Rethinking rural well-being and poverty

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Keywords: well-being, poverty, measurement.

Abstract

Most statistics represent rural well-being and poverty in terms of income and wealth. Other dimensions of well-being are generally not considered or receive much less attention and play a marginal role. Recently, this conventional view has been challenged. On one side, multidimensional approaches to well-being and poverty have been proposed by some scholars and organizations, including OECD, EU, and UNDP. The merits and the difficulties of these approaches are discussed in the paper, with special reference to measurement issues. On the other side, this paper suggests that multidimensionality it is necessary but not sufficient to assess properly well-being and poverty, because a sound theoretical framework is needed as well. A section of the paper is devoted to the presentation of some concepts that are useful to a better multidimensional analysis of well-being and poverty. This novel approach is particularly relevant for rural people and areas, as their disadvantages can not be generally grasped in the income or wealth dimension. The approach has also important implications for data collection, rural statistics and indicators, as well as for rural policies.

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1. Introduction

Most studies and statistics represent rural well-being and poverty in terms of income and wealth. Other dimensions of well-being are generally not considered or receive much less attention, and play a marginal role. Recently, this conventional view has been challenged. On one side, multidimensional approaches to well-being and poverty has been proposed by some scholars and organizations, including the Organization for Economic Cooperation and Development (OECD),[1] the European Union (EU),[2] and the United Nations Development Programme (UNDP)[3].

The merits and the difficulties of multidimensional approaches are discussed in the paper, with special reference to measurement issues (section 3). On the other side, this paper suggests that multidimensionality it is necessary but not sufficient to assess properly well-being and poverty, because a sound theoretical framework is needed as well. Section 4 of the paper is devoted to the presentation of some concepts that are useful to a better multidimensional analysis of well-being and poverty. This novel approach is particularly relevant for rural people and areas, as their disadvantages can not be generally grasped in the income or wealth dimension (section 5). The approach has also important

[1] OECD has taken several initiatives in this direction: it has produced studies (available at www.oecd.org), organized conferences and workshops, and promoted the Global Project on "Measuring the Progress of Societies" (www.oecd.org/progress) that seeks to support initiatives who wish to measure, assess and promote the progress of societies. Among the OECD studies see Boarini et al. (2006).

[2] See the “Beyond GDP” initiative (www.beyond-gdp.eu).

[3] Since 1990, UNDP has produced a yearly global Human Development Report (HDR), and a number of regional and national HDRs, based on an alternative and comprehensive perspective on development and well-being (hdr.undp.org). The work of Amartya Sen and others on the “capability approach” provided the conceptual foundation for the HDRs.

implications for data collection, rural statistics and indicators, as well as for rural policies (section 6).

2. Well-being as income and wealth

In the last thirty years, in the economic and social studies there has been a progressive redefinition of concepts such as well-being and poverty. Traditional "economistic" approaches generally identify or associate well-being with the availability of goods and services,[4] namely wealth, and/or with the flow of wealth, that is income. Therefore, in those approaches studying (identifying, measuring, and analyzing) well-being corresponds to studying wealth and income, with the (often implicit) assumption that wealth is the essential source of attainment of well-being. Only occasionally other non-monetary dimensions are also considered, and they have a minor and illustrative role. Symmetrically, in traditional approaches poverty is considered and measured as a lack of (consumption of) goods and services, or lowness of income and wealth. Those approaches apply, *mutatis mutandis*, to individuals and households as well as to regions and nations.

Since the mid-Seventies, a number of scholars and studies have challenged those views, emphasizing the need for introducing additional non-monetary dimensions of well-being,[5] such as social well-being (e.g. housing, education, health, safety), environmental well-being, subjective well-being (e.g.

[4] In the mainstream economic theory, there is not a direct correspondence between goods and well-being. The relation is mediated by a utility function. In addition, the term "welfare" is used instead of "well-being" (see for instance the concept of "social welfare function").

[5] The non-monetary dimensions of well-being are often also called "quality of life".

satisfaction, happiness)[6] and others. Accordingly, the well-being associated with income and wealth has been usually redefined as simply economic –or material– well-being. The latter is often also referred as the "standard of living".

This change also concerned the debate about "development". In traditional approaches development was mainly considered and measured in terms of per capita income or GDP, and therefore largely coincided with economic growth, generally coupled with structural change of the economy. In the last thirty years, as for well-being, the income approach to development has been criticized and revised, and new dimensions and indicators of development have been introduced. Development, in this broader perspective, can be seen as an expansion of human well-being rather than of just personal (or household) income.[7]

Some governments, statistical offices (e.g. Eurostat) and international agencies (e.g. OECD, UNDP) have subsequently taken into account those new perspectives and dimensions and have accordingly introduced statistics and indicators of well-being and poverty that go beyond income.

However, it should be noticed that, notwithstanding the innovations introduced in the discourse and statistics on well-being, most policy-makers and institutions in their daily practice still give prominence to income-related indicators for

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[6] Actually, the focus on subjective well-being is not new at all. The classical utilitarian approach was already focused on mental achievements, such as pleasure, happiness, and satisfaction. The modern forms of utilitarianism have abandoned those references in favor of some numerical representation of individual's choices.

[7] The human development and capability approach is even broader, because it pays attention also to people's freedom to achieve well-being –what Sen (1985, p. 201) calls *well-being freedom*.

monitoring and assessment of well-being and poverty, and especially for policy design and targeting. A paramount example is the World Bank that, on one side, has introduced multidimensional poverty in its research agenda (Narayan et al., 2000-2002), but on the other side still continues to count the world poor on the basis monetary poverty line, that at present is 1.25$ per day/per capita . Another example is the European Union that, on one side, has established in 2001 a list of 19 so-called “Laeken indicators” on poverty and social exclusion, that includes both monetary and non monetary dimensions, but on the other side still continues to count the European poor on the basis of the 60% median personal income.

This prominence of the income focus is also reflected in the greater attention and resources dedicated generally by agencies and statistical offices to the collection of income data and the production of income statistics, compared to non-monetary well-being data and statistics.

3. Multidimensional well-being

The shift from a single dimension to multiple dimensions, by enlarging and enriching the scope of the analysis, represents an important theoretical progress and has some relevant advantages in terms of policy. However, notwithstanding those benefits, the multidimensionality makes the measurement and evaluation of well-being and poverty more difficult. In fact, while measuring and assessing a given single dimension can be done with a single variable (e.g. personal or household income or consumption), multiple dimensions require a set of diverse variables. This multiplicity implies a number

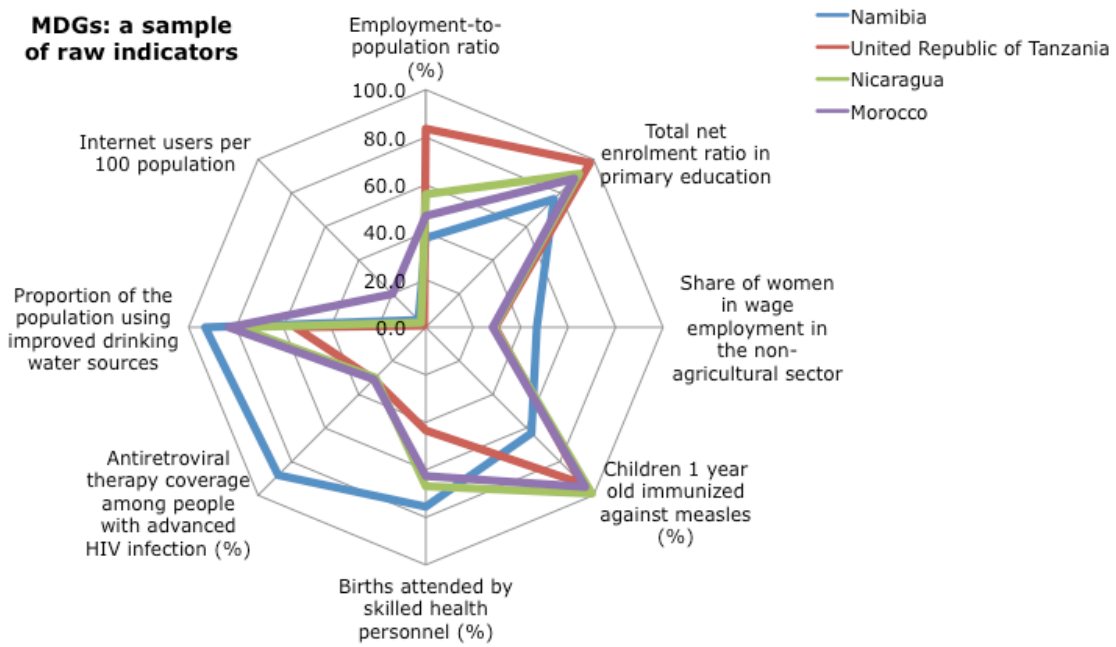
of theoretical and statistical problems –especially when we need to make comparisons over time and/or space– that are not present in the conventional one-dimensional approach.

The first problem concerns the choice of the well-being dimensions: which and how many dimensions are relevant and should be considered or privileged. This is also called by Sen the problem of the appropriate “informational base” (Sen, 1999, ch. 3), that is which information is included or excluded in the evaluation exercise. This selection is very often driven by the availability of statistics, but it has actually deep theoretical implications and strongly affects the results of the evaluation. In fact, each informational basis corresponds to a particular concept of justice or ethics (Sen, 1999, ch. 3). Therefore, the choice of the informational base should be a transparent process and should not avoid an explicit discussion and value judgement, preferably made by the people affected by the choice. A related technical problem concerns the choice of the variables and indicators that adequately represent each of the selected dimensions. The problem of the informational base will be further discussed in the next section.

The second problem concerns the use of the included information. This section will focus on this problem. Once the relevant dimensions and indicators have been selected and normalized, we often need to compare them in time and/or space in order to make evaluations. There are at least two alternative ways to make comparisons with multiple indicators: the first is to use “well-being profiles”; the second is to combine the various indicators into a composite index.

A well-being profile shows how the various indicators of well-being varies across dimensions. This approach has some advantages: there is no loss of information and the performance in each single dimension is transparent, allowing for an detailed check-up. However, there is also an important drawback: unless all the values of the indicators are lower or higher for one country (or in one period) compared to the others, it is difficult to rank the countries (or the periods). In order to illustrate this problem, we present in Figure 1 a comparison between profiles of four countries using some Millennium Development Goals (MDGs) indicators.

Figure 1: Comparing countries profiles



The eight indicators that have been used are a sample taken from the official list of 60 MDGs indicators. Each indicator refers to a different official development goal (or dimension). Looking at the figure, it is clear that by simply comparing the four profiles, while is possible to say which country is better placed in each single dimension, it is not possible to say which country is globally better placed. In brief, it is difficult to rank the countries if we do not aggregate the indicators.

In other terms, with a set of single indicators is not generally possible to produce a complete ordering of the observations. Indeed, it is possible to produce only a partial ordering by using stochastic dominance conditions. With reference with the previous example, this means that we cannot anyway produce a complete country ranking. In some cases, obtaining a partial ordering it not necessarily a problem.

The second way to make comparison in time and/or space is to combine the various indicators in a composite index (OECD, 2008). Composite indices have the advantage of allowing a complete ranking of countries (or periods), because they represent the overall well-being level in one number. Notwithstanding, building composite indices implies loosing a certain amount of information and produce results that are less transparent. Furthermore, composite indices have been criticized because, in a way, they re-introduce unidimensionality.

However, as monitoring progress in well-being often requires overall comparison over space or time, composite indices can be useful for specific purposes.

For instance, if we want to know which countries are doing more progress toward the overall eight MDGs and which countries are doing less progress, we could build a composite index.

The main problem in the construction of composite indices of well-being is how to aggregate the information. The aggregation problem concerns two interrelated aspects: the assignment of weights to the components when combining them (Scott, 2004) and the choice of the synthetic function. After having normalized (or also standardized) the indicators, there are a number of possible aggregation strategies. Here we briefly discuss the most common ones:

1. Using the arithmetic mean. This approach is often used, because is very simple and easy to apply and to interpret. An implication of the arithmetic mean is that the weights of the components are completely arbitrary. The approach has two versions:
    a. Simple (non weighted) mean. This implies that all the weights are equal and that all the components (dimensions) are perfectly substitutable. Although the equal weights give the impression that this is a “neutral” approach, in which there is no hierarchy between dimensions, indeed this approach makes an implicit very strong assumption about the perfect substitutability between dimensions. This assumption has a weak theoretical justification, especially when the components are fundamental dimensions like health and knowledge. This approach has been used to build the Human Development Index by the UNDP;

b. Weighted mean. In this case, if the weights are not equal, that implies that the substitutability between components is not perfect. This approach is more theoretically consistent, but the weights remains arbitrary;

2. Using factorial analysis (e.g. principal components, correspondence analysis). Apparently, this approach seems more “objective” because the weights are not assigned by the researcher but rather by a statistical technique. In this way, weights seem not arbitrary and more “scientific”, because they are extracted from the data. However, this approach has a couple of serious shortcomings. First, given that the weights are obtained from the data, they are not constant over both time and space and this make very difficult the comparisons. Second, the factorial analysis assigns weights to the original variables based on their variance and covariance. This criterion does not necessarily reflect the relative socioeconomic importance of the various dimensions. Therefore, even if with this statistical approach the weights are apparently objective, yet they have not a sound theoretical foundation;

3. Using a power mean or an adjusted mean. With this approach we can have both imperfect substitutability and implicit non arbitrary weights.
    a. A power (or generalized) mean of order greater than one is very useful when we wish to build composite indices of poverty. This mean «places greater weight on those dimensions in which

deprivation is larger» (Anand and Sen, 1997, p. 16). This approach has been used to build the HPI by UNDP. Similarly, a power mean of order smaller than one (but grater than zero) can be used to build composite indices of well-being when we wish to place greater weight on those dimensions in which well-being is lower. In this case, the power mean penalizes countries (or periods) that have a more "unbalanced" well-being across dimensions.

b. An adjusted mean. Another way to penalize unbalanced performances is to adjust the arithmetic mean by using a penalty coefficient or function. This can be done in different ways. An example is the MPI class of composite indices of well-being or poverty (De Muro et al., 2009) which includes a penalty coefficient that is function of the variability across dimensions ("horizontal variability").

According to Sen (1999, p. 81): «there is … a strong methodological case for emphasizing the need to assign explicitly evaluative weights to different components of quality of life (or of well-being) and then to place the chosen weights for open public discussion and critical scrutiny». In principle, this would require to use the approach "1b", rather than «some wonderful formula that would simply give us ready-made weights that are "just right"» (Sen 1999, p. 79). However, in some cases to assign evaluative weights and then submit

them to open public discussion is not possible. In the latter cases, the approach "3" is better.

4. It is not just multidimensionality

The multidimensional approach to well-being and poverty can surely be considered a progress, but –in addition to the above mentioned measurement issues– this approach can be also confusing. In recent years, there has been produced a great number of:

- (large) sets of single indicators for the various well-being dimensions;[8]
- composite well-being indices;[9]
- factorial analysis of well-being indicators.

Although «composite indicators seem more attractive from this perspective, as they can combine a wide range of indicators – even "apples and oranges" – into a single measure […] on the other hand, they can be very misleading, depending on the selection of indicators and weights used to aggregate the results» (Giovannini, 2004). However, the problem of "mixing apples and oranges" occurs also with factorial analyses, and even with sets of single indicators that –though not combined– are simply juxtaposed.

The real issue rests on the selection of indicators, i.e. of the dimensions of well-being, that in the previous section has been presented as the choice of the

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[8] See OECD, *Measuring the Progress of Societies*, http://www.oecd.org/progress

[9] See European Union Joint Research Centre, *Composite Indicators: An information server on composite indicators and ranking systems*, http://composite-indicators.jrc.ec.europa.eu/

appropriate “informational base”. This is not just a statistical problem that can be solved with some smart technique, but it is a theoretical one. If the selection of indicators is made without any sound theoretical foundation, there will be problems of “measurement without theory”, as pointed out by Koopmans (1947).

Concerning well-being, one main theoretical problem is that very often no distinction is made between “means and ends” (Sen, 1999). In fact, some variables and indicators –e.g. happiness or self-respect– can be rightly considered as dimensions or components of well-being, while others –such as income or assets– cannot, because if their nature and value are thoroughly scrutinized they should be rather considered as (possible) means to achieve well-being. In other terms, some variables and indicators can measure –directly or indirectly– various dimensions of “well-being achievement” (Sen, 1993), while others are only resources needed to achieve well-being and are not a dimension or a measure of well-being, and neither can be considered as indirect measures or proxies. The former variables are *constitutive* (components) of well-being, while the latter variables are *instrumental* to well-being. There also are some special variables –such as education and health– that have a double nature, as they are both constitutive and instrumental. In fact, variables like education and health are both a mean to achieve more well-being –as pointed out by the theory of human capital– and are an end in themselves, because knowledge and good health are components of well-being.

Putting together –into composite indices or into factorial analysis or into sets of key indicators– both constitutive and purely instrumental variables can be confusing and misleading, for two reasons.

The first reason concerns the “conversion factors” of resources into well-being: «what use we can respectively make of a given bundle of commodities, or more generally of a given level of income, depends crucially on a number of contingent circumstances, both personal and social» (Sen, 1999, p. 70). Sen identifies at least five distinct categories of conversion factors: personal heterogeneities, environmental diversities, variations in social climate, difference in relational perspectives, and distribution within the family. As a consequence, the mapping between resources and well-being is not bijective.

The second reason is that there is an “input-output” relation between resources and well-being. The various kinds of resources should be considered as inputs for the achievement (production) of well-being, that should considered as an output. Let us consider some examples of a generic production/achievement process with inputs and outputs.

In the case of goods production we have:

- A simple case

  [Capital, Work, Land] → Output

  e.g. [Chemical inputs, Work, Land] → Apples

- A general case (joint production)

  [Capital, Work, Land] → [Capital, Land, Output]

  e.g. [Wheat seeds, Work, Land] → [Land, Wheat]

In the case of well-being achievement (production) we have:

- A simple case

  [Income, Assets, Employment] → [Well-being] (including "good health")

- A general case (joint production)

  [Income, Assets, good Health] → [Well-being] (including *better* Health).

Usually, in the analysis of production processes inputs are not confused with outputs. This distinction applies to goods production as well as to well-being achievement. What is done, usually, is to analyze relations between inputs and outputs in terms of productivity (e.g. production per worker) or of efficiency. This approach should be also used for well-being, by studying the "productivity" (e.g. achieved well-being per resource) or efficiency (how to get the maximum well-being given the resources endowment) of the process.

Consequently, composite indices, factorial analyses and set of single indicators of well-being should not mix or juxtapose inputs (various resources) and outputs (well-being achievements) but should clearly distinguish them. Unfortunately, this distinction is rarely made. Indeed, a genuine well-being concept concerns the kind of life that people lead, rather than their economic "entitlements" (Sen, 1981), which are the bundles of various resources over which people have command.

This does not mean that economic entitlements are not relevant for well-being. On the contrary, although they are not components of well-being, they are fundamental determinants of well-being, together with other factors (such as institutions). Therefore, even if entitlements should not be utilized for well-being

measurement, their relationship with well-being deserve a great attention and should be thoroughly analyzed. For instance, an “entitlement failure” plays a fundamental role in the explanation of famines (Sen, 1981).

5. Well-being of rural people

Although the issues discussed in previous sections regard the whole society, they are particularly relevant in the study of well-being and poverty of households and people in rural areas. In fact:

1. Most rural disadvantages are strongly related to “conversion factors” that are peculiar to rural areas, such as remoteness, poor infrastructures, lack of public goods and services, scarcity of private services, insufficient information. All other things being equal, we cannot say that two households, one urban and the other rural, that have the same income or wealth enjoy the same well-being, because the latter could suffer from a difficulty to access to a number of social services. Therefore, the rural household could be not socially efficient to convert income into well-being as the urban household is. The same applies if we compare two households living in two rural areas with different infrastructures endowment. These relative disadvantages are acute in developing countries, where rural-urban gaps are huge, but are also important in industrialized countries.

2. Some possible components of rural well-being –especially the non-material ones– cannot be caught by income or wealth, for example:

a. More personal security, less criminality and violence. Personal security is a fundamental dimension of human security (UNDP, 1994) and of well-being;

b. Better natural environment and less pollution, that enhance health;

c. More social capital (i.e. quality, intensity and density of community relations), that enhances social cohesion (besides economic development);

d. More food safety, that enhances nutrition.

All those factors and components can be hardly measured in terms of income and wealth. Therefore, even trying to adjust rural incomes in order to take into account those factors and components is not the best option. What is required here is a direct multidimensional measurement of rural well-being, and an analysis of the contingent circumstances that determine the conversion factors.

6. Conclusions and implications

Income and wealth are important, but should be put in their place. They are nothing else than means –though important– to achieve well-being. Furthermore, they are not the unique source of well-being: other non-monetary sources of well-being, like certain institutions and public goods, in many circumstances could be even more important (Galbraith, 1958).

In order to assess correctly rural well-being we need a novel approach that is both broader (i.e. multidimensional) and theoretically founded, namely that is able to distinguish between instrumental and constitutive aspects of well-being.

There are important implications of this approach for data collection, rural statistics and indicators, as well as for rural policies. Here, the implications will be only outlined.

As concerns data and statistics, a multidimensional perspective is more demanding because of the broader informational base that is required. This is very often considered a shortcoming and is used as an argument for maintaining the traditional income approach, especially for those countries that have poor statistical resources. However, on the one side, several data about non-monetary well-being dimensions are already available for almost all countries, although not regularly. What is often missing is a disaggregation of data between rural and urban areas.[10] For instance, in some countries this is the case for data about health and education. Nevertheless, the effort needed to produce disaggregated data is not enormous, given that censuses and surveys can be easily designed accordingly. Also concerning the MDGs, according to the UN all indicators should be disaggregated by urban/rural as far as possible. Anyway, for many countries, given the availability of appropriate statistics for rural areas, a multidimensional measurement and assessment of rural well-being and poverty is already possible today, and there are already some good examples of in this direction.

[10] Of course, this requires a previous classification of territorial units into rural and urban, which is not trivial.

On the other side, it is evident that for some other relevant well-being dimensions data are not systematically collected, both for urban and rural areas. An important research project of the *Oxford Poverty & Human Development Initiative* (OPHI)[11] has the goal to identify and advocate the collection of data for a small set of indicators on "missing" dimensions of well-being –and, more generally, of human development–, with a focus on dimensions that often matter to poor people.[12]

For the "missing dimensions" of well-being an effort by the international community is needed, in order to mobilize resources and make the appropriate investment in the statistical capacity to collect the relevant data and to produce indicators.

Finally, regarding rural policies, there are two main implications of the approach proposed here. Firstly, as the traditional income and wealth approach represents well-being in one dimension, this provides a poor information to the policy-maker about the relative advantages or disadvantages that rural people have in the various well-being dimensions, and therefore it gives little help in understanding the problems of rural development or rural poverty and in designing appropriate policies. In fact, many other non-monetary indicators are often necessary and utilized for rural policy analysis. However, this joint use of

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[11] The OPHI (www.ophi.org.uk) is hosted by the Oxford Department of International Development, Queen Elizabeth House, University of Oxford.

[12] The dimensions identified by OPHI include: *employment*, including both formal and informal employment, with particular attention as to the quality of employment; *physical safety*, focusing on security from violence to property and person, as well as domestic violence and perceived violence; *the ability to go about without shame*, to emphasize the importance of dignity, respect and freedom from humiliation; *psychological and subjective wellbeing*, to emphasize meaning, satisfaction and their determinants.

income and non-income indicators is usually rather empirical and involves some consistency problems that we have discussed in section 4.

On the contrary, a multidimensional and theoretically founded well-being measurement and assessment could provide to the policy maker a more comprehensive and coherent informational basis for the analysis of rural development and poverty and for policy design.

Secondly, this approach calls for a main shift of traditional rural policies –that are still mostly focused on rural income growth– toward a multidimensional (hence multisectoral) perspective. Although in many countries, like in the EU, and agencies this need has been already formally recognized, actually most rural policies largely coincide with agricultural policies, whose focus is agricultural and income–that is still considered as the main source of rural well-being[13]. If our objective is to expand rural well-being and to eradicate rural poverty, rather than just increase production, we need to shift the policy focus from agricultural commodities to rural people.

[13] A classical example of this traditional view is the Rome Treaty establishing the European Economic Community in 1957. One of the objectives of the Treaty was «to ensure thereby a fair standard of living for the agricultural population, particularly by the increasing of the individual earnings of persons engaged in agriculture» (Article 39.b).

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