end user and the producer. In other words, the boundaries between these categories depend on who will consume the final outputs (the worker him- or herself or another party) and how the producer will be compensated (with money or by other means).
Applying the 19th ICLS Resolution, the population can be classified on the basis of:

1. **labour force status**, which includes three mutually exclusive groups: employment, unemployment, and those outside the labour force; or

2. the **five forms of work**, measured with respect to a brief reference period (such as seven days, one month, etc.), that an individual has performed. It is worth noting that these five forms of work are not mutually exclusive; therefore, an individual may perform one or even more forms of work during the same reference period.

The form of work identified as employment and own use production sets the scope for DW statistics.

The labour force is the sum of the number of individuals who are employed and unemployed. The labour force includes the current supply of labour available for the production of goods and services in exchange for pay or profit – as per the ILO definition – and is statistically translated into those individuals who are either employed or are seeking and available for employment (that is, the “unemployed”).

On the basis of standards set in the 19th ICLS Resolution, an individual may simultaneously engage in multiple forms of work, such as own-use production work, employment, volunteer work, etc. at the same time. However, he or she can only be classified on the basis of one of the three labour force statuses, that is, as employed, unemployed or outside the labour force. By virtue of their form of work, the labour force status of individuals working for pay or profit is “employment” by default. By contrast, individuals who engage in forms of work that are not classified as employment can be classified either under unemployment or as falling outside the labour force. Two main criteria are established to distinguish between unemployed persons and persons outside the labour force. The unemployment population is based on the presence of an active search for job, and the availability to take up employment given a job opportunity.

In other words, individuals who neither search for jobs nor are available to work are excluded from the labour force.

Since work for own-use consumption is a common feature of the agricultural sector in developing countries, the distinction created by the 19th ICLS Resolution will result in a more detailed description of the agricultural labour market and will allow for more accurate statistics.
The previous definition of employment, adopted in 1982 with the 13th ICLS Resolution, resulted in an overestimation of employment in the agricultural sector and an underestimation of unemployment in the context of agricultural economies and seasonal activities, due to the prevalence of individuals working in agriculture for own-use consumption (that is, whose agricultural production “comprised an important contribution to the total consumption of the household”). With the advent of the 19th ICLS Resolution in 2013, only formal and informal wage employment, self-employment activities (including agricultural production for profit, and thus mainly intended for the market, that is, for sale or barter), paid domestic work, contributing and assisting family labour, and paid caregiving are considered employment. This distinction between employment and own-use production work not only allows for computation of more realistic indicators to capture the substantial amount of work involved in own-use agriculture production; it also enables the estimation of structural measures of labour underutilization among those who work in agriculture but are not employed. This is likely to be reflected in active job searching and/or the availability to work on part of persons who engage in own-use production agricultural activities.

2.3. Challenges in applying the DWIs to agriculture

Although the 19th ICLS Resolution will certainly improve employment statistics for the agricultural sector, a number of challenges remain when applying the DWIs to agriculture, particularly in developing countries.

2.3.1. Determining the main intended destination of production and setting the boundary between own-use production and the market-oriented production of goods

A major data collection and conceptual challenge to face when applying the 19th ICLS Resolution and the DWIs to agriculture lies in identifying the boundary between the production of goods mainly for own use and the production of goods mainly for the market. Agricultural surveys typically only collect detailed information on individuals who live in agricultural holdings, and asking each individual for the main intended destination of goods produced from his or her work may yield contradictory or unreliable results. This inaccuracy may be due to the individual not having a decision-making role in the holding or simply not knowing the intentions of the holder.

Different methods to overcome this challenge are proposed in this section. One option is to ask the most-informed household member – such as the holder or household head – about the main intended destination of each individual good
or groups of goods. Then, individual-level information regarding the good or
groups of goods produced can be collected. This information could be combined
to classify individuals by labour force status.

Furthermore, the ILO has developed and is currently testing five model
questionnaires\(^2\). While each questionnaire covers similar topics, different levels
of detail and measurement approaches have been incorporated to respond to
country-specific economic contexts and the main national practices. One model
was specifically designed to capture labour market indicators in countries where
agriculture (including fishing and forestry) plays a major role. In this model, a
stepwise approach is taken to distinguish individuals engaged in work for own-
use consumption from those engaged in work whose production is for the
market. First, individuals are asked if they have performed any activities from
among a set of agricultural activities. Next, individuals that have performed
agricultural work are asked to clarify the main intended destination of produced
goods. The distinction between own-use production workers and workers in
employment is based on these self-reported responses. In the unlikely scenario
that half of the products are own-consumed and half are intended for the market,
respondents are asked whether the goods produced in the past were mainly
consumed or mainly kept for family use or consumption. Finally, a dedicated
section covers persons who have not been employed in agriculture over the last
seven days but who have a job attached to agriculture (that is, those who are
normally employed in agriculture but are not currently working due to sickness,
etc.) and whose temporary absence from work will not last longer than three
months.

The challenge of setting the boundary between own-use and market-oriented
goods has a direct impact on the computation of some DWIs. For example, the
subsistence worker rate in agriculture is computed by dividing the total number
of subsistence workers (that is, persons engaged in own-use production of
agricultural goods) by the total number of persons employed in agriculture. With
the new definition of employment, subsistence workers will no longer be part of
the employed population; therefore, as an alternative to this indicator, the
subsistence-worker-to-population ratio could be computed by replacing the
denominator with the total population of working age, which is the total number
of persons aged 15 years and above (those who are eligible for work).

2.3.4. Main activity

Research shows that when the LFS collects data on the main activity performed during the 12 months prior to the interview (and not on the current activities), there is a tendency to underestimate wage employment in agricultural settings (Arthi, Beegle, De Weerdt and Palacios-López, 2016). This negative bias results from the fact that individuals in agricultural households tend to be classified as self-employed because their main activity involves work on their holding or on that of a family member, where no formal labour contract exists. However, many of these individuals are also involved in wage employment activities, particularly during low agricultural seasons; the main activity approach excludes these activities. Many studies (among many publications, see Sender, 2003; Davis et al., 2010) have found that the incidence of wage workers changes drastically when wage employment is investigated with regard to all jobs carried out by individuals over a longer reference period (such as 12 months).

Various initiatives – including the World Bank’s Living Standard Measurement Surveys Integrated Surveys on Agriculture (LSMS-ISA) and the Agricultural and Rural Integrated Survey (AGRIS) – capture the wage employment activities of workers who are mainly engaged in self-employment in agriculture by including a module dedicated to wage employment jobs performed over the last 12 months. The module investigates all wage jobs carried out by the individuals selected in the sample, including those who have reported that they have worked on self-employment household agricultural activities (including farming and raising livestock or fishing, whether for sale or for household food) over the last seven days. An alternative approach leading to similar results was proposed in two pilot surveys conducted by the FAO Statistics Division in Togo and Burkina Faso. The core module of these surveys included an employment matrix with a full enumeration of all economic activities – in the form of self-employment or paid employment – carried out in the 12 months prior to the date of the interview (FAO and Togo Ministry of Agriculture, Livestock and Fisheries, 2016; FAO and Burkina Faso Ministry of Agriculture, Water and Fisheries, 2016).
2.3.5. Seasonality

The amount of time spent working in agriculture fluctuates over the year and the income-generating activities of households predominantly living in rural areas tend to be widely diversified (Davis et al., 2010). Such households tend to combine on-farm income-generating activities with off-farm activities, with time devoted to agriculture that varies accordingly. In this regard, workers may work long hours during the peak season, which however represents only a fraction of the year, and work fewer hours during non-peak season (Oya, 2015). A typical LFS collects information on the main activity of an individual during the seven days prior to the interview. This short reference period implies that employment statistics for agriculture can vary widely depending on when the reference period falls in respect to the agricultural season. For example, if the reference period falls during a time when many individuals are involved in agriculture, the results may overestimate employment in agriculture if those same individuals are employed in another sector, or unemployed, for the rest of the year. The opposite could also be true if the reference period falls during a low season.

The seasonal and irregular nature of agricultural work also complicates the computation of time-related underemployment (Oya, 2015). For example, underemployment is a subset of the employed population and is defined by two criteria: (1) willingness and (2) availability to work more hours (Hussman, 2007). The latter criterion entails the setting of a threshold relating to working time. If an individual works less than this threshold, but is willing to work additional hours and is also available to do so, then this individual is considered underemployed. Likewise, if an individual’s number of working hours falls above this threshold, he or she is not considered underemployed even if willing to work more. Therefore, statistics resulting from this indicator will vary depending on the agricultural season covered in the reference period – a factor that may lead to biased estimates.

For similar reasons, other time-related DWIs – such as employment in excessive working time (more than 48 hours per week), employment by weekly hours worked (hours in standardized hour bands), and average annual working time per employed person – could all be biased if they are computed on the basis of survey instruments with short reference periods. In general, time-related indicators that require thresholds are more suitable for formal and regulated labour markets, in which “a single well-defined activity per individual dominates” (Oya, 2015). For instance, in the formal manufacturing sector, there is generally a boundary between full-time and part-time employment that can be used to establish a threshold. However, a threshold is more difficult to
operationalize in contexts where seasonal and irregular employment is the norm and people tend to engage in activities that demand long hours of work for low remuneration.

An alternative approach would be to increase the frequency of surveys across seasons. This would circumvent the issue of seasonality, but would also significantly increase costs. Another more cost-effective approach would be to increase the recall period to 12 months, to capture all work-related activities (Oya, 2015). However, increasing the recall period may introduce significant bias as respondents may encounter difficulties in reporting all activities carried out over the past 12 months.

2.4. Availability of DWIs for agriculture in international databases

2.4.1. Availability by theme

Of the 71 DWIs defined in the manual (ILO, 2013), 55 are applicable to agriculture. A systematic review of the major international databases was undertaken to assess the availability of DWIs. Table 2 lists the indicators by thematic area and data source. An indicator is considered to be available if there is at least one observation for any country during the 2005–2014 period. Of the 55 indicators that could be applied to agriculture, only 16 were found in international databases. The ILO’s ILOSTAT database contains 10 of the 16 available indicators. The World Development Indicators (WDI) hosted by the World Bank is the source of indicators for agricultural production, and for productivity. As for child labour, the only source of data is the joint project known as the Understanding Children’s Work (UCW), conducted by the World Bank, the ILO, and the United Nations Children’s Rights and Emergency Relief Organization (UNICEF).
Table 2. Available DWIs for agriculture.

<table>
<thead>
<tr>
<th>Thematic area</th>
<th>Indicators for agriculture</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment opportunities, adequate earning and productive work, and decent working time</td>
<td>Employment in agriculture</td>
<td>ILOSTAT &amp; GET model &amp; UN-DATA</td>
</tr>
<tr>
<td></td>
<td>Informal employment in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Mean nominal monthly employment-related income of self-employed workers in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Mean nominal monthly earnings of employees in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Time-related underemployment rate</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Mean weekly hours actually worked per employed person in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Mean weekly hours actually worked per employee in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td>Work that should be abolished</td>
<td>Child labour</td>
<td>UCW</td>
</tr>
<tr>
<td>Safe work environment</td>
<td>Occupational injury rate in agriculture, fatal</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Occupational injury rate in agriculture, nonfatal</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Time lost due to occupational injuries in agriculture</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td></td>
<td>Collective bargaining coverage rate</td>
<td>ILOSTAT</td>
</tr>
<tr>
<td>Economic and social context for decent work</td>
<td>Agriculture, value added (% of GDP)</td>
<td>ILOSTAT &amp; WDI</td>
</tr>
<tr>
<td></td>
<td>Agriculture, value added (in LCU)</td>
<td>WDI</td>
</tr>
<tr>
<td></td>
<td>Average labour productivity in agriculture (person employed)</td>
<td>WDI</td>
</tr>
</tbody>
</table>

N.B.: Availability of indicators listed by ILOSTAT and WDI as of November 2016.

Although overall availability is very low, some themes are covered better than others. Out of nine indicators, two (employment in agriculture and informal employment) were available for employment opportunities. Under adequate earnings and productive work, two indicators were available: compensation of employees and the mean nominal monthly earnings of employees. Although these two indicators are informative for wage rates and setting the minimum wage, the lack of the indicators on mean nominal monthly employment-related income of self-employed workers is particularly relevant to agriculture. For decent working time, three out of eight indicators are available, including time-related underemployment rate, and mean weekly hours actually worked per employed person and per employee. Only one indicator for work that should be abolished was found in the UCW database, as previously mentioned. Three out of four indicators on safe work environment are available from ILOSTAT. Two
out of three indicators, including collective bargaining coverage rate and days not worked due to strikes and lockouts, are available for social dialogue, workers’ and employers’ representation. Finally, 3 indicators out of 12 for the economic and social context for decent work were found in the WDI.

2.4.2. Coverage by region during 2004 - 2014

The frequent (yearly, at least) computation of DWIs is required to properly monitor rapidly changing labour market conditions. Furthermore, geographic coverage is important to make cross-country and cross-regional comparisons. The previous section discussed the availability of DWIs across themes; this section will report on coverage across geography and time.

Figure 3 shows the share of countries with data for at least two years during the 2004–2014 period, by indicator. A bar on the top showing full coverage in all regions has been added so that comparisons of coverage between regions can be made. It should be noted that a bar reaching 100 percent on the horizontal axis means that all countries had data for at least two years during the 2004–2014 period. Across regional bars, the difference between the length of a bar for an indicator and the length of the respective regional bar under full coverage represents the absence of coverage. There was no indicator for which all countries had data for at least two years during 2004–2014.

![Figure 3. Share of countries with at least two observations by indicator, 2005–2014.](image-url)
The analysis shows that only 3 out of 16 indicators are available in more than 75 percent of countries (agricultural value added in local currency units as well as in terms of the share of GDP, and agricultural value added per worker). These indicators are covered well because they are required for the compilation of national accounts. As a result, many countries have long had systems in place to capture the output of the agricultural sector. All three of these indicators are found in the WDI database.

Figure 3 demonstrates that globally, the available data is scarce. Many of these indicators require primary data collection through sample surveys, which could be expensive to implement. However, others, such as collective bargaining coverage rate and trade union density by economic activity, may be accessible through administrative data sources.
Analysis of Recent Initiatives to measure DW and Youth Employment in Agriculture through Sample Surveys

This chapter provides an overview of the most recent sample surveys initiatives that can provide indicators on DW and youth employment in agriculture. It takes into account the distinction between employment and work introduced by the 19th ICLS Resolution, the challenges outlined in chapter 2 of this technical report, and provides an overview of their methodological gaps.

The survey programs covered are the traditional LFS, the Labour Module of the AGRIS program, and the DW pilot studies carried out by the FAO Statistics Division in Togo and Burkina Faso. The School-to-Work Transition Surveys (SWTS) developed by the ILO are also included. The chapter concludes by proposing an approach to measuring working conditions by using the job – as opposed to the individual – as the unit of analysis.

3.1. The Labour Force Survey (LFS)

The LFS is a well-known household-based sample survey which collects detailed information on the socio-economic characteristics of the working age population, in particular on the labour force status components (that is, employment, unemployment and outside the labour force). Usually, individual-level information is collected on all household members. By applying the 19th ICLS Resolution, the scope of the LFS is widened to collect detailed information on the different forms of works introduced by the new framework, and in particular on own-use production (of good and services), which is extremely relevant to the agricultural context. The LFS offers the possibility to produce a wide range of indicators related to the labour market, especially on employed persons (number of jobs, status in employment, occupation, economic activity, type of contract, hours worked, earnings, etc.), often disaggregated by personal
characteristics (for example, sex, age, educational attainment, and in some cases, nationality and/or ethnicity). As a result, the LFS constitutes the main data collection instrument for statistics on employment and unemployment worldwide. In developed countries, it is generally conducted on a regular basis at least once per year, and in many cases every quarter or even continuously.3 Unfortunately, in many developing and low-income countries, it has never been conducted, or is not conducted frequently.

The concept of employment refers to employed persons rather than to jobs. However, the LFS usually collects detailed information on the first job and one secondary job (because a person may have several jobs and work in different sectors, with different contractual agreements and levels of responsibility and/or authority).

**Issues arising when the LFS is used to measure DW and youth employment in agriculture**

It is widely recognized that many of the DW statistical indicators of the ILO framework, as well as the indicators of youth work, are best calculated using estimates derived from the LFS. At the same time, many authors have expressed concern on the capacity of this survey to adequately capture the DW dimension in the agricultural context.

More specifically, the following issues have been identified:

1. For many developing countries where the agriculture sector is dominant, LFSs are too expensive to carry out frequently.
2. Rural areas are often underrepresented in the sample.
3. Data collection instruments often only collect information on one primary and one secondary job.4
4. Major statistics from the LFS almost always refer to the ‘main’ job (for example, the disaggregation of employment into economic sectors is based on the economic sector of the main job).
5. The general purpose is to represent the entire economy of a country and not one economic sector in particular. As a result, the agricultural sector

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3 Usually, a panel component also allows for the production of flow estimates.
4 This problem will be addressed to some extent when the LFS questionnaires will be aligned to the 19th ICLS Resolution, because more questions must be added to capture participation in multiple forms of work and jobs. Currently, the ILO is carrying out pilot tests of questionnaires that take this particular aspect into account.
may not always be well-represented and the LFS cannot therefore provide a wide set of reliable (that is, precise and accurate) indicators with all relevant disaggregations (Oya, 2015).

6. Standard LFS questionnaires do not include an exhaustive list of questions required for the agricultural sector. Only a limited set of DWIs can be obtained from the standard LFS questionnaires. However, the survey usually allows for the incorporation of ad hoc modules to collect specific information on specific groups of respondents. This solution could also be applied to incorporate in-depth DW modules into the LFS (Oya, 2015).

7. With reference to DWIs for youth in agriculture, the LFS is unlikely to be representative because of its small sample size and the possibly high nonresponse rate (because of noncontact, refusal to answer, etc.). Furthermore, the following are additional well-known shortcomings

i. The sample size of the LFS is not usually calculated to produce reliable disaggregated data. Given the high cost of the survey, priority is usually given to the reliability of the main aggregates (such as employment, unemployment, own-use production by sex, urban or rural areas). In these cases, the precision of estimates for specific subgroups is likely to be very limited.

ii. In the context of self-response, the total nonresponse rate could be especially high for young people, when a large proportion of these have a lifestyle that makes them difficult to contact (for example, they may live alone or as a couple without children, working for long hours and coming home very late at night). In this case, the survey is able to reach and interview more easily a subgroup of youth with very different characteristics (for example, they may live with their parents, study and/or help on family farms). It follows that the results may be biased.

iii. The LFS questionnaire does not always collect all of the information required to comprehensively represent the situation (earnings, type of contract, labour protection, actual hours over long periods, questions needed to determine the specific barriers that young people face, job satisfaction, etc.). In this case too, the survey could incorporate ad hoc modules to collect the additional information required for youth. This aspect will be discussed in detail in chapter 5 of this technical report (Oya, 2015).
3.2. The AGRIS Labour Module\textsuperscript{5}

AGRIS is a farm-based modular multiyear survey program currently being developed by FAO in the context of the GSARS, which was endorsed in 2009 by the United Nations Statistical Commission. The AGRIS Core Module is administered yearly and focuses on crop and livestock production. Rotating Modules covering specific themes vary by year, depending on the country context. The AGRIS Labour Module (AGRIS-LM) is one of these Rotating Modules planned to collect statistics for structural and in-depth analysis of work in the agricultural context (that is, by individuals who reside in agricultural households and individuals who work in the agricultural sector). The AGRIS-LM has two main data collection components and one optional one.

The first main data collection component is the Labour Input Module (AGRIS-LIM), which collects information on the volume and characteristics of all types of labour input provided on the agricultural holding. It covers the small holdings or farms managed by one or more physical persons (also known as Agricultural Households that is, the Household Sector Agricultural Holdings (HSAHs); the AGRIS-LIM also covers the non-household holdings managed by legal entities (such as corporations, cooperatives, or government agencies), or the Non-Household Sector Agricultural Holdings (NHSAs). The AGRIS-LIM measures all work or help provided on the two types of holdings by household members and external workers (paid long-term workers; paid temporary workers, paid seasonal workers; contractors; unpaid workers; etc.). It is important to note that the results obtained from the HSAHs and NHSAs in terms of time worked can be combined to calculate comprehensive statistical aggregates for the entire agricultural sector at the country level (such as the labour input into the agricultural sector in terms of time worked), and for different periods of the year or agricultural seasons.

It is equally important to emphasize that the figures and indicators produced refer to jobs and not persons; therefore, it is impossible to obtain a headcount for the “population engaged in agricultural activities”, because the same person may provide labour input to the household sector (in various forms) and non-household sector at the same time (and could thus be counted twice). The entity of this overlap may be significant if it is considered that an individual (especially seasonal and casual workers) can perform a wide range of activities over an entire agricultural year (or in a 12-month period).

\textsuperscript{5} The information contained in this report on the AGRIS-LM is current as of March 2017. However, because the AGRIS methodology is undergoing rapid methodological advancements, readers are encouraged to check for updates.
The second main data collection component is a **Labour Force Module** (AGRIS-LFM), which collects information on participation in all forms of work (within and outside the holding, in all economic sectors) and on the labour force status of the members of agricultural households (households that run an Agricultural Holding or farm on a small scale). It was developed taking into account the concepts and definitions proposed in the 19th ICLS.

An optional data collection tool aims to investigate, in more detail, the individual characteristics of the agricultural activities of external workers.

The AGRIS-LM is currently being tested and finalized.

**Issues and methodological gaps arising when using AGRIS to measure DW and youth employment in agriculture**

As of March 2017, the AGRIS-LFM resembles an LFS questionnaire that is already in line with the 19th ICLS Resolution. Therefore, it collects information on all forms of work, labour status, status in employment, main and secondary jobs, time worked, type of contract or working arrangements, industry sector, occupation, earnings, past working experience, etc. and can produce all DWIs that are usually derivable from an LFS, but only for the subgroup of the population living in agricultural households. When implemented with an adequate sample size, the AGRIS-LFM can produce all of the indicators, disaggregated by geographical region, sex, age group, nationality, ethnicity, level of education attained, household characteristics and type or size of the agricultural holding. Therefore, it is also able to produce information representing the situation of youth living in agricultural households, including on DW.

Clearly, the standard questionnaire cannot always include the enormous number of questions required to adequately measure the agricultural or rural labour market from all points of view (labour status, forms of work, labour input, decent work, youth work, etc.). However, the AGRIS methodology provides an opportunity to use a modular approach where (a) the full sample answers the standard questionnaire; and (b) different subsamples (of adequate size) also answer specific ad hoc questionnaires on different topics (DW, youth work, etc.). In addition, for organizational and operational purposes, it could be convenient.

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6The possibility to produce and interpret disaggregated indicators depends on the precision/reliability of the estimates, hence on the sample size and/or on the level of the observed phenomenon in the population.
to spread the annual sample over several quarters or seasons, and aggregate the collected data to provide annual results.

### 3.3. The FAO Decent Work Pilot Surveys

In 2015, the FAO Statistics Division designed, provided technical support for, and funded a pilot survey for measuring decent employment (including youth employment) in the rural population in Burkina Faso\(^7\) and Togo.\(^8\) The DW module included in this pilot test was designed to be integrated into existing national agricultural and socio-economic data collection systems. Therefore, the scope of the pilots was to test the relevance of the module’s questions and the effectiveness of the sampling strategy under the existing survey designs and methodologies for agricultural surveys. The results of these pilot surveys provide guidance on the methodological and organizational aspects to consider when establishing the foundations for a regular survey covering several aspects of DW. Moreover, the expertise gained from this exercise informed the development of the AGRIS-LFM discussed in section 3.2. above.

For testing purposes, the DW module has been integrated into the main agricultural surveys of both countries. However, given that these main surveys already collect several different types of data, and to decrease respondent burden and interviewer workload, the pilot surveys were administered only to a subsample, which included households managing agricultural holdings or farms.

In Burkina Faso, the main agricultural survey is household-based. The sampling design is a two-stage stratified random sampling design in which the Primary Sampling Units (PSUs) are the villages, stratified by large and small production potential, and the Secondary Sampling Units (SSUs) are the households, stratified in small and large agricultural producers. In each PSU, six households are then selected – three for each stratum. The subsample for the pilot survey is built randomly, selecting two households from each of the six households of the full sample (one for each stratum), such that for each village, both strata are represented and the diversity between "small" and "big" farm households can be captured.

In Togo, the main survey is also household-based, with a sample that is stratified by five regions of the country (Maritime, Plateau, Centrale, Kara and Savanes). The PSUs are the agricultural enumeration areas. The SSUs are the agricultural households. For the main survey, in each enumeration area sampled, four households are then selected. The subsample for the DW pilot survey is built

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7 Carried out by the Ministry of Agriculture and Hydraulic Planning.
8 Carried out by the Ministry of Agriculture, Livestock and Fisheries, Hydraulics of Togo.
randomly, selecting, within each enumeration area, two households from each of the four of the full sample.

In both surveys, the units of observation for the DW survey are the individuals. In fact, a subsample of the household members is selected to participate in the test, according to the following rule: two adults (15 years of age or older) are randomly selected, one male and one female, although not necessarily the head of the household. In addition, two children – one from the 5–9 age group and the other from the 10–14 age group – are randomly selected to respond to a specific section on child labour.

The main objectives of the DW surveys are to:

- collect current data on employment in rural areas to identify key DWs;
- test the applicability of the DW survey instruments;
- assess the methodological choices (relevance of the selected sample);
- assess the possibility to integrate the employment and DW questionnaire within the main agricultural survey systems or frameworks.

The questionnaires aim to collect information on both agricultural and non-agricultural activities, selected on the basis of country-specific settings. The activities are grouped as follows:

- individual farming activities on behalf of others;
- individual nonfarm activities on behalf of others;
- individual farming activities on own account or in the family holding or farm;
- individual non-farm activities for own account or for a family business; and
- child involvement in economic activity.

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9 It would certainly have been preferable to select more people in each household, as this would have enabled capturing the diversity of socio-economic conditions and obtaining more precise and reliable indicators. This is something that must be taken into account in the regular full-scale implementation of the DW module.
The information specified above is collected on all activities carried out during the previous 12 months by means of a so-called “employment matrix”, through which it is possible to determine the number of actual working days and the nature of the employment status (own account, for others, private, state, frequency, etc.) for each activity identified.

The information collected makes it possible to produce a huge variety of key employment and DWIs, referring to several dimensions such as:

- employment status
- underemployment
- overemployment or excessive hours
- seasonality of operations and multiplicity of jobs
- earnings, payments in kind, low wages and income fluctuations
- equal employment opportunities by sex and occupational segregation
- occupational safety and accidents
- migration, unionization and forced labour and
- the involvement of children in economic activities in their families and outside their families.

The questionnaire is designed in a modular way, such that only relevant modules are administered to respondents.

**Issues arising when using DW surveys to measure DW and youth employment in agriculture**

In terms of population coverage, the DW pilot surveys are not significantly different from the AGRIS-LFM. Although it is stated that they cover (and hence produce indicators for) the rural population, they appear to actually cover only the population living in agricultural households.
The respective reports highlighted the following issues and solutions:

- Challenges were encountered in translating some concepts of DW. As a result, questions must be reformulated according to national specificities to obtain more reliable information.

- An excessive number of questions created a high respondent burden. The length of the questionnaire should therefore be reduced.

- The enumerators did not fully understand some of the questions, which implies that more training is required.

- A larger sample size is necessary to identify certain types of relatively rare activities.

To conclude, the DW survey is able to produce a wide range of very useful indicators. However, it seems to face the usual problems encountered with other surveys: the questionnaires were very heavy in terms of the number of questions (which may increase respondent burden and costs while reducing the accuracy of answers) and a non-adequate sample size (which is usually the case in developing and low-income countries). This often limits the chance to make an effective use (publication and trust) of the information collected.

**3.4. School-to-Work Transition Surveys (SWTS)**

Another potential source for measuring youth employment in the agricultural context is the SWTS, developed by the ILO. The information provided in this section is taken from ILO (2009). The SWTS represents an attempt to expand labour market information for the world of youth and has two main objectives:

- Producing statistical information about the labour market attachments (labour supply), the passage of a young person (males and females aged 15 to 29 years)\(^{10}\) from the end of schooling (either upon graduation or early exit without completion) to the first job,\(^ {11}\) the stability of jobs held by youth, etc.

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\(^{10}\) In most other contexts, a young person is defined as a person aged 15 to 24 years. For the SWTS, the age group is 15–29 years, to capture information on young people remaining in education beyond the age of 24 and on the post-graduation employment experience of this population group.

\(^{11}\) According to the purpose of the survey initiative and the specificity of the country the first job can be defined as any job or as a job with specific qualitative characteristics (regular, with social protection, with paid annual leave, with the right to unionize, etc.)
• Measuring the mismatches in the supply and demand of youth labour (availability of possible jobs for youth). For this reason, it includes a second survey component (carried out simultaneously) that gathers information from employers on their current and future needs for workers and on their attitude and expectations in hiring young workers. This second component is called the Labour Demand Enterprise Survey (LDES).

The SWTS was conducted in a total of 34 developing countries between 2012 and 2016, in some cases with multiple rounds, reaching a total number of 53 surveys (Mehran, 2016). The questionnaire is designed to collect information on personal, family, household information and education relating to youth, their activity history, their aspirations and their current economic activity.

The SWTS can also produce many indicators that are usually produced through LFSs, such as the following:

• Youth employment-to-population ratio (provides information on the efficacy of the economy in creating jobs for youth)

• Youth unemployment rate (provides information on the unused labour supply)

• Inactivity rate of youth (provides information on youth – male and female – who do not supply labour)

• Discouraged worker rate among youth (those who are without work, are available for work but do not seek work because they feel that they lack proper qualifications, do not know where or how to look for work, or no suitable work for them is available)

• Vulnerable employment rate among youth (employed under relatively precarious circumstances)

• Ratio of youth unemployment rate to adult unemployment rates (that is, the youth unemployment rate compared to the adult unemployment rate, useful to assess the lack of employment among youth compared with older jobseekers, and thus the inability of the economy to absorb first-job seekers)

• Share of time-related underemployment in total youth employment
• Share of young workers engaged in “excessive” hours of work (for example, over 50 hours of work per week)

• Wages or earnings of young workers

• Net enrolment rate at secondary and tertiary levels (the ratio over time of the total persons enrolled in education by level, regardless of age, to the population of the age group that officially corresponds to the level of education in the country)

In addition to key indicators on the youth labour market situation, many of which can be measured using an LFS, the SWTS goes further by focusing on the specific issue of entry, into the labour market, of young people as they leave school (by quantifying the relative ease or difficulty in entering and remaining in the labour market after leaving school, the failure to find decent employment, strengths and weaknesses in youth labour markets, etc.).

The SWTS approach distinguishes between “successful” transitions from school to work (those which are successful for young males and females, and for the entire society that benefits therefrom) and “difficult” transitions (in which the only option is to take up unproductive, low-paid and insecure work). In the ILO SWTS, the transition is defined as the length of time between the exit from education to the first entry into employment (ILO, 2009). However, given the ILO’s mission to promote decent work for all, these types of surveys are based on two frameworks applied simultaneously, the main difference between which rests precisely with the stringency of the applied definition of “decent work”. According to the so-called Framework I, the transition is defined as the passage to the “first regular or satisfactory job”, while according to Framework II, it is defined as the passage to the “first decent or satisfactory employment”. Therefore, a person has not “transited” until he or she has settled in a job that meets these criteria.

Framework I is founded on very basic criteria for DW, namely:

• permanency in a “regular job” that can provide the worker with a sense of security (measured by the expected duration of contract; the ideal benchmark may be, for example, a permanent contract) ignoring other worthwhile DW dimensions (earnings below poverty-level wages, excessively long hours worked, no social protection, etc.); or

• a job that the worker feels personally satisfied with, that is, a job that the respondent considers to “fit” his or her desired employment path in that
moment (a subjective concept, that must be self-assessed by the jobholder).

Framework II uses a stricter definition of DW, and therefore includes additional dimensions such as:

- having contractual arrangements that meet the expectations of the young worker;
- qualifying as neither overemployment nor underemployment;
- paying at or above the average monthly wage rate of young workers;
- offering satisfactory job security;
- offering the possibility for worker participation in labour unions or associations of employer organizations; and
- offering entitlements, among which paid sick and annual leave.

When Framework I is used, the SWTS classifies young people into one of the following three main stages of transition:

i. Transited: young person who is currently employed in a regular or satisfactory job. They are usually further subclassified according to two dimensions.

- According to the phases of the transition, which may be: (a) direct transition; (b) spells of temporary or self-employed work, non-satisfactory employment, or no contract employment (with no spells of unemployment or inactivity); (c) spells of unemployment with or without spells of employment or inactivity; (d) others.
- According to the period of time required for transition into “short”, “middling” and “lengthy”.
ii. In transition: who have “not yet transited”. This stage includes the following subcategories:

- unemployed;
- inactive and not in school, with an aim to look for work later;
- employee without a contract;
- employee with a temporary contract and with a non-satisfactory job; and
- self-employed and unsatisfied.

iii. Transition not yet started: young people who have not yet “transited” and are not yet “in transition”. This stage includes the following categories:

- still in school; and
- currently inactive and not in school, with no intention of looking for work.

When Framework II is used, the above classification is modified according to the different criteria adopted.

Therefore, the SWTS can produce a huge variety of indicators on young men and women according to the three stages of transition, the phases of the transition and the time required for transition. It is recommended that all these indicators be disaggregated by sex, by age groups 15–19, 20–24 and 25–29 years old and by educational level.

**Issues arising when using SWTS for measuring DW and youth work in agriculture**

The STWS usually covers the entire economy of a country and is generally suitable to capture and describe the situation faced by youth in the transition from school to work in the urban labour market. With reference to the agricultural context, apart from the rural/urban disaggregation, the SWTS could produce figures for youth living in agricultural households and for the total youth employed in the agricultural sector.
However, there are several issues to consider:

- The possibility of providing reliable figures for these population subgroups mainly depend on the survey’s sample design or size.

- Youth may also be involved in spells of own-use production work (which, according to the 19th ICLS Resolution, is no longer part of employment); therefore, the two frameworks used to take into account the different stages and phases of the school-to-work-transition must be revised.

- Collecting detailed retrospective information on all possible career paths from the time of first exit from educational or training institutions is very demanding for interviewers and very burdensome for respondents. Because of difficulties usually associated with difficult recall questions, this may result in low-quality data.

- The SWTS is often used as a one-time survey in a country, and is not frequently included among the regular surveys of NSSs. Therefore, at the moment, it cannot be used to monitor progress toward improved (that is, timely and direct) access to decent employment for young people.

3.5. Agricultural surveys on labour input as a possible way to derive DWIs for the agricultural sector

DWIs are mainly intended to capture information on the work activities of individuals. They are usually based on the quality and quantity of work performed by individuals within a given period of time, or on the consequences of the work activity (right to a pension, right to paid leave, etc.). Because the unit of observation is the individual, household-based surveys are most suited for the purpose. This is generally considered a human-rights approach to measuring DW that is at the heart of the DW framework. In this section, the possibility to compute indicators falling outside the DW framework but describe the conditions of work for the agricultural sector based on the concepts of labour input, time worked or job, is proposed for discussion.

Using a unit of analysis other than the individual could provide insights on certain phenomena related to working conditions that would not be observable otherwise. For example, indicators such as proportion of own-account workers and contributing family workers in total employment could be derived in terms of hours worked instead of employed persons/workers, thus effectively changing the unit of observation from the individual to the job.
These are a few more examples:

- Share of hours worked by casual, short-term and seasonal employees in the non-household sector
- Share of hours worked by casual, short-term and seasonal external employees in the household sector
- Share of hours worked by own-account workers in the household sector
- Share of hours worked by contributing family members in the household sector
- Share of hours worked by own-use producers of goods in the household sector

These indicators may be further disaggregated by gender, which would allow for the following indicators to be computed:

- Share of hours worked by regular female or male employees over the total hours worked by female or male employees in the non-household sector.
- Share of hours worked by casual, short-term and seasonal female or male employees over the total hours worked by female or male employees in the non-household sector.
- Share of unpaid hours worked by female employees over the total hours worked by female in the household sector.
- Share of hours worked by female or male own-use producers over the total hours worked by female or male own-use producers in the household sector.

When information is collected separately for different groups of activities (crop production, livestock rearing, fishing, etc.) some indicators could be produced separately to enable comparisons by activity or occupation.

- Share of hours worked by casual, short-term and seasonal employees over the total hours worked on crop production in the non-household sector.
When information on social protection and unionization is available, it is possible to compute specific indicators based on that information, such as:

- the share of hours worked by unionized workers over the total hours worked by employees in the non-household sector; and

- the share of hours worked by workers covered by social security over the total hours worked by employees in the non-household sector.

The information on payments, hourly compensation and the cost of labour for paid external workers (employees) could also be used to produce an indicator to assess the gender wage gap. Finally, if the scope of analysis is limited to include only regular employees in the non-household sector (those who have a permanent or long-duration contract), some indicators can be calculated under the assumption that each job corresponds to a person employed, such as:

- the share of female regular employees over the total number of regular employees in the non-household sector; or

- occupation segregation by sex.

These indicators, as all of those seen above, can be produced for different characteristics of the agricultural holdings (type of agricultural production, size of the holding, geographical areas, etc.) and could thus provide useful information about different agricultural contexts.

Another way to compute indicators from data on labour input is to use the concept of “equivalent persons day” or “Annual Work Units”.12 As an example, the ratio of employment in agriculture to population could be also complemented by the ratio of annual working units in agriculture to population, which better measures the evolution of labour demand in the agricultural sector.

Further studies should be conducted to better understand the potential of the proposed approach.

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12 This is used for the Farm Structure Survey conducted in the European Union.
Proposed Set of Indicators for Measuring DW and Youth Employment in Agriculture

This chapter proposes modifications to the ILO list of DWIs, adapting them to the relevant agricultural population and taking into account the 19th ICLS Resolution and the challenges highlighted in previous chapters. It also incorporates indicators from the SWTS list for youth living in agricultural households. A description of the target populations for the proposed set of indicators is provided, followed by a complete list of indicators with the corresponding target population, potential instruments for data collection, as well as level of disaggregation are proposed. Additional information – including computation, and interpretation for selected indicators that may not be clear – are provided in annex A.

4.1. Target population for DW and youth work indicators in agriculture

When developing a survey instrument and sampling strategy for measuring decent and youth work in agriculture, the target population should be carefully considered. Figure 3 is a visual representation of the relationships between the target populations under consideration in this technical report. Three populations are considered: the population living in agricultural households, the population living in rural areas, and people working in the agricultural sector.
The first target population, represented by the grey box, includes all workers engaged in agriculture. Agricultural workers are individuals who perform agricultural work on agricultural holdings, either in the household sector or in the non-household sector (for example, on medium and large holdings or farms). They may reside in households located in rural or urban areas and may belong to agricultural households or non-agricultural households. An LFS would include this population. However, if it has not been specifically designed for the purpose, it is not usually able to produce detailed information on the agricultural sector (and relevant disaggregation) with a sufficient level of precision.

The second target population, represented by the blue box, considers only the population living in agricultural households. In line with the World Census of Agriculture 2020, there are two types of agricultural holdings: those of the household sector (or HSAHs), and those of the non-household sector (NHSAs). The former are defined as holdings “operated by household members” (FAO, 2016). Here, the term “agricultural household” is defined as an HSAH. Agricultural households can be found in both rural and urban areas and their members may work on the household’s holding or farm (as own-use producers, own-account workers, contributing family members, etc.), and/or in another HSAH or NHSAH, and/or in another economic sector (for example, as employees or self-employed workers in the industry or in services). Subsistence workers and other vulnerable individuals reside in agricultural households, and are therefore a priority target population for measuring DW in developing
countries. Agricultural surveys target this population specifically, together with large holdings, or agricultural enterprises.

The third population that should be considered is represented by the green box and consists in the population living in rural areas. In countries where a high share of the population lives in rural areas and agriculture accounts for a large share of the economy, this population is likely to have significant overlap with the other two populations. Agricultural surveys and LFSs are likely to include individuals living in rural areas. However, an agricultural survey may not be representative for this population as not all households in rural areas are agricultural households.

For all three populations, data collection should be undertaken on all work activities carried out by the workers in the reference period (both for the market and for own final use, both paid and unpaid). The main objective of this chapter is to provide guidance on data collection and on the compilation of DWIs in agriculture. As a result, only individuals living in agricultural households and agricultural workers will be considered as populations of interest. Collecting data and generating indicators for the rural sector is beyond the scope of this technical report.

4.2. DWIs, proposed disaggregation, and possible instruments for data collection

In this regard, table 3 below presents the current ILO indicators (in the first two columns) and the corresponding proposed indicator(s) for the agricultural context (populations living in agricultural households and persons working in the agricultural sector). The table indicates, respectively, whether the proposed indicators are derivable for the whole agricultural sector (AgSector), for the population living in Agricultural Households (labelled as AgHH), and how they should be disaggregated (sex, age, rural/urban, etc.). The last column indicates whether these indicators can be derived from an LFS, the AGRIS-LFM and/or the AGRIS-LIM as described in chapter 3.
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<th>ILO code</th>
<th>ILO name</th>
<th>FAO code</th>
<th>FAO name</th>
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<td>EMPL_6_AGR_1</td>
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<td>Share of wage employment in non-agricultural employment (SENAYE)</td>
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<td>Precarious employment rate</td>
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<td>Precarious employment rate in the Agricultural sector</td>
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STAB-2 Job tenure Possibly developed in the future
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<td>Own-use producers of goods-to-population ratio (excludes Own-use producers that are also employed)</td>
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<td>Share of own-use producers of goods out of the total number of agricultural workers</td>
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<td>EQUA-2</td>
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<td>Female share of contributing family workers in agriculture taking decisions on the holding production</td>
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<td>EQUA_2_AGR_5</td>
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<td>Share of women in wage employment over total women working the agricultural sector (employed and own use producers)</td>
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<td>Fundamental Principles and Rights at Work (elimination of discrimination)</td>
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<td>Labour inspection (Inspectors per 10 000 employed persons)</td>
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<td>SECU-5</td>
<td>Share of eligible population covered by (basic) healthcare provision</td>
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<td>ILO code</td>
<td>ILO name</td>
<td>FAO code</td>
<td>FAO name</td>
<td>Population</td>
<td>Disaggregation</td>
<td>Instrument</td>
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<td>STWS_1_AGR_1</td>
<td>Net enrolment rate at secondary and tertiary levels</td>
<td>AgHH</td>
<td>Sex, Age, Rural/Urban</td>
<td>LFS, Ag LFM</td>
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<tr>
<td>STWS_2_AGR_1</td>
<td>Share of youth who have transited to employment</td>
<td>AgHH</td>
<td>Sex, Age, Rural/Urban</td>
<td>LFS, Ag LFM</td>
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<td>Share of youth in transition to employment</td>
<td>AgHH</td>
<td>Sex, Age, Rural/Urban</td>
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<tr>
<td>STWS_2_AGR_3</td>
<td>Share of youth whose transition to work has not yet started</td>
<td>AgHH</td>
<td>Sex, Age, Rural/Urban</td>
<td>LFS, Ag LFM</td>
<td></td>
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</tr>
<tr>
<td>STWS_3_AGR_1</td>
<td>Share of future regular jobs available in agriculture for youth workers</td>
<td>AgSector</td>
<td>Sex, Age</td>
<td>Ag LIM</td>
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</table>
While some of the proposed indicators are suitable for developing countries specifically, many others target countries at all levels of development. In the application of the DWIs, it is important to note that the interpretation of the indicator requires a deep understanding and accurate measurement of the underlying components and factors. Furthermore, DWIs should be evaluated and monitored holistically, taking into consideration changes in other linked indicators across the other themes (ILO, 2013). While this technical report focuses exclusively on statistical indicators, it is also strongly recommended to apply the legal framework indicators proposed by the ILO.

Some of the indicators proposed here can be expected to be highly correlated, and therefore able to measure similar changes in the decent agricultural work of a given country. Given this fact, coupled with the cost and complexity of collecting this information, it may not be necessary to compute all of the indicators listed in table 3. Accordingly, the table provides a long list of possible indicators that can be derived from different sources; however, this report does not suggest that countries will have to collect data for all indicators. In many cases, these data sources are already available and many indicators can be already produced, or could be produced, with little additional effort by adding specific questions or modules to the existing questionnaires. The selection and prioritization of these indicators is left to the discretion of individual countries.

Although many of the indicators in table 3 are defined in the referenced literature, their application and interpretation in agricultural settings can be somewhat different. As a result, annex A has been added to this technical report to define the formulas and provide interpretations for the particularly complex indicators listed in table 3.
Integrating Data Collection on DW and Youth Employment in Agriculture into National Agricultural Statistical Systems

This chapter explores the possibility to integrate information on labour in agriculture collected through agricultural surveys with similar information collected by other national household survey programs, mainly the LFS. First, the potential causes of discrepancies between the figures derived from these two sources are described. Methods are identified for reconciling results at the dissemination stage, and bridge tables – such as those used to explain differences between employment estimates from LFSs and national accounts – are proposed.

Finally, potential methods to integrate the different sources at data planning or collection stage (for example, attaching agricultural modules to LFSs, attaching LFS modules to agricultural surveys, attaching DW modules and modules on youth work to Agricultural Surveys or to LFSs) are identified.

5.1. Discrepancies between the results obtained with indicators on agricultural workers derived from LFSs and AgS

Agricultural Surveys and LFSs are two of the most important sources for statistical data related to agricultural labour. They may produce very different or even contradictory figures that may cause confusion between users, analysts and stakeholders due to differences in their methodologies. In fact, the same phenomenon of interest (in this case, work performed in agriculture) is investigated using two very different methods, which is likely to result in different results.

The first major methodological difference is the target population. The frame for an Agricultural Survey should include all of the agricultural holdings that are
located in the country\textsuperscript{13}, classified in the household sector and in the non-household sector. The Agricultural Survey collects information on all kinds of workers, both those permanently and temporarily (seasonal, cross-borders workers, etc.) resident in the country.

The LFS covers all persons living or residing in the country even if they are temporarily abroad. The concept of usual residence based on the criterion of 12 months\textsuperscript{14} is usually adopted. Therefore, the LFS covers the population that has continuously lived or resided in the country for the last 12 months, or intend to stay in the country for at least one year.

Another major difference is the type of data collected by the two different instruments. The Agricultural Survey collects information on the characteristics of the holding (land use and area, livestock, main crops, other gainful activities of the farm, system of farming, machinery, organic farming, etc.) and on the work or help provided on the agricultural holding during a given period (for example, the last 12 months or the last agricultural season) by external workers, family helpers, contractors, etc., on a regular, continuous, or non-regular basis\textsuperscript{15}. Therefore, it can produce estimates on the labour input in terms of jobs, time worked, labour costs\textsuperscript{16}, etc. The results can be disaggregated for the household and the non-household sector. However, it cannot to produce estimates on the number of agricultural workers, and often also cannot distinguish between the time worked by usual resident workers and by temporary international and national migrants.

The LFS collects information on the labour market attachment, labour status, forms of work and many other characteristics. It also produces figures referred to persons and households on a disaggregated basis for the different economic sectors, and therefore separately for agriculture, and occasionally for rural and urban areas.


\textsuperscript{15} “Non-regular” refers to persons working in agriculture on a noncontinuous basis; they are not illegal workers.

\textsuperscript{16} This review does not include those Agricultural surveys that include a labour force module that is administered to agricultural households, such as the AGRIS-LM.
The Agricultural Survey captures information from the place of work, implies that information on labour can be disaggregated geographically by the work that was performed, while the LFS usually captures information from the place where the worker resides or lives. This difference can be relevant in countries where people living in rural areas have a temporary or permanent agricultural job in agricultural holdings located in urban areas or in another geographical region. In such a situation, the LFS would include that worker within the figures for the rural areas or for the region of residence, while the Agricultural Survey will include the job and time worked within the figures for the urban area or the region of work. Of course, the same problem occurs if persons residing in urban areas have jobs in small or big agricultural holdings or farms in rural areas.

The difficulties encountered by statistical offices in producing estimates of the number of agricultural workers are well-analysed in How many people work in agriculture in the European Union? An answer based on Eurostat data sources, available on the Eurostat website. The paper compares the different data sources on the topic available from European countries, including the most important Agricultural Survey, namely the Farm Structure Survey (FSS) and the European Union Labour Force Survey (EU-LFS).

Apart from the methodological differences between the FSS and the EU-LFS, compared to other economic sectors, the agricultural sector has several peculiar characteristics that hinder precise knowledge of the number of persons employed or working.

First, in many countries, the agricultural sector is dominated by family or household agricultural holdings or farms, where the holders and family members (spouses, grandparents, etc.) provide labour input, very often unpaid, with varying intensity at different times of the year. Second, many agricultural workers or farmers pursue agriculture as a part-time activity (or full-time only in specific seasons), and may have other more or less important jobs or sources of income. Third, agriculture is characterized by high seasonality, in which large numbers of casual workers may be hired (with or without regular contracts) for relatively short peak periods. Fourth, a high number of part-time or casual workers are engaged in agriculture for long periods of time, but with very variable working patterns, even within each agricultural season. Finally, according to the FSS, agriculture is a minor activity for many individuals. For example, more than half of the individuals surveyed spent less than 25 percent of their working time on farm work; approximately 30 percent of them spent

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more than 50 percent of their working time on farm work, and only about 15 percent were full-time agricultural workers.

Given these peculiarities, the number of jobs in the agricultural sector in Europe is much higher than the number of persons working in the sector (including both employed person and own-use producers). In Europe, when these jobs are converted into full-time equivalent jobs (called annual working units or AWUs\(^\text{18}\) in agriculture), the figures from the Agricultural Survey are significantly reduced and become much more comparable with those from the LFS\(^\text{19}\) (EU, 2013).

5.1.1. Agricultural surveys

Agricultural Surveys are usually carried out at least twice a year to collect information on the different agricultural seasons; however, few developing countries succeed in conducting Agricultural Surveys on an annual basis. In some countries, only Agricultural Surveys include agricultural holdings or farms that exceed a specific threshold in terms of land used or production obtained. Therefore, work in small holdings may be underrepresented or underestimated. In such a scenario, information on the age structure of the agriculture workers is limited – in fact, age is usually collected only for holders or farm managers, with a few other variables such as gender. When Agricultural Surveys are also administered to agricultural holdings that are agricultural households, then this type of information is collected on all household members.

One of the critical issues for the Agricultural Survey is the way in which the information on the actual hours worked is collected. Currently, different approaches are used. Most of the surveys directly collect information in the form of “full-time equivalent days” or estimate or calculate the total number of hours using the average number of hours worked in a day, the average number of days worked in a week, the average number of weeks worked in a month or in a season, etc. Some of these approaches oblige the respondent to perform complex and cumbersome calculations, especially if respondents have a low level of education or do not use workers’ registers on a regular basis. One approach consists in asking questions with reference to special units of working time that correspond to the work performed by one person who works on the agricultural holding on a full-time basis (a “person-day”, corresponding to eight hours of work, or an AWU, corresponding to 1 800 hours worked in a year, etc.). This approach can provide reasonable results for permanent full-time workers, where

\(^{18}\) AWUs are obtained from the total number of hours worked divided by the average annual number of hours worked in full-time jobs within the economic territory. It is fixed at the EU level at 1 800 hours, corresponding to eight hours of work for five days a week, for 45 weeks.

\(^{19}\) The number of jobs estimated by the FSS 2010 is 25 million, which may be converted into 9.8 million AWU. Compare this with the 10.4 million person-days from the LFS 2012.
the number of person-days corresponds to the number of days. However, it may be unmanageable for workers that have different spells of work, with different working arrangements during the reference period.

The complexity may increase for medium-large holdings that provide information at the aggregate level, especially when the holding has made use of different types of permanent or temporary workers who have worked on the holding for periods of different length, with different working patterns, or for different numbers of hours per day in the different periods (for example, working part-time for a few weeks during the low season and full-time for many weeks during the high season).

Another approach that is widely used for data collection at the individual level is based on a mix of “counts” and “averages”. It consists in asking the total number of days, weeks or months worked as well as the average number of hours, days, weeks or months worked during the specified period of time. Countries may implement it in many different ways. Although it may appear to be very simple, in particular situations, this approach may still pose challenges and be affected by substantial bias\textsuperscript{20}, because it requires estimating several ‘averages’ (for example, the average number of weeks worked per month, the average number of days worked per week, the average number of hours worked per day or week). While this is feasible for individuals with a regular working pattern, for irregular workers, this entails the need for respondents to engage in a complicated mental process to retrieve the information and elaborate a plausible answer. The complexity also increases when there are many averages to be computed and when the reference period is too long.

Furthermore, the Eurostat approach used for the FSS does not always provide reliable results on the number of hours worked and the AWU. In fact, respondents are usually asked to provide information on the number of workers according to the “time spent on the holding (percentage of the full time)” (therefore, <25 percent, 25–50 percent, 50–75 percent, 75–100 percent, 100 percent). With this approach, answers can be easily provided only if the worker has continuously worked full-time for the entire year. In all other cases, the respondent would have to perform complex calculations.

In addition, the only way to estimate labour input is to use the “reported number of persons in each labour percentage band, weighted by the midpoint of each interval, and summed up”. This kind of calculation may have a dramatic impact on the final results, because the “midpoint assumption” used for estimation does

not usually reflect the reality. Therefore, this kind of computation is rarely likely to provide results that are equal to the actual total number of hours worked.

### 5.1.2. Labour Force Surveys (LFSs)

LFSs are more frequently implemented in developed countries, where they are usually carried out at least on an annual, quarterly or continuous basis (to capture the seasonality of the agricultural work and of other types of work, and to better collect information on main and secondary jobs). Developing countries, especially in sub-Saharan Africa, carry out LFS very rarely (even as rarely as once every four years).

For the LFS, the information available by economic activity, and thus also for agricultural employment or work, could in some cases be limited, for several reasons:

- Very often, the questions used to collect information on work is identical for all the sectors; therefore, they do not account for the specificities of agriculture discussed throughout this technical report.

- When the number of hours worked in agriculture are collected with retrospective questions that cover long periods of time (quarters, agricultural seasons, a complete year), the results could be biased (however, the same problem occurs for many agricultural surveys covering an entire season or year).

- The LFS sample is frequently built using, as the planned domain, the geographical regions and the type of area (urban or rural areas). Hence, it is generally possible to produce separate and reliable estimates for these domains. With reference to the sector of economic activity, however, this is not generally true. Therefore, the reliability (that is, the accuracy and precision) of the estimates for the agricultural sector mainly depends on the sample size (which in turn depends on the budget available), the variability of the phenomena in the sector, total nonresponse, etc.

- Information on jobs is usually collected only on the main job, and sometimes on a secondary job. However, as seen already for the case of Europe, it is possible that for certain population groups, the agricultural work is only a minor activity performed on an occasional bases.

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21 Estimates with a given level of precision whose coefficients of variation do not exceed specific predetermined thresholds.
Therefore, the information on the time spent working on the farm cannot always be collected.

- In addition, if the LFS is in line with the old 13th ICLS Resolution on labour status, then own-use producers of agricultural goods are included in the employment category. This problem is reduced or even solved if the LFS is completely aligned with the new 19th Resolution, because the questionnaire also collects, for each household member, and separately from the hours worked in possible main and secondary jobs, the number of hours worked as own-use producers of agricultural goods on a family farm.

5.2. A method to reconcile results at the dissemination stage

Coherence is one of the most important quality dimensions of official statistics. It is well-known that labour statistics produced from different data sources can be very different. This also happens for the agricultural sector when it is sought to compare figures on labour input (the number of hours worked and jobs) derived from Agricultural Survey and the number of persons employed or working in agriculture derived from LFS or other household surveys (LSMS-ISA, HBS, etc.).

This does not necessarily mean that these figures are wrong. As seen in paragraph 5.1, these differences can be explained by different scopes, coverage, definitions, data collection methodologies, etc. However, these differences should be explained, to reduce confusion and ensure that the statistics are correctly interpreted by data users and policy-makers.

In the context of the national accounts, this problem was taken into serious consideration by the OECD and Eurostat. In October 2004, having observed large differences between the employment figures produced by the LFS and the national accounts, the OECD and Eurostat began asking countries to explain these differences. Therefore, countries were asked to fill in the so-called “bridge table”, which describes the nature, size and sign of the adjustments made by national statistical offices (usually national accountants) to the data on employment and hours worked from their original sources (usually the LFS) to conform the employment figure to the concepts adopted when compiling national accounts.

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22 If the agricultural goods produced contribute substantially to household consumption.

Some of the most important adjustments used for national accounts seek to achieve the following:

- Calculate annual estimates of employed persons from quarterly/monthly figures
- With regard to the economic territory, move from the national concept to the domestic concept, subtracting from the LFS the number of resident people working outside the economic territory and adding nonresident people working within the economic territory; the latter are not covered by the LFS
- For the reference population, add persons living in institutional or collective households, such as prisons, convents or students houses, who are not usually covered by the LFS; add employees falling outside the age boundaries covered by the LFS, such as workers under 15 years old.
- For the underground economy, addition of, for example, workers in the grey and black market and own-use producers of goods
- For the total number of hours worked during the year, taking into consideration of, for example, holidays, annual leave, sick leave, strikes, temporary layoffs, overtime
- For other specific known bias of the survey results, consideration of issues such as the tendency of LFS respondents to forget dates of annual leave and holidays and thus overestimate their hours worked; and over- and under-reporting for some categories of workers, such as the self-employed

With reference to the agricultural sector, the same approach could be used: countries could use a suitable bridge table to describe the differences between the figures on employment in agriculture provided by the LFS and those provided by the Agricultural Survey.

Such a bridge table should include the following components:

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25 National workers are those who reside in the country (working in the country or outside it), whereas domestic workers are all those who work in the country (whether resident or nonresident).
- Number of persons working in agriculture from official labour force statistics
- Adjustments to accommodate the conversion from the concept of stocks (persons employed on a given date) to the concept of flows (persons employed during the year)
- Adjustment for population working outside the country
- Adjustment for errors in classifying economic activity
- Adjustment for secondary agricultural activities
- Adjustment for the total number of hours worked
- Calculation of AWUs from the LFS (full-time-equivalent workers)
- Adjustments for the reference population (collective households, migrants working inside the country, workers falling outside the age boundaries covered by the LFS, etc.)
- Adjustments to take into account small agricultural holdings under a specific threshold that are not covered by Agricultural Survey
- Other adjustments or unexplained differences
- Calculation of AWUs from the agricultural survey
- Number of hours worked from the official agricultural survey statistics
- Number of jobs from the official agricultural survey statistics

As may be seen from the list above, there are numerous possible reasons for differences between these two main sources, which means that compiling a bridge table is certainly not an easy task. More pilot studies should be conducted to verify the possibility of preparing and using the instrument. National accountants are usually aware of the different sources involved and of the methods to be used for the adjustments required; therefore, their collaboration is indispensable.
5.3. Integration of a labour module into an Agricultural Survey or an agricultural module into an LFS

A method for collecting information on decent work and youth work in agriculture is to attach a module covering the specificities of labour in agriculture to an LFS, or integrate a labour force module into an agricultural survey. Obviously, these two approaches would generate data on slightly different populations, as already described.

The AGRIS-LM takes the latter approach. It was developed entirely in line with the 19th ICLS Resolution and collects individual information on all household members, regarding all of the forms of work in which they are engaged, both inside and/or outside their household’s agricultural holding. The AGRIS-LM also collects information regarding the labour status and all of the other characteristics typically covered by the LFS (status in employment, sector of activity, hours worked, type of contract or working arrangements, payments, earnings, underemployment, job search, discouragement, labour underutilization, etc.).

Given its focus on farm work, the AGRIS-LFM questionnaire has a specific structure, with detailed sets of questions that are capable of adequately and comprehensively capturing all types of agricultural activities carried out on the farm, or the diversification activities pursued by the agricultural household or holding (agritourism, retail trade to local market, etc.). Moreover, as the AGRIS-LFM is also used to capture the labour input of household members to their agricultural holding, it collects detailed information on the time worked in each of the last 12 months (or of the last three months, if carried out on a quarterly basis in the reference year).

Upon a wider perspective, and considering the need for an effective use of the resources available at country level, as well as of coordination between the organizations responsible for relevant survey programmes within the national statistical systems, questionnaires based on – or similar to – the AGRIS-LFM for the household sector could become important in many developing countries for the generation of labour-related statistics.

As such, the AGRIS-LFM could be integrated with other household surveys adopting the same concepts and a similar operationalization. Therefore, if integrated with the LFS, it would be certainly possible to substitute or integrate the standard LFS questionnaire with a questionnaire of the AGRIS type, although only when the sampled household is an agricultural household. The rest
of the LFS sample (that is, the population not living in agricultural households) will continue to be interviewed with the standard LFS questionnaire.

Therefore, it is possible to obtain a unique survey, in which two partially different questionnaires cover two complementary population groups and whose specific results can be combined to provide overall figures on the country’s entire population. This strategy is similar to that used for including ad hoc modules in the EU-LFS, where specific subgroups of the population are asked additional questions on specific topics.

In addition, if the country has a suitable Master Sampling Frame in which these two different population or households groups are clearly identified, it is also possible to design a complex sampling strategy according to which each of the two components have specific requirements in terms of precision, sampling fraction and stratification. In this case, a reduction in terms of costs and burden for both the statistical organizations and for the respondents can be easily obtained.

To conclude, for those countries that are currently unable to produce labour market information on the agricultural sector from LFSs, a detailed labour module can be attached to an agricultural survey (such as the AGRIS-LFM questionnaire) to produce labour market statistics and DWIs. Alternatively, a module on agriculture can be attached to the LFS, and administered only to agricultural households. Moreover, for countries in which the LFS covers only the urban population, the AGRIS-LM could be extended (budget permitting) to all households in the rural areas (thus even to households that do not run agricultural holdings and skip the questions related to unpaid work or help on the family farm) to produce labour market statistics referred to the entire rural population. These statistics can then be compared with those produced for the urban areas from the LFS.

5.4. Integrating the DW survey with the AGRIS-LM and the LFS LFS

As described in chapter 3, the DW module included in the pilot test is designed to be integrated into existing national agricultural and socio-economic data collection systems. However, given the peculiarities of the DW Survey questionnaire developed for agriculture, integration with a standard LFS is unfeasible. The DW module could be integrated into an AGRIS-LM-type survey as these two instruments cover exactly the same reference population. Although the approach for collecting information is different in the two surveys, some commonalities do exist. The DW uses the employment matrix, collecting
detailed information on approximately 30 types of working activities (agricultural workers, fisherman, retail traders, etc.), while the AGRIS-LFM collects information on a small number of “activity clusters” (crop production, livestock rearing, fishing, gathering hunting, complementary activity of the holding, paid work outside the holding, etc.). Integrating the DW module into an AGRIS-LFM-style module would generate more information on DW, but would result in a relatively long survey and a high respondent burden. A solution could be to use subsamples that answer different modules or separable subsections of the same module.

5.5. Integrating the SWTS with the AGRIS-LM and with the LFS

The school-to-work transition survey was designed to be incorporated within national LFSs as an ad hoc module, to be carried out less frequently than the main survey and/or on a smaller subsample. The SWTS could also be similarly integrated into an AGRIS-LM-type survey collecting in-depth information on the situation of youth living in agricultural households. The paper titled *Can we measure the school-to-work transition of young persons with labour force surveys? A feasibility study* (ILO, 2016) addresses this specific issue. The following paragraphs explore some of its considerations that also apply to integrating an SWTS into an AGRIS-LM.

Usually, the annual LFS sample (average of four quarters) is also large enough to obtain reliable results on the subgroup of youth aged 15–29 years of age. Data collection in the SWTS should be based entirely on self-response, to ensure more accurate data in terms of response errors and measurement bias. However, this greatly increases costs for interviewers and reduces the timeliness of dissemination. In the LFS, proxy answers are unavoidable in most countries; therefore, only a good questionnaire and sound interviewer training can limit the expected measurement errors.

The LFS already collects key data on the current labour market characteristics of young persons and other SWTS questions such as: (a) year starting current job; (b) potential labour force status; (c) current school attendance; (d) educational attainment; (e) year attaining the highest level of education; and occasionally (f) date of first entry into the labour force.

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The SWTS also uses specific questions such as “Wanting to change employment” or “Intention to look for work”. The LFS does not include these specific questions; however, a reasonable approximation could be guaranteed by the existing questions on “Looking for other employment” and “Even if you are not seeking employment, are you willing to work?”, respectively.

A specific set of questions must be included in the LFS to capture all past work experience for youth and to identify the first transited job (as required by the SWTS). The ILO paper suggests using the rotational pattern of the LFS sample to retrieve this information using longitudinal data (matched individual records). However, generally this is not possible, given that the sample overlap is usually designed for no more than 18 months (an insufficient amount of time and to capture lengthy transitions).
References


Annex

Description of the proposed DWIs

To facilitate researchers and users of this report, the structure of this annex follows the structure of the section titled *Presentation of the statistical indicators* of the ILO manual on *Decent Work Indicators. Guidelines for producers and users of statistical and legal framework indicators* (ILO, 2013).

As for the ILO manual, the proposed indicators are grouped according to the ten areas seen in previous chapters. Indicators from the school-to-work transition surveys are included as they cover additional aspects of youth employment. This section provides details on the indicator, formula, and potential data sources for indicators that are particularly complex or significantly different from those seen in the ILO manual. Additionally, some indicators require a more extensive explanation because the interpretation may change according to the peculiarities of agricultural work and with the introduction of the 19th ICLS. For such indicators, some guidance is provided; however, readers should be aware that more in-depth discussion is still necessary.

1. Employment opportunities and other forms of work in the agricultural context

The agricultural context also requires a number of indicators regarding labour demand and supply (for example, labour market conditions, informality, labour slack and labour underutilization). In light of the changes introduced by the 19th ICLS, this section covers both of those elements, relying on the concepts of employment, unemployment, status in employment (usually from an LFS) and other indicators, based also on the concept of own-use production of goods, which includes subsistence foodstuff producers. It should be noted that the scope of employment extends past individuals’ main job. According to the World Census of Agricultural 2020, the number of persons working on holdings where the main intended destination of production is for sale or barter can be used as a proxy for employment in agriculture. In this spirit, the following employment indicators refer to individuals working on household-sector holdings, whether or not such work is their main job.
**EMPL_1_AGR_1 – Employment-to-population ratio in agricultural households**

The employment-to-population ratio is the first indicator proposed by the ILO. It provides information on the increasing and decreasing opportunities for “paid work” or for “market-oriented activities”\(^\text{27}\) in the country.

The employment-to-population ratio is defined as the percentage of persons employed over the working age population. With reference to the agricultural context, it can be calculated for the population living in agricultural households (AgH) as follows:

\[
EMPL_1_{\text{AGR}}_1 = \frac{\text{Number of persons of working age living in agricultural households, who are employed}}{\text{Total number of persons of working age living in agricultural households}} \times 100
\]

This indicator can be derived from LFSs, the AGRIS-LFM and other household surveys, such as the Household Budget Survey (HBS) and the LSMS-ISA. It can be obtained separately for males and females, and for youth. The employment-to-population ratio can also be computed with reference to the rural population.

Increasing values of the indicator usually indicate increasing employment opportunities for that population, including more opportunities to be engaged in “market-oriented agricultural activities” for sale or barter. However, an excessively high ratio for youth could be a signal of limited education options for young people. Moreover, very high ratios could indicate an abundance of casual, short-term and low-quality jobs.

**EMPL_1_AGR_2 – Employment-in-agriculture-to-population ratio**

This indicator provides information on the increasing and decreasing opportunities for “paid work” or for “market-oriented activities” in the agricultural sector. It is defined as the percentage of persons employed in agriculture over the working age population.\(^\text{28}\)

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\(^{27}\) With the 19\(^{\text{th}}\) ICLS Resolution, employment includes unpaid agricultural workers that produce goods mainly intended for the market (that is, for sale or barter).

\(^{28}\) Similar indicators that measure agricultural employment as a share of total employment (such as CONT_6_AGR_1 and CONT_10_AGR_1) are presented in the section titled “Context indicators”.

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The main indicator is calculated as follows:

\[ \text{EMPL}_{1 \text{ AGR,2}} = \frac{\text{Number of persons employed in agriculture of working age}}{\text{Total number of persons in the working – age population}} \times 100 \]

This indicator is calculated for the total population. However, it can also be calculated for various subgroups, such as males and females, youth, the population living in agricultural households, and the population living in rural areas. Some examples are provided below:

For women,

\[ \text{EMPL}_{1 \text{ AGR,2w}} = \frac{\text{Number of women employed in agriculture of working age}}{\text{Total number of women in the working – age population}} \times 100 \]

For youth, this can be computed for various age groups, such as 15–24, 15–29, and 25–29. The usual indicator can be computed as follows:

\[ \text{EMPL}_{1 \text{ AGR,2y}} = \frac{\text{Number of youth (15–24) employed in agriculture}}{\text{Total number of youth (15–24)}} \times 100 \]

Several sources are available for both the numerator and denominator, with different limitations such as periodicity, geographic coverage or population coverage. To ensure a better quality of the indicator, it is preferable that both the employment and population estimates be derived from the same source (that is, that consistent figures are used). However, this is not a strict rule.

The above indicators can be easily and consistently obtained from the household-based LFS, from population censuses and from other household surveys (such as the HBS, the LSMS and the Time Use Survey, or TUS) that include a labour force module and cover the reference population.

However, very often, the number of persons employed in agriculture is estimated considering only the economic activity of the main job, and not that of the secondary and other jobs. Therefore, the indicator may underestimate the real situation, for example in those countries where people commonly have a main job in other sectors (construction, manufacturing etc.) and at the same time other minor jobs in agriculture. If the time spent working in another sector exceeds the time worked in agriculture, then the individual is usually classified as employed in other sectors and not in agriculture. Therefore, neglecting small jobs in agriculture could result in biased estimates. For the same reason, the use of the usual activity concept should not be used, and the current activity should be preferred.
The AGRIS developed by FAO has a labour force module\textsuperscript{29} and covers all the members of agricultural households, therefore it can be used to derive such indicators with reference to the population living in agricultural households (usually identified and quantified on the base of the results of the latest population or agricultural censuses).

Therefore, the indicator for the population living in agricultural households can be calculated as follows:

\[
\text{EMPL}_{1,\text{AGR}_2,\text{AgH}} = \frac{\text{Number of persons employed in agriculture of working age}}{\text{Total number of persons in the working-age population}} \times 100
\]

**EMPL\_1\_AGR\_3 – Agricultural workers-to-population ratio**

This indicator provides information on the share of persons working in the agricultural sector to produce goods for the market or for own final use. It is an extension of indicator EMPL\_1\_AGR\_1. Therefore, it includes both the employed (who work for pay or profit) and the producers of goods for own final family use.

The indicator can be computed as follows:

\[
\text{EMPL}_{1,\text{AGR}_3} = \frac{\text{Number of persons working in agriculture of working age}}{\text{Total number of persons in the working-age population}} \times 100
\]

The indicator can be derived from LFSs and from agricultural surveys that include a labour force module. It can be computed separately for males and females, for different age groups (including youth), for the entire population of the country, for the population living in agricultural households, or for the rural population.

The indicator can increase because of an increase in the employment in agriculture, but also because of an increase in own-use production, which could reflect a loss of jobs in other sectors, such that more people must rely on own-use production for their livelihoods.

\textsuperscript{29} It is important to recall that the AGRIS-LM Rotating Module actually contains two modules: a labour force module, that covers all forms of work performed by all members of agricultural households (which is called the AGRIS-LFM); and a labour input module, which covers all work performed by all kinds of workers on agricultural holdings in both the household and the non-household sectors (the AGRIS-LIM).
Indicator stability may also hide large movements of workers from agricultural activities for the market to agricultural activities for own final use, or vice-versa.

Therefore, to ensure correct interpretation, this indicator must be analysed together with other indicators, such as EMPL_1_AGR_2.

The three indicators presented above can also be produced with reference to population subgroups having different levels of educational attainment, to “provide measures by which to evaluate the relative differences in employment demand across different population groups” (ILO, 2013). Moreover, “Disaggregation of total [agricultural] employment by key classifications such as status in employment [such as own-account workers and contributing family members]…and occupation [such as skilled and unskilled agricultural workers] provides valuable information” regarding the changing structure of employment (ILO, 2013).

**EMPL_1_AGR_4 – Ratio of full-time-equivalent agricultural employment to population**

Agricultural surveys (including the AGRIS-LIM developed by FAO) usually measure the labour input into the agricultural sector in terms of jobs (and not in terms of employed persons) and of hours worked, in a specific period (calendar year, agricultural year, agricultural season, calendar quarter, etc.).

In chapter 3, it was seen that these enterprise or establishment surveys may allow for the calculation of the number of annual full-time-equivalent employed persons, thus transforming the number of hours worked in the agricultural sector by all types of employed persons (employees, employers, own-account workers, contributing family members etc.).

In this case, the indicator could be computed as follows:

\[
\text{EMPL_1_AGR_4} = \frac{\text{Number of annual full – time equivalent persons of working age, employed in agriculture}}{\text{Total number of persons in the working age population}} \times 100
\]

The numerator for the indicator can be derived from agricultural surveys, including the AGRIS-LIM, while the denominator can be derived from population censuses or more up-to-date demographic figures. The indicator could be computed separately for males and females if the information on hours worked is collected separately for the two groups.

In contrast to the other indicators mentioned above, this indicator is better able to capture the amount of labour for pay or profit used by the agricultural sector.
It better measures the evolution of labour demand in the agricultural sector because it considers all of the hours worked and assumes that each working unit works on a full-time basis during the entire year.

An increase in the value of this indicator is a sign of more “remunerated” hours being worked for market-oriented activities. On the contrary, the employment-to-population ratio could increase (signifying more people involved) while the number of hours worked could decrease (due for example to an increase of casual jobs).

**EMPL_1_AGR_5 – Ratio of full-time-equivalent agricultural workers to population**

Another DWI based on labour input is the ratio of full-time-equivalent agricultural workers to population, which includes in the numerator all of the hours worked in the agricultural sector by employed and own-use producers, both paid and unpaid.

In this case, the indicator could be computed as follows:

\[
\text{EMPL}_1\_\text{AGR}_5 = \frac{\text{Number of annual full-time-equivalent persons of working age, working in agriculture}}{\text{Total number of persons in the working-age population}} \times 100
\]

To draw a conclusion about this first set of indicators, as noted above, it can be expected that some of these indicators will be highly correlated to each other, such that countries could choose which indicator to use based on national specificities and on their own statistical and financial capacity.

Certainly, to comprehensively understand any mismatch between the demand and supply for labour, these indicators must be analysed and interpreted together with indicators from other dimensions (stability, earnings, security, etc.).

**EMPL_2_AGR_1 – Unemployment rate in agricultural households**

The unemployment rate is another main indicator proposed by the ILO. It provides information on the underutilization of the labour supply and reflects the efficiency of an economy in generating employment to absorb those persons who desire and are available to work for pay or profit, but are not doing so.

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30 Contrary to the employment-to-population ratio, which only considers the main job held by employed persons.
With reference to the agricultural context, the standard unemployment rate can be calculated for the population living in AgH as follows:

\[
\text{EMPL}_2_{\text{AGR}}_1 = \frac{\text{Number of persons living in agricultural households who are unemployed}}{\text{Total number of persons living in agricultural households who are in labour force (employed or unemployed)}} \times 100
\]

This indicator can be derived from an LFS or from agricultural surveys that collect information on labour. Its production and analysis in a comparative way, for males and females, youth and adults, etc. is also envisaged. The indicator can be also computed for the rural population, if the relevant sample sizes are sufficient.

It is widely recognized that in developing countries, the significance of the unemployment rate is much more limited. These countries often have lower unemployment rate than developed countries, and rural areas generally show lower unemployment than urban areas. This is because in order to survive, people must engage in some form of economic activity, even with insignificant earnings, in poor working conditions and inadequate social protection. Remaining unemployed is not a feasible option (Oya, 2016).

With the introduction of the 19th ICLS Resolution, own-use producers are no longer classified as employed. They can be classified as unemployed or even as being outside the labour force. It follows that the interpretation of this indicator will change. However, the new resolution also introduces the issue of the “break” in time series for the unemployment rate. Therefore, if it is sought to compare the unemployment rate computed according to the 19th ICLS Resolution with the same indicator as computed according to the 2013 resolution, the above indicator could be modified as follows:

\[
\text{EMPL}_2_{\text{AGR}}_{1b} = \frac{\text{Number of persons living in agricultural households who are unemployed}}{\text{Total number of persons living in agricultural households who are employed, own - use producers of goods or unemployed}} \times 100
\]

It is recommended to analyse this indicator together with the new complementary indicators of labour underutilization, including time-related underemployment and discouraged workers.

**EMPL\_2\_AGR\_2** – Share of unemployed persons that were employed in agriculture in the last 12 months over the total number of unemployed persons

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31 When data are collected according to the 13th ICLS Resolution.
This indicator provides information on the share of unemployed persons that have worked as agricultural workers in the past 12 months. The indicator for the total population is calculated as follows:

\[
\frac{\text{Number of unemployed persons that were employed in agriculture in the last 12 months}}{\text{Total number of unemployed persons}} \times 100
\]

The LFS and other household surveys with labour force modules that include the usual questions on labour status, as well as questions asking “whether the person has worked in agriculture in the last 12 months” or “in which sector he or she last worked”, are potential sources.

Alternatively, the indicators can be obtained using longitudinal surveys that interview the same persons for long periods of time (for example at least for 18 months, allowing for the possibility of linking information on labour status in the current high season with the labour status of the past high season, and therefore to identify any persons unemployed in the current season who were employed in agriculture in the past one).

This indicator can be expected to increase in low agricultural seasons if the agricultural workers are unable to find alternative remunerative jobs in other sectors (the increase would affect both the numerator and denominator). However, it may also increase if the numerator increases but the denominator decreases because less people start to look for a paid job (that is, because the labour supply is absorbed by employment in other economic sectors).

This indicator can be expected to decrease in high agricultural seasons when the agricultural workers are able to find remunerative jobs in agriculture (the decrease affecting both the numerator and denominator). However, it may also decrease if the denominator increases due to a loss of employment in other economic sectors.

To avoid drawing erroneous conclusions due to seasonality, changes in time should be evaluated in terms of annual averages or for similar agricultural seasons (for example, by comparing the low seasons of several consecutive years).

Similar indicators could be disaggregated by gender, age, and rural/urban populations.
**EMPL_2_AGR_3** – Share of unemployed persons that were employed in agriculture in the last 12 months and are not currently engaged in own-use production of goods, over the total number of unemployed persons

This is a variant of the previous indicator. It takes into account the number of unemployed persons that were employed in agriculture in the last 12 months, and who are not currently engaged in agricultural work for own final use (that is, own-use producers of goods):

\[
EMPL_2_AGR_3 = \frac{Number \ of \ persons \ unemployed \ who \ were \ employed \ in \ agriculture \ in \ the \ last \ 12 \ months \ not \ currently \ engaged \ in \ own-use \ production \ of \ goods}{Total \ number \ of \ persons \ unemployed} \times 100
\]

This second indicator reflects the worst possible situation, because people considered in the numerator do not have a paid job and cannot offset their unemployment by means of own-use production.

**EMPL_3_AGR_1** – Share of youth (15–24 years) not in education and not in employment (NEET) living in agricultural households

The NEET indicator gives a measure of potential youth labour market entrants. It is broader than the unemployment rate because it includes those who are not in the labour force, not in education, and not searching for a job.

The indicator can be computed for the population living in agricultural households as follows:

\[
EMPL_3_AGR_1 = \frac{Number \ of \ youth \ living \ in \ agricultural \ households - (Number \ of \ youth \ in \ employment + Number \ of \ youth \ not \ in \ employment \ who \ are \ in \ education \ or \ training)}{Total \ number \ of \ youth \ living \ in \ agricultural \ households} \times 100
\]

The indicator can be produced separately for both males and females, as well as for the rural population.

**EMPL_4_AGR_1** – Informal employees living in agricultural households

The informal employment rate is considered a key indicator of the quality of employment conditions (reflecting aspects such as the lack of basic social protection, social security, employment benefits, etc.). It is relevant for both developing and developed countries.

Informal employment is a characteristic related to the job. A person may have more than one jobs (and a combination of informal and/or formal ones); he or
she he is classified under informal employment if at least one of the jobs held is informal (whether the main job or a secondary job).

With the adoption of the 19th ICLS Resolution, the concept of employment has been narrowed to exclude own-use producers. However, the definition of the informal economy has not been revised accordingly. Therefore, the scope for the informal economy still includes own-use production of goods. An immediate consequence of this is that the following sections will explore “informal work” and “work in the informal sector”32.

Two groups of informal workers may be easily identified. These are (1) contributing family workers, who are directly classified as informal by the ILO (several indicators have been proposed and discussed below, including in relation to EMPL_9); and (2) own-use producers of goods (some indicators have been proposed below, including in relation to STAB_3).33

Regarding the other persons employed, the ILO classification of informal jobs depends on a combination of factors: status in employment (employees, employers, own-account workers, contributing family workers or members of producers’ cooperative); type of economic unit (formal units, informal units or households producing exclusively for own final use); and informal employment relationship (the employee is not protected by national labour legislation in that job, does not pay income tax from earnings, does not contribute to social security schemes or is not entitled to certain employment benefits)34.

The ILO provides general conceptual guidance for the identification of informal jobs and suggests that the set of criteria are to be determined by countries, in accordance with national circumstances and data availability.

The ILO indicator of informality rarely conform to the specific features of agriculture in the poorest countries. It is neither advisable nor possible to apply a rigid formal/informal distinction in the agricultural context, especially in developing countries (Oya, 2016). Therefore, instead of using a single comprehensive indicator of informality, it is proposed to use several specific and

33 Currently, it is unclear whether these should be wholly included in informal work. The ILO appears to exclude own-use producers of goods whose production is entirely intended for own use, while it includes those whose production is intended for the market, at least partially (given that these economic units are included in the informal sector).
34 See the two international definitions of provided for the informal sector (Resolution concerning employment in the informal sector, 15th ICLS, 1993) and informal employment (Guidelines concerning informal employment, 17th ICLS, 2003).
separate indicators capturing different degrees of formality and different dimensions of informality, such as security, protection, registration, taxation and benefits.

Another group of informal workers consists of “informal employees”. A simplified criterion suggested by the ILO to identify this group is that they do not contribute to a social security scheme in that job, or do not benefit from paid vacation or sick leave.

A DWI for describing informal employees can be computed for the population living in agricultural households as follows:

\[ \text{EMPL}_{4}_{ \text{AGR}_{1}} = \left( \frac{\text{Number of employees living in agricultural households who do not contribute to a social security scheme or do not benefit from paid vacation or sick leave}}{\text{Number of employed living in agricultural households}} \right) \times 100 \]

This indicator could be obtained from an LFS or an agricultural survey with a labour module. It can be disaggregated by gender, age, rural/urban population, etc.

**EMPL\_4\_AGR\_2** – Informal employees in agriculture

The indicator for the informal employees can be also computed with specific reference to the agricultural sector, as follows:

\[ \text{EMPL}_{4}_{ \text{AGR}_{2}} = \left( \frac{\text{Number of employees in agriculture who do not contribute to a social security scheme or do not benefit from paid vacation or sick leave}}{\text{Number of employed in agriculture}} \right) \times 100 \]

As for the previous indicator, this too can be obtained from LFSs that include the questions required to identify informal jobs. It can also be calculated for women, youth and the rural population. The indicator can also be derived from the AGRIS-LFM and from the ESS-DW survey, but only with reference to persons living in agricultural households.

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35 For the purposes of defining informal employment, employees are considered to have informal jobs if their employment relationship is, in law or in practice, not subject to national labour legislation, income taxation, social protection or entitlement to certain employment benefits, such as advance notice of dismissal, severance pay and paid annual or sick leave (ILO, 2012).
**EMPL_4_AGR_3 – Informal self-employed in agriculture**

Another group of informal workers are the “informal self-employed”, or own-account workers, employers, and members of producers’ cooperatives that work in informal units such as agricultural households that operate on a small scale to produce goods for sale, even if only partially, that depend on casual and family workers rather than on employees. The group also includes contributing family workers, who are all considered informal.

This indicator can be computed as follows:

\[
EMPL_{4\_AGR\_3} = \frac{Number\ of\ own\ –\ account\ workers\ and\ employers\ working\ in\ informal\ agricultural\ units + Contributing\ family\ workers\ in\ agricultural\ households}{Number\ of\ employed\ in\ agriculture} \times 100
\]

This indicator could be obtained from LFSs or agricultural surveys with a labour module. It can disaggregated by gender, age, rural/urban population, etc. The questionnaire must be able to identify whether the person works in an informal unit.

**EMPL_4_AGR_4 – Informal work rate**

Taking the 19th ICLS Resolution into account and focusing on the agricultural context, the informal employment rate could be substituted with the informal work rate, the latter accounting for all agricultural workers, including those in own-use production work, who may otherwise go unreported. This indicator is to be largely preferred, especially in terms of targeting workers who are most at risk in agriculture.

The informal work rate in agriculture represents the share of workers having at least one informal job. It could be computed as follows:

\[
EMPL_{4\_AGR\_4} = \frac{Number\ of\ own\ –\ use\ producers\ of\ goods + Number\ of\ contributing\ family\ workers\ in\ agriculture + Number\ of\ informal\ employees\ in\ agriculture + Number\ of\ informal\ selfemployed\ in\ agriculture}{Number\ of\ own\ –\ use\ producers\ of\ goods + Number\ of\ employed\ in\ agriculture} \times 100
\]

To produce this indicator, it is important to avoid duplication in the aggregates used. In fact, own-use producers of goods may also be employed at the same time; therefore, care should be taken to ensure that they are not counted twice. The same may happen for the aggregates in the numerator, where the same person may have two or more different informal jobs.
EMPL_4_AGR_5 – Informal agricultural enterprises in the non-household sector

While all of the DWIs on informality presented above may be derived from household surveys, similar indicators can be also produced from establishment or farm surveys, especially for the non-household sector. Given the attendant operational difficulties, two indicators are proposed because they are deemed to better portray the degree of informality in agriculture.

The first of these indicators is computed as the share of unregistered (in fiscal terms) non-household farms, as follows:

\[
\text{EMPL}_4_{\text{AGR}}_5 = \frac{\text{Number of unregistered (in fiscal terms) agricultural enterprises in the nonhousehold sector}}{\text{Number of agricultural enterprises in the nonhousehold sector}} \times 100
\]

A second, similar, indicator can be computed in terms of the share of regular jobs (with permanent contracts) in unregistered agricultural enterprises, as follow:

\[
\text{EMPL}_4_{\text{AGR}}_6 = \frac{\text{Number of regular jobs in unregistered (in fiscal terms) agricultural enterprises in the nonhousehold sector}}{\text{Number of regular jobs in agricultural enterprises in the nonhousehold sector}} \times 100
\]

These last two indicators refer to the agricultural sector and are not applicable to individuals. They can be obtained for women and for youth if information on the number of regular workers is collected separately for these two subgroups.

EMPL_5_AGR_1 – Labour force participation rate in agricultural households

This indicator provides information on the quantity and quality of the labour force currently available for the production of goods and services for the market in an economy (that is, the labour supply). It is a key indicator of the potential for economic growth.

This indicator can be computed for the population living in agricultural households from agricultural surveys and censuses having a labour force module on all household members.
It is calculated as follows:

\[
EMPL_{5\_AGR\_1} = \frac{Number\ of\ persons\ employed + Number\ of\ persons\ unemployed\ living\ in\ agricultural\ households}{Total\ number\ of\ persons\ in\ the\ working\ age\ population\ living\ in\ agricultural\ households} \times 100
\]

It can be disaggregated by gender and age to assess the gap in labour force participation.

It can also be derived from population censuses and other household surveys with a specific labour force module, such as the LFS (if it contains questions that enable identification of agricultural households). It can also be computed for the rural population.

**EMPL\_6\_AGR\_1 – Youth unemployment rate in agricultural households**

This indicator has been already described under EMPL\_2\_AGR\_1, given that it is the standard unemployment rate computed for youth between 15 and 24 years of age.

It can be calculated for the population living in agricultural households and for the rural population. For the agricultural household, the indicator is calculated as follows:

\[
EMPL_{6\_AGR\_1} = \frac{Number\ of\ youth\ living\ in\ agricultural\ households\ who\ are\ unemployed}{Total\ number\ of\ youth\ living\ in\ agricultural\ households\ who\ are\ in\ labour\ force\ (employed\ or\ unemployed)} \times 100
\]

This indicator could be obtained from an LFS or an agricultural survey with a labour module. It can disaggregated by gender, age, rural/urban population, etc. Indicators similar to EMPL\_2\_AGR\_2 and EMPL\_2\_AGR\_3 can also be computed for youth.

**EMPL\_7\_AGR\_1 – Unemployment by level of educational attainment for population living in agricultural households**

This indicator is derived from the one proposed by the ILO for the total population. With reference to the agricultural context, it aims to provide detailed information on the human capital of the unemployed persons living in agricultural households (the indicator can also be computed for the rural population).
It is computed as follows:

\[
EMPL_{7\_AGR\_1} = \frac{\text{Total number of persons unemployed with a given level of educational attainment}}{\text{Total number of persons unemployed living in agricultural households}} \times 100
\]

This indicator could be obtained from an LFS or an agricultural survey with a labour module. It can disaggregated by gender, age, rural/urban population, etc. Therefore, an analysis of the differences between these subgroups may illustrate a differentiated access to employment. The results could be used in planning initiatives for employment and education policies to increase employability and reduce discrimination in the labour market.

The indicator can be slightly modified to suit national circumstances, especially in developing countries, by using broader measures of labour underutilization (for example, to include persons in time-related underemployment, discouraged workers, and those who search for a job but are not immediately available).

**EMPL\_8\_AGR\_1 – Employment by status in employment for persons living in agricultural households**

The status in employment\(^{36}\) provides useful information on the type of economic risk and the type of authority over establishments and other workers, and therefore also on the degree of vulnerability of the employed persons (ILO, 2013; Oya, 2015).

Based on the characteristics of the main job\(^{37}\), all employed persons can be classified into two main groups:

- in “paid employment”: their remuneration does not directly depend upon the revenue of the unit for which they work (employees and paid trainees)
- in “self-employment”: their remuneration is directly dependent upon the profits derived from the goods and services produced, and they therefore have a greater degree of economic risk than employees (employers,

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\(^{36}\) According to the latest version of the International Standard Classification of Status in Employment (ICSE-93).

\(^{37}\) The main job is that with the longest hours usually worked, as defined in the international statistical standards on working time (ILO, 2013). Oya questions whether, if the “main occupation” and the seven-day question apply, the main activity over the last 12 months should be preferred (unless the survey covers all agricultural seasons and annual averages are used).
members of producers’ cooperatives, own-account workers and contributing or unpaid family workers).

DWIs can be computed as the share of employed persons in each category of the status in employment classification over the total employed population. This indicator is one of the indicators proposed by the ILO.

For the population living in agricultural households, this can be obtained from LFSs or from an agricultural survey with a labour force module, as follows:

\[
\text{EMPL}_{8\_\text{AGR}_1} = \frac{\text{Number of employed persons in a given status in employment category living in agricultural households}}{\text{Total employed population living in agricultural households}} \times 100
\]

A similar formula can be used for the population living in rural areas, using data from LFSs.

**EMPL\_8\_AGR\_2 – Employment in agriculture by status in employment**

Similarly to the previous indicator, it is also possible to obtain this indicator from the LFS specifically for the agricultural sector and for the population living in rural areas, as follows:

\[
\text{EMPL}_{8\_\text{AGR}_2} = \frac{\text{Number of employed persons in agriculture in a given status in employment category}}{\text{Total employed population in agriculture}} \times 100
\]

An agricultural survey with a labour force module would allow for the computation of this indicator with reference to the population living in agricultural households.

Moreover, it usefully enables disaggregation by demographic variables such as sex and age group; therefore, “it is especially relevant for women and youth that in many developing countries are more likely to be classified as contributing family workers, a group associated with a high risk of decent work deficits” (ILO, 2013).

**EMPL\_9\_AGR\_1 – Proportion of own-account workers and contributing family workers in total employment in agricultural households**

The first specific indicator is one of the five employment-related Millennium Development Goal (MDG) indicators specifically targeting developing countries. It gives information on own-account workers and contributing family members.
With reference to the population living in agricultural households, this indicator can be calculated as follows:

\[
\text{EMPL}_{9\_AGR\_1} = \frac{\text{Number of employed persons living in agricultural households who are own - account workers or contributing family members}}{\text{Total employed persons living in agricultural households}} \times 100
\]

This indicator can be obtained from an LFS with a dedicated agricultural module, or an agricultural survey with a labour module. It can be disaggregated by gender, age, rural/urban population, etc. A similar indicator could also be computed with reference to the population living in rural areas.

A decrease in this indicator most likely signals that people living in agricultural households are able to find opportunities for paid employment as employees, in any sector of economic activity, and probably face lower economic risk.

**EMPL_{9\_AGR\_2} – Proportion of own-account workers and contributing family workers in total employment in agriculture**

With reference to the agricultural sector, an indicator of this type can provide information on the most vulnerable agricultural workers, and is calculated as follows:

\[
\text{EMPL}_{9\_AGR\_1} = \frac{\text{Number of employed persons in agriculture who are own - account workers or contributing family members}}{\text{Total employed persons in agriculture}} \times 100
\]

The indicator should include individuals that are members of agricultural households and work on their family’s agricultural holding or farm to produce goods for the market.

With reference to vulnerable workers in agriculture, the two groups of employed persons used in the numerator of this indicator are characterized by different degrees of vulnerability. In fact,

- Own-account workers: this group of workers works on their own account, have not engaged on a continuous basis any employees to work for them during the reference period, have a high degree of commitment both in terms of working time and other key factors (for example, they may be agricultural holders or farmers). They may also experience inadequate employment-related income, excessive hours, jobs of short duration and lack of social protection coverage (ILO, 1993).
- Contributing family workers: this group holds a self-employment job in a market-oriented establishment operated by a related person living in the same household. Their degree of commitment in terms of working time or other key factors is not comparable to that of the holder (for example, they may be family helpers). They may work on a casual basis and/or very short hours (for very specific small tasks, only in peak periods, in case of a shortage of external labour input, etc.) (ILO, 1993).

- They are generally considered as bearing the highest economic risk and the least authority, and therefore at greatest risk of DW deficits (especially involving women and youth). Moreover, they are also “classified in informal employment reflecting the fact that they are likely to hold jobs without clearly agreed working conditions or social protection” (ILO, 2012).

In any case, it may be convenient to produce the following two separate indicators:

\[
\text{EMPL}_{9\_AGR\_3} = \frac{\text{Number of own account workers in agriculture}}{\text{Total employed persons in agriculture}} \times 100
\]

and

\[
\text{EMPL}_{9\_AGR\_4} = \frac{\text{Number of contributing family members in agriculture}}{\text{Total employed persons in agriculture}} \times 100
\]

These indicators should be disaggregated by age and sex. They can also be produced with reference to the population living in agricultural households and to the rural population.

It is important to note that if the data used to compute these indicators are collected using the new definitions of work and employment introduced by the 19th ICLS Resolution, the interpretation of these indicators in terms of DW may completely change, because employment now excludes own-use producers and subsistence workers engaged without remuneration in non-market activities (for own final use) of the agricultural sector.

According to the ILO Guidelines on Decent Work, published in 2013 before the approval of the 19th ICLS, “[e]conomic development is often accompanied by an increasing proportion of employees and a decline in self-employment jobs”. Moreover, “contributing family workers [...] are associated with notable decent work deficits, [therefore] progress in the indicator would be achieved by a declining trend in that particular component“. 
Although the above interpretation remains generally valid, it must be recalled that with the 19th ICLS Resolution, an increase of contributing family workers (as well as of own-account workers) could correspond to a decrease of own-use producers (agricultural holders or subsistence foodstuff producers that have moved to a market-oriented agricultural activity). This situation can be considered as an improvement in DW conditions.

EMPL_10_AGR_1 – Share of wage employment in non-agricultural employment

This indicator is also one of the employment-related MDG indicators that specifically targets developing countries. It gives information on the least vulnerable employed persons: wage employees.

The indicator proposed by the ILO refers only to non-agricultural employment. With reference to the agricultural context, it is still significant when computed with reference to the population living in agricultural households and to the rural population.

It can be calculated as follows:

\[
EMPL_{10\_AGR\_1} = \frac{\text{Number of wage employees in the non-agricultural sector living in agricultural households}}{\text{Total number of employed persons in the non-agricultural sector living in agricultural households}} \times 100
\]

Moreover, it can be easily computed for women and youth, to measure the degree to which the non-agricultural sector is open to these two groups and whether they have equal access to paid employment.

EMPL_10_AGR_1 – Share of wage employment in agricultural employment

With the introduction of the 19th ICLS, which excludes own-use production of goods from employment, the ILO EMPL_10 indicator assumes much greater relevance, also for the agricultural sector. It can be computed as follows:

\[
EMPL_{10\_AGR\_2} = \frac{\text{Number of wage employees in the agricultural sector}}{\text{Total employment in the agricultural sector}} \times 100
\]

The main source for this indicator is the LFS. The indicator can be computed for the total population, for the population living in agricultural households and for

38 The branch of economic activity in which a person engages does not depend on the specific duties or functions of the person’s job, but on the main activity of the establishment (that is, on characteristics of the economic unit) in which a person worked during the reference period.
the rural population. It can also be easily disaggregated by age and sex. It gives very useful information on DW development if it is compared with the corresponding indicator for the non-agricultural sector, possibly for the more relevant subgroups of population.

With reference to the interpretation of this indicator, it is important to remember that also employees may experience DW deficits (unstable or casual contracts, excessive hours, low earnings, informality, etc.).

The ILO guidelines on Decent Work suggest that “in countries where employees are not associated with decent work deficits, progress would be achieved by an increase in the indicator” while in countries where employees are associated with notable DW deficits, progress would be achieved not by an increase in the indicator, “but rather by achieving higher proportions of stable and regular contracts among employees”.

Therefore, with reference to the agricultural sector (although also valid for other sectors), we encourage the use of the additional indicators proposed by the ILO, comprising:

- employees with stable contracts, who have an explicit or implicit contract of employment or a succession of such contracts, with the same employer on a continuous basis;

- employees with stable contracts for whom the employing organization is responsible for payment of relevant taxes and social security contributions, and/or where the contractual relationship is subject to national labour legislation.

These additional indicators are described in the section on Stability and security of work.

2. Adequate earnings and productive work in the agricultural context

The set of indicators in this dimension helps countries to monitor their progress towards promotion of adequate earnings and productive work, such that the fruits of progress are shared among all and a minimum living wage is guaranteed to all employed persons.
**EARN_1_AGR_1 – Working poverty rate in agricultural households**

The working poverty rate is an MDG indicator. It provides the percentage of the employed population living in households that are classified as poor, that is, whose income (or consumption) levels fall below a determined national poverty line.

Within the agricultural context, this indicator can be computed for the population living in agricultural households or for the rural population, using the following formula:

\[
EARN_1_AGR_1 = \frac{\text{Number of employed persons living in agricultural households with incomes below the national poverty line}}{\text{Total number of employed persons living in agricultural households}} \times 100
\]

This indicator is usually obtained using HBSs,\(^\text{39}\) because it requires a proper survey design and questionnaire.

**EARN_1_AGR_2 – Working poverty rate for persons employed in agriculture**

The working poverty rate could be also computed for the agricultural sector, as follows:

\[
EARN_1_AGR_2 = \frac{\text{Number of employed persons working in agriculture living in households with incomes below the national poverty line}}{\text{Total number of employed persons working in agriculture}} \times 100
\]

As for EARN_1_AGR_1, in this case too, while the aggregate at the denominator could be easily obtained from several sources, the numerator can only be obtained from a proper HBS survey or module.

**EARN_2_AGR_1 – Low pay rate for employees living in agricultural households**

Low pay rate is defined as the percentage of employees whose hourly earnings is equal to or less than two-thirds of the median hourly earnings of all employees. It aims to capture employees who are working for low wages.

It requires “detailed wage data across different activities, including casual workers and especially in agriculture where the worst paid jobs tend to concentrate” (Oya, 2015).

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\(^{39}\) Other types of household and agricultural surveys are not suitable to the scope of this indicator.
The indicator can be computed specifically for the population living in agricultural households from an LFS or from an agricultural survey with a detailed labour module, taking into account all jobs, with the following formula:

\[
\text{EARN}_2_{\text{AGR}}_1 = \frac{\text{Number of employees living in agricultural households paid less than } 2/3 \text{ of median earnings}}{\text{Total number of employees living in agricultural households}} \times 100
\]

The indicator can be computed separately for women and youth, or according to other characteristics of the worker or of the job.

**EARN\_2\_AGR\_2 – Low pay rate for the agricultural sector**

The EARN\_2\_AGR\_1 indicator can be computed specifically for the agricultural sector (using the LFS or the HBS as a source) taking into account only the jobs in agriculture, with the following formula:

\[
\text{EARN}_2_{\text{AGR}}_2 = \frac{\text{Number of employees in the agricultural sector paid less than } 2/3 \text{ of median earnings}}{\text{Total number of employees in the agricultural sector}} \times 100
\]

**EARN\_6\_AGR\_1 – Agricultural wage index**

An ”agricultural wage index” is proposed as an adaptation of the manufacturing wage index to measure the change in wage rates in the agricultural sector.

In the manufacturing sector, this indicator could be influenced by shifts in employment between different sectors of activity. The same problem could occur in the agricultural sector when there is a shift in employment between different types of agricultural holding (for example, from the household sector to the non-household sector).

Given the specificity of the agricultural sector, it could be convenient to calculate this index separately for casual/short-term, seasonal and regular workers (Oya, 2015).\(^{40}\)

**EARN\_6\_AGR\_2 – Farm income volatility (in own-account farming)**

Obtaining reliable indicators of returns to labour in own-account farming is a great challenge; therefore, data on volatility may be especially important. In fact, the variation in remuneration via farm incomes is a major driver of poverty and seasonal shocks.

\(^{40}\) Oya (2015) suggests focusing on the wages paid to casual workers, because these are the most likely to be overrepresented among the working poor and the poorest groups of society.
This indicator can be constructed through questions on the highest and lowest farm incomes earned in a given year and by comparing three years, if a measure of continuous farm income over 12 months is difficult to obtain (Oya, 2015).

The sources for this indicator may be HBSs or agricultural surveys with a detailed labour module.

**EARN_7_AGR_1 – Employees in agriculture with recent job training (last 12 months)**

The indicator on employees with recent job training provides information on the share of employees who have received job training in the last 12 months; therefore, it measures recent skills development practices provided by the employer. The indicator is relevant for the agricultural sector and can be computed as follows:

\[
EARN_7_AGR_1 = \frac{\text{Number of employees in agriculture who had training in the last 12 months}}{\text{Total number of employees in agriculture}} \times 100
\]

It can be computed from LFSs or HBSs and can be disaggregated by sex and age, and – depending on sampling design – also for the rural population. Agricultural surveys based on households, such as AGRIS and DW surveys, are also able to provide input data for this indicator, although only for employees living in agricultural households.

It could be interesting to calculate the indicator separately for the agricultural holdings in the household and the non-household sectors, to verify the existing gap.

**3. Decent working time (DW time) for agricultural workers**

Indicators on DW time for the agricultural context are not easy to derive and interpret, especially in the rural areas of developing countries. In fact, in these areas, a high proportion of the working age population is simultaneously engaged in a multiplicity of casual, short-term and seasonal work, and with working-time arrangements that may vary considerably according to the agricultural season or peak and low periods.

In fact, during low agricultural seasons, or during slack periods between different agricultural activities, agricultural workers may remain idle or try to complement what they do with other non-farm activities.
For this category of workers, it is fairly easy to obtain reasonable information on the hours actually worked in a reference week (the usual reference period of an LFS); however, contrary to full-time regular workers, it is much more difficult to compute the effective number of hours worked in a given medium-long period, such as a month, a season or a year. Therefore, for this category of workers, the DW time indicators based on questions referring to short reference periods may lead to huge bias (Oya, 2015).

Moreover, in these contexts, it is possible that during a medium-long period, the same person experiences several periods of underemployment and at the same time several periods of excessive working hours. This is especially true of women, who are more frequently engaged in work for pay and profit, for own-use production of goods and for own-provision of household services at the same time. This characteristic increases the complexity of measuring the time dimension of DW.

A greater effort in data collection is surely necessary to obtain a more accurate picture of time-related DW deficits (underemployment and overemployment) experienced by rural or agricultural workers.

Better measures of underemployment could be derived from the number of full-time equivalent days worked per year, taking into account all relevant economic activities (or forms of work) performed in the past 12 months.

However, the most common household surveys usually do not measure all possible forms of work, and most of their statistics are produced classifying the workers according to the characteristics of their main job. For these reasons, the authors suggest that these types of DWI are difficult to interpret clearly when referring to the agricultural sector; on the contrary, however, they yield very interesting results when produced with reference to the population living in agricultural households or to the rural population.

**TIME_1_AGR_1 – Workers living in agricultural households, with Excessive Working Time (more than 48 hours per week)**

This indicator provides information on the share of workers living in agricultural households whose hours actually worked exceed 48 hours per week.\(^{41}\) It considers the total number of hours worked in all activities in the agricultural

\(^{41}\) The 48-hour threshold is suggested by the Resolution Concerning the Measurement of Working Time, which was adopted by the 18th ICLS in 2008 to enhance international data comparability.
sector and in other sectors, in both employment and for the own-use production of goods. It can be computed as follows:

\[
\text{TIME}_1\text{AGR}_1 = \frac{\text{Total number of workers,} \text{ i.e. employed or own – use producers of goods, whose number of hours actually worked is more than 48 hours per week}}{\text{Total number of workers, i.e. employed or own – use producers of goods, living in agricultural households}} \times 100
\]

This indicator can be computed from data derived by household surveys covering all possible economic activities. It can be computed separately for males and females, for different age groups, educational levels, etc. The same indicator can be produced for the rural population.

However, this indicator is only useful when the sample of households to be interviewed is equally distributed across all the weeks of the quarter, of the season or of the year. In this case, the results are in fact averages of all the weeks; therefore, they represent well both peak periods and low periods. On the contrary, the indicator can produce significantly biased results if the reference weeks are concentrated in specific short periods (the end of a high season, the end of a low season, etc.).

A second version of the indicator could include, in the numerator, the hours worked in own-provision of household services. This alternative indicator can better capture the situation of women, who are very often engaged in a multiplicity of forms of work.

**TIME\_4\_AGR\_1 – Share of employed persons living in agricultural households who wish to change jobs**

The ILO has proposed a coherent framework for a time-related underemployment rate, to measure labour underutilization while taking into consideration the 19th ICLS. It provides information regarding the share of employed persons who: (a) are willing and available to increase their working time (considering all their jobs); and (b) during the reference period, have actually worked fewer hours than a specified time threshold (defined at national level and/or according to the normal working time of different sectors). The indicator signals inadequate employment, meaning that it is “insufficient in relation to an alternative employment situation in which the person is willing and available to engage” (Resolution I of the 19th ICLS, 2013).
For the agricultural context, the availability to accept alternative employment with higher pay and better working conditions, or more simply the desire to change job, is considered to be a better measure of underutilization. Thus, the indicator proposed can be computed as follows:

\[
\text{TIME}_4\_\text{AGR}_1 = \frac{\text{Total number of employed persons living in agricultural households that want to change jobs}}{\text{Total number of employed persons living in agricultural households}} \times 100
\]

A decrease in the value of the indicator is a sign that a higher share of employed persons is satisfied with their conditions of employment.

This indicator can be computed from data derived by household surveys. It can be computed separately for males and females, for different age groups, educational levels, etc. The same indicator can also be produced for the rural population.

4. Work that should be abolished

This section presents some indicators on the forms of child labour in the agricultural context that should be eliminated. The proposed indicators are in line with relevant international standards and take into account the specificities of the sector.

**ABOL_1_AGR_1 – Child labour rate for population living in agricultural households**

Child labour is a subset of “children in employment”, a category that includes all persons aged 5 to 17 years who, during a specified time period, have been engaged in the worst forms of child labour and employment below the minimum age (excluding children in permissible light work).

According to international statistical standards\(^{42}\), children are considered to be engaged in child labour if they are:

- below the age of 12 and working;
- aged 12 to 14 years and usually work more than 14 hours per week;
- aged 12 to 14 years and usually work 14 hours or less per week (permitted light work), but have stated that they work in a designated

hazardous industry and/or occupation or worked under hazardous conditions;

- aged 15 to 17 years and usually work more than 42 hours per week;
- aged 15 to 17 years and usually work 42 hours or less per week (normal work), but have stated that they work in a designated hazardous industry and/or occupation.

Collecting information on child labour is not always easy. The preferred data source for this indicator is the child labour survey. However, with reference to the agricultural context, suitable questions can be included in household surveys with labour force modules and also asked to children.

The child labour rate can be obtained for the population living in agricultural households simply applying the following formula:

\[
ABOL_{1, AG}\_R = \frac{\text{Number of children aged 5 to 17 living in agricultural households that engage in child labour}}{\text{Total number of children aged 5 to 17 living in agricultural households}} \times 100
\]

In the same way, the indicator can also be obtained for different age groups and for the rural population.

Other child labour indicators can be obtained by considering, in the numerator, the children engaged in child labour that are alternatively:

a. in paid work, excluding unpaid contributing family workers (ABOL\_1\_AGR\_2);

b. contributing family workers (ABOL\_1\_AGR\_3); or

c. own-use producers (ABOL\_1\_AGR\_4).
ABOL_1_AGR_5 – Share of child labour in agriculture over total child labour

Another relevant child labour indicator is the share of child labour in agriculture over total child labour, which may be computed as follows:

\[
ABOL_1_AGR_5 = \frac{\text{Number of children aged 5 to 17 engaged in child labour in agriculture}}{\text{Total number of children aged 5 to 17 that are in child labour}} \times 100
\]

This indicator can only be computed from a child labour survey or from other household surveys that cover the entire population and use a specific child labour module.

5. Stability and security of work in the agricultural context

“Regular employees are the most privileged component group of employees while irregular employees and those with unstable contracts are characterized by decent work deficits in this particular dimension” (ILO, 2013).

This section illustrates indicators based on the share of employment falling into unstable or insecure worker categories. All of the indicators proposed below can be disaggregated by sex, age and sectors of economic activity.

STAB_1_AGR_1 – Precarious employment rate in agricultural households

This indicator is defined as the share of employees who are in precarious employment; that is, whose contract of employment (verbal or written) is casual, of short duration or seasonal, and/or can be terminated on short notice.

For operational purposes, in the agricultural context, the criteria to use can be reduced or specified based on national circumstances; for example, “casual” may be established to mean less than six months and less than 20 hours per week (Oya, 2015).

With reference to the population living in agricultural households (as well as to rural populations), this indicator can be computed taking into account employment in all sectors, as follows:

\[
STAB_1_AGR_1 = \frac{\text{Number of precarious employees (with casual, short – term or seasonal contracts) living in agricultural households}}{\text{Number of employees living in agricultural households}} \times 100
\]
It can be derived from LFS and agricultural surveys that include a detailed module on labour.

**STAB_1_AGR_2 – Percentage of wage workers living in agricultural households paid in kind**

To complement the indicator presented above, others indicators that may be particularly useful for developing and low-income countries have been proposed (Oya, 2015).

The first of these indicators is the “Percentage of wage workers paid in kind”. It can be computed in different ways. With reference to the population living in agricultural households (as well as to the rural population), it can be computed taking into account employment in all sectors, as follows:

\[
STAB_{1\_AGR\_2} = \frac{\text{Number of employees living in agricultural households, paid in kind}}{\text{Number of employees living in agricultural households}} \times 100
\]

The indicator can be derived from LFSs and agricultural surveys that include a detailed module on labour.

**STAB_1_AGR_3 – Precarious employment rate in the agricultural sector**

The “precarious employment rate” can be also computed with reference only to the employees in the agricultural sector, as follows:

\[
STAB_{1\_AGR\_3} = \frac{\text{Number of precarious employees in agriculture (with casual, short – term or seasonal contracts)}}{\text{Number of employees in agriculture}} \times 100
\]

It can be derived from LFSs given that it refers to the entire population of the country. It could also be derived from agricultural surveys that include a detailed module on labour, although only for populations living in agricultural households.

**STAB_1_AGR_4 – Percentage of wage workers in agriculture paid in kind**

The indicator proposed by Oya (2015) can also be computed for the agricultural sector, taking into account only employment in agriculture:

\[
STAB_{1\_AGR\_4} = \frac{\text{Number of employees in agriculture paid in kind}}{\text{Number of employees in agriculture}} \times 100
\]
The indicator can be derived from LFSs given that it refers to the entire population of the country. It can also be derived from agricultural surveys that include a detailed module on labour, although only for populations living in agricultural households.

**STAB_1_AGR_5 – Occupational multiplicity**

Another indicator suggested by Oya (2015) refers to “occupation multiplicity”. This should take into account the worker’s total number of reported income-earning activities. Therefore, it represents the average number of economic activities (both for income-earning and for subsistence) performed by the reference group of workers.

It can be computed with reference to the population living in agricultural households (or for the rural population) using the following formula:

\[
STAB_{1, AGR, 5} = \left( \frac{\text{Number of economic activities performed by workers living in agricultural households}}{\text{Number of workers living in agricultural households}} \right) \times 100
\]

A specific source for this indicator could be surveys that include an employment matrix such as the DW surveys mentioned in chapter 3. However, similar indicators could also be produced by agricultural surveys that include a detailed module on labour, given that it collects information on the different activity clusters.

One of the crucial issues arising with this indicator is how the different economic activities are defined, and how it is established whether certain agricultural tasks are part of the same economic activity or of different activities. This means that the wider the employment matrix, the higher the value of the indicator.

**STAB_1_AGR_6 – Longest period of time without any remunerated work**

The last indicator for this dimension is also suggested by Oya (2015) to help identify groups of workers who are particularly vulnerable to periods of lack of work. It is based on the longest period of time without any remunerated work.

From the operational point of view, for the population living in agricultural households, one way to compute this indicator is to ascertain the share of persons who had last performed remunerated work more than a certain number of months ago (3, 6, 12, etc. months), as in the following example:
\[ \text{STAB}_{1\_AGR\_6} = \frac{\text{Total number of non–employed of working age, living in agricultural households, who want to work and whose last remunerated work was more than } M \text{ months ago}}{\text{Total number of non–employed of working age, living in agricultural households who want to work}} \times 100 \]

This indicator could be obtained from an LFS with a dedicated agricultural module, or an agricultural survey with a labour module. It can be disaggregated by gender, age, rural/urban, and other aspects.

\textbf{STAB\_1\_AGR\_7 – Share of hours worked by precarious agricultural workers}

As seen in chapter 3, a certain amount of DWIs can be derived in terms of the hours worked instead of the employed persons or workers.

This is particularly useful for the agricultural sector, where for employees or hired labourers, it is possible to compute the “share of hours worked by precarious agricultural workers” as follows:

\[ \text{STAB\_1\_AGR\_7} = \frac{\text{Number of hours worked by precarious employees in agriculture (employes with casual, short – term or seasonal contracts)}}{\text{Total number of hours worked in agriculture}} \times 100 \]

This information is usually available from agricultural surveys that collect data separately for the household and the non-household sector, and often also disaggregated by males and females. The indicator could also be produced for different types of agricultural holdings (type of production, size, etc.).

This indicator is part of a set of similar indicators that should be always analysed together to obtain a clearer picture of the situation, such as in the following examples:

- Share of hours worked by own-account workers in the household sector
- Share of hours worked by contributing family members in the household sector
- Share of hours worked by own-use producers of goods in the household sector
STAB_3_AGR_1 – Subsistence work-to-population rate

The 19th ICLS Resolution aimed to shed light upon and monitor issues of insufficient labour market integration of subsistence workers, to support the formulation of policies for the eradication of extreme poverty.

Subsistence workers are an important subgroup of the own-use producers of goods who work for subsistence, that is, who produce goods that are predominantly consumed by their own household and constitute an important basis for their livelihood. With the 19th ICLS, subsistence workers are no longer included in the employment; therefore, it could be convenient to calculate the indicator as a ratio over the total population in working age (as is done, for example, for the ratio of employment in agriculture to population and the ratio of own-use production to population).

The “Subsistence-work-to-population ratio” is thus computed as follows:

\[
\text{STAB}_3\_\text{AGR}_1 = \frac{\text{Number of subsistence workers of working age}}{\text{Total number of persons in the working age population}} \times 100
\]

This indicator could be obtained from an LFS with a dedicated agricultural module, or an agricultural survey with a labour module.

STAB_3_AGR_2 – Share of subsistence workers within the total number of agricultural workers

An indicator similar to STAB_3_AGR_1 could be also computed as the “share of subsistence workers within the total number of agricultural workers”, as follows:

\[
\text{STAB}_3\_\text{AGR}_2 = \frac{\text{Number of subsistence workers of working age}}{\text{Total number of the agricultural workers in working age}} \times 100
\]

In this indicator, agricultural workers include all own-use producers of agricultural goods and other persons employed in the agricultural sector.

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43 These only produce foodstuff from agriculture, fishing, hunting or gathering that contributes to the livelihood of the household or family. Those who only “fetch own water”, “collect own natural fuels”, “manufacture own goods” or “do own construction activities” are excluded from this definition.
It is important to note that to avoid double-counting those persons who are classified as both employed and own-use producers of goods (two of the five forms of work introduced by the 19th ICLS), in the denominator, they must be identified and counted only once.

This indicator can be computed from LFSs for the entire population and for the rural population, and from agricultural surveys for the population living in agricultural households.

Regarding interpretation, it is known that subsistence workers must face enormous challenges because of the nature of their work, which is often dependent upon the rights to use land and water resources, as well as favourable climatic and environmental conditions.

An increasing share of subsistence workers may be interpreted as a sign of the declining stability and security of work, and thus a deterioration of DW in this dimension. This may happen for several reasons, such as: (a) diminished market opportunities for agricultural producers; (b) real earnings falling below the cost of living, which incentivizes engagement in subsistence production; (c) unemployed persons seeking refuge in subsistence production activities; or (d) changes in the levels of participation in the labour market due to seasonal variations (ILO, 2013).

**STAB_3_AGR_3 – Ratio of own-use producers of goods to population**

As for subsistence workers, two different indicators may also be computed for the wider group of own-use producers. These indicators too can be disaggregated by sex, age groups and educational level, to provide more insights on the phenomenon.

The first of these indicators is the ratio of own-use production of goods to population, computed as follows:

\[
STAB_3_AGR_3 = \frac{\text{Number of own – use production of goods (that are not also employed)}}{\text{Total number of persons in the working age population}} \times 100
\]

This indicator can be computed from LFSs.

The indicators can be computed in different ways. This report proposes to consider only the group of workers who are most at risk of DW deficits: therefore, the persons who are only own-use producers of goods, excluding those who are also employed. In this way, it measures the proportion of workers who can only rely on goods from their agricultural work for their livelihood.
However, it is possible to consider those persons for which own-use production is the main form of work (that in which they spend most hours) or, alternatively, all persons engaged in own-use production.

**STAB_3_AGR_4 – Share of own-use producers of goods within the total number of agricultural workers**

Another indicator that is useful to assess the stability of the agricultural sector is the share of own-use producers over the total number of agricultural workers. It is computed as follows (similarly to the indicator referring to subsistence producers):

$$ STAB_3_AGR_4 = \frac{\text{Number of own-use production of goods (that are not also employed)}}{\text{Total number of the agricultural workers of working age}} \times 100 $$

The indicator can be computed from LFSs for the entire population and for the rural population, and from agricultural surveys for the population living in agricultural households.

For this indicator too, agricultural workers include all own-use producers of agricultural goods and other persons employed in the agricultural sector (as in the previous case, it is important to avoid double-counting those persons who are classified both as employed and as own-use producers of goods).

As for other indicators, it is envisaged to analyse these indicators jointly with other DWIs in other dimensions, including excessive working time, working poverty, safe work environment, social security indicators, and child labour.

**STAB_3_AGR_5 – Share of hours worked by own-use producers of goods**

This is another DWI that could be derived in terms of the number of hours worked. It is similar to the STAB_3_AGR_4, which is based on workers.

The indicator can be produced with reference to the entire agricultural sector, as in the formula below, or with reference only to the number of hours worked in the household sector.

$$ STAB_1_AGR_5 = \frac{\text{Number of hours worked by own-use producers of goods}}{\text{Total number of hours worked in agriculture}} \times 100 $$

This indicator can be disaggregated by sex.

6. Equal opportunities and treatment in employment
This section proposes a broad set of indicators that may be useful in monitoring progress made in terms of gender equality, equal opportunities and treatment of workers, and women’s empowerment in the agricultural and rural contexts (a central element of the DWA).

The indicators proposed by the ILO provide useful insights into women’s power in decision-making and in the economy. However, they do not appear to be particularly relevant in the agricultural context; therefore, some new indicators are proposed to account for the peculiarities of the sector.

**EQUA_1_AGR_1 – Occupational segregation by sex in the agricultural context**

This indicator provides information on the extent to which women and men benefit from opportunities to work in different occupations (and the related trends).\(^{44}\)

This indicator is usually computed from the LFS or other household surveys that include a labour force module, and is based on the classification of employed persons as established by the ISCO submajor groups.

The LFS enables computing the indicator of occupational segregation specifically for the agricultural sector. Moreover, the same indicator could be produced for employed persons living in agricultural households, or more generally, for employed persons living in rural areas, if these subgroups can be properly identified.

In the agricultural context, in addition to the LFS, similar indicators can be also produced from agricultural establishment, farm or household surveys, sometimes using an occupational classification that is more relevant to the agricultural sector.

Moreover, with reference to the non-household sector and using information on the labour input into the agricultural holding, it is possible to focus on regular employees (those having a permanent contract) and compare the distribution of occupation by sex, using a simple classification by managers and other workers. Of course, this requires that the information be collected separately.

\(^{44}\) An occupation is a set of tasks and duties that are characterized by a high degree of similarity.
A complete description of this indicator can be found in the ILO manual titled “Decent work indicators: guidelines for producers and users of statistical and legal framework indicators” (2013, pp. 143–145.)

**EQUA\textsubscript{1\_AGR\textsubscript{2}} – Average total number of hours per day dedicated to remunerated and non-remunerated work in agriculture**

This indicator was proposed by Hillesland (2016) for the measurement of rural women’s empowerment in work within a rural context. “The proposed indicators are not gender gap indicators [which can be computed in any case], but rather separate indicators for men and women to be presented side-by-side.”

The indicator is computed taking into account all agricultural workers, both own-use producers and those employed. It considers all of the hours worked in agriculture, whether on the family holding and in other agricultural holdings, both for pay or unpaid.

For the woman, the indicator can be computed as follows:

\[
EQUA\textsubscript{1\_AGR\textsubscript{2}} = \frac{\text{Total number of hours worked in agriculture by women living in agricultural households}}{\text{Number of women agricultural workers living in agricultural households}} \times 100
\]

The indicator can be computed from LFSs or from agricultural surveys with a detailed labour module.

With regard to the denominator, it is important to avoid double-counting those persons who are classified both as employed and as own-use producers of goods.

**EQUA\textsubscript{2\_AGR\textsubscript{1}} – Female share of agricultural holders**

The “Female share of agricultural holders” reflects the differences in the levels of empowerment of women in the agricultural context.
It can be computed as follows:

\[ \text{EQUA}_2\_\text{AGR}_3 = \frac{\text{Number of contributing family workers in agriculture taking decisions on holding production, who are women}}{\text{Number of contributing family workers in agriculture taking decisions on holding production}} \times 100 \]

This indicator could be computed from agricultural surveys that include a detailed module on decision making.

**EQUA\_2\_AGR\_4 – Female share of own-use producers taking decisions on the holding production**

This indicator is identical to the previous one, but refers to own-use producers (which are different from contributing family workers). The indicator can be computed in a similar way:

\[ \text{EQUA}_2\_\text{AGR}_4 = \frac{\text{Number of own-use producers of goods taking decisions on holding production, who are women}}{\text{Number of own-use producers of goods taking decisions on holding production}} \times 100 \]

When more information is collected about the kind of decision taken, several other interesting indicators can also be produced, such as:

- Female share of agricultural workers taking decisions on crop to be planted and livestock to be reared
- Female share of agricultural workers taking decisions on cropping and livestock activities (inputs, timing of activities, etc.)
- Female share of agricultural workers taking decisions on products to sell or trade
- Female share of agricultural workers taking decisions on the use of earnings from crop or livestock sales
- Female share of agricultural workers taking decisions on permanent investments to the land

**EQUA\_2\_AGR\_5 – Proportion of women who own land of all adult women living in agricultural households**

This indicator was also proposed by Hillesland (2016) for the measurement of rural women’s empowerment in work within a rural context. However, here it is proposed with a modification that restricts the denominator to consider only
adult women (with a threshold to be decided according to national circumstances).

For women, it can be computed as follows:

\[
EQUA_2_{AGR} = \frac{\text{Number of women living in agricultural households who own land}}{\text{Number of adult women living in agricultural households}} \times 100
\]

It can be produced using data from agricultural surveys.

**EQUA_3_AGR_1 – Gender wage gap in the agricultural sector**

This indicator measures the relative difference between the average hourly pay for men and women. It can be computed for the agricultural sector as the difference between the gross average hourly earnings of male and female employees, expressed as a percentage of the gross average hourly earnings of male employees. The formula to be used to ascertain the gender wage gap in agriculture is the following:

\[
EQUA_3_{AGR}_1 = \frac{\text{gross average hourly earnings of male} - \text{gross average hourly earnings of female}}{\text{gross average hourly earnings of male}} \times 100
\]

The gross average includes regular remuneration received from employers, in cash and in kind. The concept includes direct wages and salaries for time worked or work done, remuneration for time not worked (for example, paid annual leave), as well as bonuses and gratuities that are regularly received.

Additional insights can be obtained by calculating the indicator separately for the household sector and the non-household sector, or for different types of employment arrangements (casual, seasonal, regular workers, etc.).

**EQUA_4_AGR_1 – Share of women in wage employment in the non-agricultural sector**

This indicator is one of the MDGs used to measure gender equality. It is be easily adapted to the agricultural context and can be obtained from agricultural surveys that include a labour force module.

The indicator is particularly relevant for the population living in agricultural households. Therefore, the “share of women living in agricultural households, who are in wage employment in the non-agricultural sector” can be computed as follows:
The indicators proposed under the heading EQUA_4 can be obtained from an LFS (for the total population or for the rural population), from agricultural surveys with a labour force module (for the population living in agricultural households), or from agricultural surveys with a labour input module (in terms of regular employees or of jobs).

**EQUA_4_AGR_2 – Share of women in wage employment in the agricultural sector**

Given that own-use producers are now excluded from employment, the indicator becomes particularly significant for the agricultural sector too. Therefore, the “share of women who are in wage employment in the agricultural sector” can be computed as follows:

\[
EQUA_4_{AGR2} = \frac{\text{Number of women who are in paid employment in the agricultural sector}}{\text{Number of persons who are in paid employment in the agricultural sector}} \times 100
\]

**EQUA_4_AGR_3 – Share of women in wage employment over total women working in the agricultural sector**

Another useful DWI in this dimension is the share of women in wage employment over total women working the agricultural sector (employed and own-use producers). It is computed as follows:

\[
EQUA_4_{AGR3} = \frac{\text{Number of women who are in paid employment in the agricultural sector}}{\text{Number of woman in own use production of goods} + \text{number of woman employed in the agricultural sector}} \times 100
\]

**EQUA_4_AGR_4 – Share of paid regular jobs held by women out of the total number of regular jobs of the agricultural sector**

This indicator is similar to EQUA_4_AGR_2. However, it is based on the concept of “job” and can be derived from agricultural surveys that collect information on labour input separately for males and females. In fact, if the analysis is limited only to regular employees in the non-household sector, that is, those who have a permanent or long-duration contract, it can be assumed that each job fairly corresponds to a person employed. Hence, for example:
This indicator could be produced for different characteristics of the agricultural holding (type of agricultural production, size of the holding, geographical areas, etc.) and could therefore provide useful information about DW deficits in different agricultural contexts.

7. Safe work environment

This section deals with the occupational safety and health of agricultural workers as vital components of DW. It includes indicators related to protection against work-related hazards and risks (occupational injuries, etc.).

SAFE_2_AGR_1 – Occupational injury frequency rate for agricultural workers, fatal

This indicator proposed by the ILO provides information on the number of fatal occupational injury cases per hours worked by the concerned population during the reference period. It is a measure of the risk of sustaining a fatal occupational injury based on the duration of exposure. It can be adapted to agricultural contexts considering all fatal injuries occurring to persons employed in agriculture and other agricultural workers, such as own-use producers of goods.

\[
SAFE_1_{AGR,1} = \frac{\text{Number of new cases of occupational fatalities}}{\text{Total number of hours worked by agricultural workers during the reference period}} \times 1,000,000
\]

While the number of hours worked can be derived from agricultural surveys having a labour input module, the number of fatalities can be only obtained from specific sources (being a very small number, it is usually not possible to obtain accurate estimates from sample surveys). As an alternative to the hours worked, the number of full-time equivalent agricultural workers can be used.

SAFE_2_AGR_1 – Occupational injury frequency rate for agricultural workers, non-fatal

Another indicator of health and safety is based on the number of non-fatal occupational injury cases (snake bites, infections, etc.) per hours worked by persons employed in agriculture and own-use producers of goods.
\[
\text{SAFE}_2\text{AGR}_1 = \frac{\text{Number of new cases of occupational non-fatal injuries sustained by agricultural workers during the reference period}}{\text{Total number of hours worked by agricultural workers during the reference period}} \times 1,000,000
\]

As in the previous indicator, the number of hours worked can be derived from an agricultural survey having a labour input module, the number of non-fatal injuries can be only obtained from specific sources (being a very small number, it is usually not possible to compute accurate estimates from sample surveys).

As an alternative to the hours worked, the number of full-time equivalent agricultural workers can be used, and the number of working days lost because of non-fatal injuries can be used instead of the number of non-fatal injuries.

8. Social Security

This section contains indicators based on important elements of social security that provide protection (such as benefits) against the lack or reduction of work-related income due to sickness, disability, maternity, employment injury, unemployment, and old age.

**SECU_1_AGR_1 – Share of population above the statutory pensionable age, living in agricultural households, benefiting from an old-age pension**

This indicator measures the share of the older population (above the statutory pensionable age) receiving an old-age pension, and thus benefiting from social security. It can be computed for the population living in agricultural households as follows:

\[
\text{SECU}_1\text{AGR}_1 = \frac{\text{Total number of persons above statutory retirement age, living in agricultural households, benefiting from old-age pension}}{\text{Total number of persons above statutory retirement age living in agricultural households}} \times 100
\]

This indicator can be disaggregated by age and sex. It could be interesting to compare results for the population living in agricultural households (that engage in self-employment and/or unpaid work in their farm to a much greater extent) and the population living in other types of household (that need to place greater reliance on paid forms of work). Similar indicators can also be computed for rural and urban populations.

The data can be derived from household surveys.
SECU_1_AGR_2 – Share of population above the statutory pensionable age, whose last job was in agriculture, benefiting from an old-age pension

Like the previous indicator, this too measures the share of people above the statutory pensionable age receiving an old-age pension. However, in this case it only refers to people who were employed in agriculture and gained the right to this type of income support measure.

For operational purposes, the indicator considers only all persons whose last job was in agriculture. It can be computed using the following formula:

\[
\text{SECU}_1\text{AGR}_2 = \frac{\text{Total number of persons above statutory retirement age, whose last job was in agriculture, benefiting from old-age pension}}{\text{Total number of persons above statutory retirement age, whose last job was in agriculture}} \times 100
\]

This indicator can be disaggregated by sex and age. It can also be computed for the population living in agricultural households, and for the rural population.

The data can be derived by including suitable questions in household surveys.

SECU_4_AGR_1 – Share of employed persons in agriculture contributing to a pension scheme

This indicator aims to capture the share of persons employed in agriculture who are below the retirement age and are protected through the payment of premiums (made by the insured persons and/or by their employer) to a contributory pension scheme, and who whilst therefore receive an old-age pension once they have reached pensionable age.

Given that the pensionable age may change from country to country, the age threshold should vary accordingly. For countries where the age threshold is 64 years of age, the indicator can be computed as follows:

\[
\text{SECU}_4\text{AGR}_1 = \frac{\text{Total number of employed persons (15 – 64 years) in agriculture contributing to an old-age pension scheme}}{\text{Total number of employed persons (15 – 64 years) in Agriculture}} \times 100
\]

This indicator can be computed for women and men, for different age groups, and separately for employees and self-employed persons\(^{45}\). A similar indicator can be computed for the population living in agricultural households and for the rural population.

\(^{45}\)This group includes all small agricultural holders or farmers and contributing family members.
The data can be derived from household surveys covering the entire population, such as LFSs and HBSs, or from agricultural surveys covering only the population living in agricultural households.

A broader indicator could take into account all workers in agriculture, both those classified as being in employment and those classified in own-use production. In this case, it is necessary to avoid double counting.

**SECU\_5\_AGR\_1 – Share of employed persons in agriculture covered by healthcare provision**

This indicator is similar to SECU\_4\_AGR\_1 but aims to capture the share of employed persons in agriculture who are covered by basic healthcare provision.

It is computed as follows:

$$SECU_{5\_AGR\_1} = \frac{\text{Total number of employed persons in agriculture covered by basic healthcare provision}}{\text{Total number of employed persons in agriculture}} \times 100$$

This indicator can be computed by age, sex and for employees or self-employed persons. A similar indicator can be computed for the population living in agricultural households and for the rural population, depending on whether data are derived from LFSs or an agricultural survey.

In this case too, a broader indicator could take into account all workers in agriculture, both employed and own-use producers.

**SECU\_9\_AGR\_1 – Share of non-employed people who were employed in agriculture in the last 12 months, receiving regular periodic social security unemployment benefits**

This indicator aims to capture the share of non-employed persons of the working age (for example, 15 to 64 years of age) that were employed in agriculture in the last 12 months and now receive unemployment benefits. Therefore, it can be assumed they are covered for this contingency because of their former period of employment in agriculture.
It is computed as follows:

\[
SECU_{9\_AGR\_1} = \frac{\text{Total number of non-employed persons of working age who were employed in agriculture in the last 12 months and want to work}}{\text{Total number of non-employed persons of working age who were employed in agriculture in the last 12 months now receiving unemployment benefits}} \times 100
\]

As the denominator, this indicator uses the total number of non-employed persons that want to work, and not the number of unemployed persons, given that the rules for receiving unemployment benefits do not necessarily match those used to classify unemployed persons. However, the indicator can be modified according to national specificities.

The indicator can be computed by adding suitable questions to household surveys. It provides information on the capacity of the social protection or social security system to actually provide financial protection against basic life contingencies for workers and their families during low economic cycles.

9. Economic and social context of DW

The economic and social context of DW is essential to analyse DWIs in the national context.

This section includes indicators that give a broad picture of the national economic and social context of DW. These are useful for the analysis and interpretation of the DWIs presented above in the ten substantive elements.

**CONT_1_AGR_1 – Children in agricultural households who do not attend school**

This indicator provides information on school-age children who are not attending school.

For the population living in agricultural households, it can be computed as follows:

\[
\text{CONT}_1\_\text{AGR}_1 = \frac{\text{Total number of children enrolled in a given level of education, living in agricultural households}}{\text{Total number of children of official age group for the level of education, living in agricultural households}} \times 100
\]
The indicator is actually constituted by three different indicators, one for each level of education. The age group for each level can vary from country to country.

The indicators proposed by UNESCO\(^{46}\) are the following:

- Children in primary education – usually from ages 5 or 6 to 11 or 12
- Children in lower secondary education – usually from ages 11 or 12 to age 14 or 15
- Children in upper secondary education – usually from ages 14 or 15 to 17 or 18

These indicators can be computed separately for girls and boys, and for urban and rural populations. They are useful to assess the achievement of universal primary education, and potential disparities in primary and secondary education related to gender and the location and social characteristics of the household.

They can be obtained from households surveys such as LFSs and from agricultural surveys that include questions on schooling.

It is important to note “that enrolment is not equivalent to attendance or completion rates. Hence, it would be informative to analyze this indicator together with data on completion of primary and secondary education, if available” (ILO, 2013).

It is advisable to assess the impact of changes in this indicator (and therefore of the educational policies of the country) on child labour, analysing it together with the other child labour indicators.

**CONT_6_AGR_1 – Share of employed persons in agriculture over the total employment**

Similarly to the EMPL_1_AGR_2 indicator, this indicator captures the sectorial dynamics of employment and provides information on the importance of employment in the agricultural sector over total employment. It is defined as the proportion of persons employed in agriculture over the total number of persons employed in all sectors.

---

The indicator is calculated as follows:

\[
\text{CONT}_6\text{AGR}_1 = \frac{\text{Number of persons employed in agriculture}}{\text{Total number of persons employed}} \times 100
\]

It can be computed for the total population, as well as for the population living in agricultural households and for the rural population.

It can be computed for different age groups. The usual indicator for youth can be computed as follows, and different age boundaries can also be used (for example, 15–29 or 25–29 years of age):

\[
\text{CONT}_6\text{AGR}_1y = \frac{\text{Number of youth (15 – 24) employed in agriculture}}{\text{Total number of youth (15 – 24) employed}} \times 100
\]

It can also be computed separately for males and females. The female share of employment in agriculture is computed below in the CONT_10_AGR_1 indicator.

It can be obtained from the LFS, from population censuses and from other household surveys that include a labour force module and cover the reference population.

For a comprehensive understanding of the labour market dynamics in the agricultural sector, the indicator should be analysed jointly with other key indicators. For example, an increase of the indicator and a corresponding decrease of people exclusively engaged in own-use production of goods (that is, those who are not also classified as employed) may reflect an increase in opportunities for “for-the-market” activities, for the population living in agricultural households and/or for former subsistence foodstuff producers.

**CONT_7_AGR_1 – Education of adult population in agricultural households**

Information on adult education can be retrieved using different indicators. One of these indicators is the adult literacy rate (for persons 15 years of age and older), which provides information about the basic level of education and the capability to read, write and understand short simple statements of everyday life.
For the population living in agricultural households, this can be computed as follows:

\[
\text{CONT}_7\_\text{AGR}_1 = \frac{\text{Total number of literate adults (15 +) in agricultural households}}{\text{Total number of adults (15+) in agricultural households}} \times 100
\]

The indicator can be comparatively analysed, with disaggregation by sex, ethnicity and for the urban or rural areas.

It could be obtained from household surveys such as LFSs and from agricultural surveys that include suitable questions on literacy.

It can be analysed together with many other DWIs to verify whether increased values correspond to better access to employment opportunities and an increased economic capacity.

**CONT_9_AGR_1 – Compensation of employees in the agricultural sector**

The indicator on the compensation of employees is derived from the computation of the GDP as based on the income-approach methodology. This is to say that GDP is calculated as the sum of primary incomes distributed by producer units, including compensation of employees in exchange for work done.

On the basis of the income-approach computation of GDP, it can be divided according to three main components:

1. compensation of employees
2. gross operating surplus (from incorporated businesses) and
3. gross mixed income (from unincorporated business, generally small business)

Therefore, for the agricultural sector the indicator can be calculated as follows:

\[
\text{CONT}_9\_\text{AGR}_1 = \frac{\text{Compensation of employees in agriculture}}{\text{GDP for the agricultural sector}} \times 100
\]

Or in terms of hours worked:

\[
\text{CONT}_9\_\text{AGR}_1 = \frac{\text{Compensation of employees in agriculture}}{\text{Hours worked by all employees in the agricultural sector}}
\]
International standards set in the System of National Accounts (SNA) enable the harmonization of statistics across countries, whereas a wide range of data sources are used to extrapolate statistics.

**CONT_10_AGR_1 – Female share of employment in agriculture**

The female share of employment in agriculture provides information about the percentage of women who work for pay or profit in the sector. It can be compared with similar indicators that are computed for other economic activities to obtain indications on equal access to the various sectors of the economy. The ILO recommends presenting comparative results at least for agriculture, industry and services.

With reference to the entire agricultural sector, it can be computed as follows:

\[
\text{CONT}_{10\text{ }\text{AGR}_1} = \frac{\text{Total number of women employed in agriculture}}{\text{Total number of employed in agriculture}} \times 100
\]

The same indicator can be also computed for the population living in agricultural households and in rural areas.

It can be obtained from LFSs and from agricultural surveys that include a labour force module. It can also be obtained from agricultural surveys that collect information on labour input, in terms of number of jobs or, better, in terms of hours worked or person-days.

This indicator can be used in conjunction with the other indicators disaggregated by sex, to verify whether women are concentrated in certain labour-intensive sectors, where wages are also generally lower.

**CONT_10_AGR_2 – Female share of own-use producers of goods**

The female share of own-use producers of goods, in addition to the female share of employment in agriculture (CONT_10_AGR_1), is useful for better grasping segregation by sex of the agricultural work.

It can be computed as follows:

\[
\text{CONT}_{10\text{ }\text{AGR}_2} = \frac{\text{Total number of women own-use producers of goods}}{\text{Total number of own-use producers of goods}} \times 100
\]

It can be obtained from LFSs and agricultural surveys that include a labour force module. In this case too, it could be obtained from agricultural surveys that
collect information on labour input, by using the number of jobs or, better, the hours worked or person-days instead of the number of workers.

10. Description of the proposed school-to-work transition indicators for youth living in agricultural households

Relevant indicators for school-to-work transition (STWT)\textsuperscript{47} can be calculated for youth (that is, persons 15 to 29 years of age) living in agricultural households. Many of the DWIs proposed above can produce statistical information about the labour market attachments and DW of youth. This section deals with other two groups of indicators that provide information on:

i. The passage of youth from the end of schooling to the first job, the stability of jobs held, job satisfaction, kind of transition, etc.

ii. The offer or availability of possible jobs for youth

The first group of indicators can be derived both from the specific SWTS survey, either by adding a question to identify agricultural households, or by adding a suitable set of individual questions in the questionnaire of household-based agricultural surveys. The second group of indicators can be derived from the LDES (collecting for the availability of jobs in the entire economy) or by adding a suitable set of questions in a standard agricultural survey that includes questions on the attitude and expectations of employers towards hiring young workers (collecting for the availability of jobs in the agricultural sector).

All of these indicators can be computed separately for males and females, for different age groups (15–24 years old, or young people eligible for school; and 25–29 years old, or young people who completed education) and for different educational levels.

**STWS\_1\_AGR\_1 – Net enrolment rate at primary, secondary and tertiary levels**

This indicator produces information on the level of participation in primary, secondary and tertiary education\textsuperscript{48}. In the ILO STWS methodological guide, it is computed only for secondary and tertiary education and is defined as “the ratio


\textsuperscript{48} The CONT\_7\_AGR\_1 indicator on Education of adult population in agricultural households can produce information about the youth literacy rate, which provides information about youth’s basic level of education and the capability to read and write.
of the total persons enrolled in education by level, regardless of age, to the population of the age group that officially corresponds to the level of education in the country”. However, computing the share of people with primary education in agricultural and rural areas is crucial as having the primary level of education can make the difference.

Hence, it can be computed separately for the three levels as follow:

\[
STWS_1_{\text{AGR}}_1 = \frac{\text{Total number of persons living in agricultural households, enrolled in a specific level of education (regardless of their age)}}{\text{Population of the age group that officially corresponds to the level of education in the country}} \times 100
\]

This indicator can be derived from surveys on agricultural holdings that collect information at the individual level on enrollment in education. In this case, it can be computed both as proposed by the ILO or by also taking into account, in the numerator, only those persons within the age group that officially corresponds to the level of education in the country.

**STWS_2_{\text{AGR}}_1 – Share of youth transited to employment**

This is the first of three indicators that provide a complete picture of the stages of STWT for youth according to the STWS methodology. As already explained, this indicator can be produced according to two frameworks.

According to Framework I, youth workers are classified as “transited” if they have attained a regular or a satisfactory job. Thus, the indicator can be computed as:

\[
STWS_2_{\text{AGR}}_1I = \frac{\text{Youth transited to a regular or a satisfactory job}}{\text{Population of youth}} \times 100
\]

The numerator comprises young people who have:

- a “regular job” (a permanent contract), both satisfactory or not-satisfactory, regardless of other DW deficits (no social protection, excessive hours worked, etc.); or

- a “satisfactory job”, even if temporary or in self-employment.

According to Framework II, youth workers are classified as “transited” if they have attained a predefined “decent” or a satisfactory job. The indicator can be computed as:

\[
STWS_2_{\text{AGR}}_1II = \frac{\text{Youth transited to a decent or a satisfactory job}}{\text{Population of youth}} \times 100
\]
In this case, the numerator comprises only those workers that have attained a job that, in addition to the above requisites, does not have DW deficits (for example, it offers entitlements to job security, health insurance, paid sick and annual leave, participation in labour unions, adequate wage rate and normal working hours).

These indicators could be further disaggregated according to the phases of the transition and the time required for transition (between the end of studying and job attainment)\(^{49}\) if the related information are collected and are adequately accurate (see also chapter 3).

**STWS\_2\_AGR\_2 – Share of youth in transition to employment**

The second indicator provides the share of youth that are in transition to a regular, decent or a satisfactory job.

According to Framework I, youth workers are classified as “in transition” if they have taken – or intend to take – steps to attain a regular or a satisfactory job. The indicator can be computed as:

\[
\text{STWS}\_2\_\text{AGR}\_2I = \frac{\text{Youth in transition to a regular or a satisfactory job}}{\text{Population of youth}} \times 100
\]

The numerator includes youth that have not yet transited (according to Framework I), who are either: unemployed; inactive and not in school, with an aim to look for work later; employees without a contract, employees with a temporary contract and with a non-satisfactory job; or self-employed and in non-satisfactory employment.

According to Framework II, youth workers are classified as “in transition” if they have taken – or intend to take – steps to attain a predefined “decent” or a satisfactory job. The indicator can be computed as:

\[
\text{STWS}\_2\_\text{AGR}\_2II = \frac{\text{Youth in transition to a decent or a satisfactory job}}{\text{Population of youth}} \times 100
\]

In this case, the numerator includes youth that have not yet transited (according to Framework II) and who are either: unemployed; inactive and not in school, with an aim to look for work later; or youth in a non-decent and non-satisfactory job.

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STWS_2_AGR_3 – Share of youth whose transition to work has not yet started

The third indicator provides the share of youth whose transition to a regular, decent or a satisfactory job has “not yet started”: that is, if they have not transited and are not in transition. It includes youth who are still in school or who are inactive with no intention of looking for a job.

The indicator is the same for both frameworks and can be computed as follows:

\[
STWS_2_AGR_3 = \frac{\text{Youth whose transition to a job has not yet started}}{\text{Population of youth}} \times 100
\]

STWS_3_AGR_1 – Share of future regular jobs available in agriculture for youth workers

This indicator expresses the availability of regular jobs for youth in the agricultural sector. It is based on the expectation of employers in hiring young workers on agricultural holdings. It can be calculated as the share of jobs available for youth as follows:

\[
STWS_3_AGR_1 = \frac{\text{Expected number of regular jobs available in agriculture for youth workers}}{\text{Expected number of regular jobs available in agriculture}} \times 100
\]

This specific indicator can be derived by adding suitable questions in a standard Agricultural Survey. It should be computed with reference to a specified future period (an agricultural season, a peak period, etc.). It can be also computed disaggregating by males and females, by household and non-household sector, and by specific occupations or activities (crop production, animal husbandry, fishery, farm administration, etc.).