



Food and Agriculture Organization
of the United Nations

Poverty measurement for rural areas

Why is measuring rural poverty important?

The [Sustainable Development Goals](#) establish that the eradication of poverty is one of the priorities of the United Nations. In fact, SDG 1 calls for eradicating extreme poverty for all people everywhere. Given that most of the world's extreme poor live in rural areas, FAO plays a key role in that process.

Poverty eradication is one of FAO's global goals, and it is intrinsically linked with its other two global goals on eradicating hunger, food insecurity and malnutrition, and fostering the sustainable management and utilization of natural resources.

Measuring rural poverty is a prerequisite to reach the extreme rural poor and eradicate extreme poverty in rural areas. It helps to identify the rural poor, understand their living conditions and the constraints they face and develop dedicated and integrated actions to promote economic inclusion, enhancing the contribution of food and agriculture-related sectors towards reducing extreme poverty.

How to measure rural poverty in FAO's programs and projects?

As explained in the [FAO Framework on Rural Extreme Poverty](#), "*...the manner in which poverty is measured determines the extent and the nature of the challenge for eradicating extreme poverty, as well as how the challenge is perceived, understood and addressed...*". In that sense, understanding how rural poverty is measured is the first step in eradicating rural extreme poverty.

While **monetary poverty** is the most commonly used methodology of poverty measurement, poverty is **multidimensional**: it represents a condition in which households and individuals face multiple challenges and constraints across different aspects of their lives.

For purposes of cross-country comparisons and analysis, FAO will use the World Bank's monetary extreme poverty indicator, currently 1.90 international dollars a day, as well as different multidimensional indices, such as the Global Multidimensional Poverty Index (MPI), and FAO's Rural Multidimensional Poverty Index (R-MPI). For programming and policy support at country level, FAO will use each country's own definition and measure of rural extreme poverty, both monetary-based and multidimensional.

The first chapter of the forthcoming FAO Toolkit on Poverty Analysis will present further information on how poverty measures are built and provide detailed analysis of the challenges involved in measuring poverty in rural areas, focusing in the two main methodologies used in the measurement of poverty: the monetary and multidimensional approaches.

Measuring poverty in rural areas

Whatever the conceptual definition of poverty is (i.e. monetary or multidimensional), the exercise of measuring poverty consists of two distinct operations: identifying who the poor are (identification) and combining some information of those identified as poor in an overall poverty measure (aggregation).

Identification – Identifying the rural poor requires defining and comparing two basic elements: an indicator of welfare and a minimum level of welfare over which a household is not considered poor.

In the **monetary approach**, the identification of the poor is made by comparing the monetary value of a variable representing the welfare level of the household, typically household income¹ or household consumption². A monetary poverty line then represents the minimum level of welfare that the household should meet to avoid being identified as poor.

In most cases, practical factors (e.g. availability of data) are far more relevant than theoretical arguments when choosing between income and consumption as a *welfare indicator*. In general, **household consumption is considered a better measure of welfare**. However, collecting information on consumption tends to be more expensive and time consuming than collecting information on incomes.

Different methodologies exist to set the *monetary poverty line*. In developing countries, where attaining minimum standards of living for the majority of the population still is one of the main policy objectives, **it is advisable to measure rural poverty using absolute poverty lines**. In this approach, the poverty line equals the amount of money needed to meet some *absolute* level of basic needs. Poverty lines of this type are particularly useful for purposes of informing anti-poverty policies or when the allocation of resources among regions/areas is done through poverty comparisons.

Most countries develop their own absolute poverty lines following the cost-of-basic-needs method. This method starts by establishing the food-energy requirement for maintaining body weight at rest and sustaining a certain activity level. Then, it finds a basket of food items that meets the food-energy requirements, and the associated monetary cost of buying this basket is the food poverty line. Finally, the food poverty line is adjusted upward to include some non-food basic needs, obtaining the monetary poverty line.

In the **multidimensional approach**, the welfare indicator is constructed following several steps:

1. a set of relevant dimensions and indicators of welfare is defined;
2. a deprivation cut-off for each indicator of welfare is set;
3. binary deprivation scores for each household in each indicator of welfare are defined;
4. a weight for each indicator of welfare is assigned; and
5. a deprivation score for each household is calculated, by taking the weighted sum of deprivations in the different indicators of welfare.

The choice of the dimensions and indicators (step 1) is a normative exercise in which different criteria can be applied. There seems to be an agreement on including **education, health and living conditions** as the “*core dimensions*”. The Rural Multidimensional Poverty Index (R-MPI) of FAO includes **two additional dimensions aimed at capturing specific conditions of deprivation in rural areas: rural livelihoods and resources, and risk**.

Once the indicators of welfare for each dimension are selected, a deprivation cut-off for each of them is defined (step 2). These are thresholds representing the minimum level that the household needs to reach

¹ Household income consists of all receipts, whether monetary or in-kind, that are received by the household and its members at annual or more frequent intervals; but excludes windfall gains and other such irregular and typically one-time receipts. It includes income from employment; property income; income from the production of household services for own consumption; and current transfers received.

² Household consumption refers to all the goods and services that are consumed by a household. While household expenditure tends to be the main component of household consumption, the latter also includes consumption out of own-production, consumption of goods and services received as a gift, consumption of goods and services offered from employers, and the flow of services provided by durable goods and owner-occupied housing.

in an indicator to be considered non-deprived in that indicator. The definition of the cut-offs is also a normative exercise and can be guided by national legislation, international conventions or the objectives established in national development plans. The cut-offs are then used to construct binary deprivation scores for each household in each welfare indicator (step 3): if the value of a certain indicator for a certain household is lower than the cut-off, that household is considered deprived in that indicator.

The binary deprivation scores in each indicator are then used to define an overall indicator of welfare for each household (step 5). This is obtained as the weighted sum of its binary deprivation scores in the different indicators, and it requires assigning a weight to each of those binary indicators (step 4). As it happens with other decisions, defining the weights is primarily a normative exercise. In most cases, each dimension receives the same weight and, in turn, each indicator is equally weighted within each dimension. In some cases, equal weights for all indicators are used, even if this implies different weights for each dimension (when the number of indicators is not the same across all dimensions).

In the multidimensional approach, the welfare indicator defined following the steps described in the previous paragraphs plays the same role that the income or consumption measure plays in the monetary approach: it represents the welfare level of each household. The identification of the poverty status of each household is also similar to the one in the monetary approach: its welfare indicator is compared with a poverty cut-off: if the household has a deprivation score at or above the established cut-off, it is considered multidimensionally poor. In the multidimensional context, the poverty cut-off indicates the minimum level of deprivation the household must be suffering to be identified as multidimensionally poor.

Aggregation – Once the rural poor have been identified, they should be aggregated in a poverty measure.

In the case of **monetary poverty**, the Foster-Greer-Thorbecke (FGT) family of poverty indicators informs not only about the percentage of people living in poverty (*headcount ratio*), but also about how poor (*poverty gap*) and unequal they are (*severity of poverty*).

In the case of **multidimensional poverty**, the *headcount ratio* should be complemented with two other poverty measures proposed in the Alkire-Foster (AF) method: the *intensity of poverty* and the *adjusted headcount ratio* indicators, which inform about the degree of deprivation faced by the poor.

Sources of data for rural poverty measurement

Most countries measure poverty using household surveys. In the case of **monetary poverty**, most national statistical offices implement their own household surveys to capture income and/or consumption, and there are some well-known global efforts such as the surveys developed under the [World Bank's LSMS program](#). Regarding **multidimensional poverty**, in a majority of countries the Global MPI is measured employing surveys carried out within the [Demographic and Health Surveys \(DHS\) Program](#) of USAID or within the [Multiple Indicator Cluster Surveys \(MICS\) Program](#) of UNICEF. However, in the last few years several countries have started to collect in their household surveys all the necessary information to estimate multidimensional poverty.

The way in which rural poverty measurement can be included in the design of projects and programs will depend on the availability of information. The main alternatives are the following:

- **Using information from official poverty reports** – Most countries publish an official poverty report after carrying out a household survey. Traditionally, these reports use the monetary approach, but there is a gradual trend to include both monetary and multidimensional poverty analysis in them.
- **Using official household survey microdata to produce a rural poverty measurement** – In some cases, official reports do not present the information needed for the design of the intervention. If official

household survey microdata are available, they can be used to obtain that information. There are some important aspects that should be considered:

- select the approach to poverty measurement according to the objectives of your intervention and considering the type of information collected in the survey;
 - if possible, follow the methodology that it is officially employed by the country;
 - most household surveys are not statistically representative of very small portions of the populations. Even if the survey collected information in the area of the intervention, it could be the case that the sample size is not enough to obtain statistically reliable estimates. This means that the poverty analysis must be performed at the level of an area larger than the one covered by the intervention.
- **Exploiting an existing local survey** – Sometimes, FAO or its partners carried out surveys at local level to design or evaluate a specific intervention. Depending on the degree of detail of a given survey, this information might be used to measure poverty at local level for other interventions in the same area.
 - **Carrying out a household survey at local level to produce a rural poverty measurement** – Fielding a household survey in the area of the intervention to collect information on household income or consumption, or on all the indicators that compose a multidimensional poverty index would be ideal. However, fielding that type of household survey is both complex and expensive.

In those cases, a suitable alternative is using a rapid poverty assessment tool, such as the Poverty [Probability Index \(PPI\)](#). In general, rapid poverty assessment tools use Proxy-Means Test (PMT) to identify poor households. Normally, a PMT only needs a small number of questions to predict the poverty condition of the household, which limits significantly the costs of data collection. More specifically, the PMT is a formula that estimates the probability that a household is poor. It is developed using data from a nationally representative household survey and following a few steps:

1. select a set of variables that are highly correlated to poverty from the household survey;
2. type of cooking fuel estimates a model that predicts household poverty using those variables; and
3. translate the results of the model into a scorecard.

As mentioned, the variables included in the PMT should be correlated with poverty and easy to collect. Some examples of those variables are household size, school attendance of the children in the household, educational attainment of the household head, materials of roof/floor/walls, type of cooking fuel, ownership of different durable assets, etc.

Another alternative, particularly appropriate for community-based interventions, is using some participatory poverty assessment method. One example of these methods is the Wealth Ranking tool, which is used to identify the main socio-economic groups in a community, as well as their livelihood characteristics. In this method, the information is obtained using community meetings of key informants. In the meetings, and using the livelihood assets framework (i.e. human, natural, physical, financial and social capital), informants are asked to describe the different socio-economic groups in the community, and the criteria that they use to distinguish between the different groups (e.g. land, livestock, labour, household composition, ability to send children to school or buy medicines) are identified. Then, informants are asked to determine the distribution of the households in the community across the different socio-economic categories (e.g. rich, middle, poor, very poor). This distribution can be used as a quick estimate of the poverty level in the community, and it can be verified using direct interviews with different households in the community.