

FAO STATISTICAL DEVELOPMENT SERIES

5a

# **Guidelines on employment**

**Supplement to the  
Programme for the World  
Census of Agriculture 2000**



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## FOREWORD

FAO's programme for the "World Census of Agriculture" has been ongoing for over fifty years. The primary purpose of the programme is to encourage countries to take an Agricultural Census at least once every ten years. FAO, through this programme, provides definitions, concepts, standards and guidelines for censuses in order to generate a data base of internationally comparable data sets.

The Agricultural Sector is complex and the activities generated by the sector are multifaceted. One element of activity within the Agricultural Sector that has historically been included in the Census Programme has been the inclusion of items to measure agricultural labour. The primary object was to measure the amount of labour resources used on the agricultural holding during a specific reference period for production, and also to define the type, level, and source of inputs contributing to this production, investment and maintenance on the holding unit.

It became apparent that the concepts, definitions and standards used to collect employment information needed to be improved and changed to be comparable with recommended international standards. The Bureau of Statistics of the International Labour Office was asked to review and assist FAO to prepare a supplement for Category 04: Employment, in Chapter 5 of the current "Programme for the World Census of Agriculture 2000", FAO Statistical Development Series No. 5.

FAO Statistics Division recognizes and thanks Mr. F. Mehran, Director, and Ms. Sophi Lawrence, Statistician, of the Bureau of Statistics, ILO, for their assistance on this project. Mr. Jean Visieur, Senior Officer, FAO Statistical Development Service, coordinated this activity for FAO Statistics Division. Considerable input was also provided by Mr. Pratap Narain and Odell Larson of FAO's Statistics Division.

L. Kabat  
Director  
Statistics Division



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## CHAPTER I INTRODUCTION

1.1 The Census of Agriculture is a "large-scale, periodic, statistical operation for the collection of quantitative information on the structure of Agriculture". The FAO Statistics Division issued the "Programme for the World Census of Agriculture 2000"<sup>1</sup> (WCA 2000), (FAO Statistical Development Series, No 5) at the end of the year 1995 to encourage and assist countries in undertaking a census of Agriculture during the forthcoming decade. The WCA 2000 is the eighth version in a series launched in 1930 by the International Institute of Agriculture. It provides the basic concepts, definitions and classifications to be used for the census as well as the minimum technical guidelines for conduct of the census.<sup>2</sup>

1.2 Among the numerous topics that are included in the WCA 2000, the obtaining of information relating to economic activity is one of the most complex. There are many issues to be addressed in this respect which are related to the applicability of certain concepts, the extent to which information should and can be collected, usefulness of the data, etc. The main objective of collecting information on employment through a Census of Agriculture is to measure the labour inputs or resources used by agricultural holdings during a specified reference period in relation to the type, level and source of inputs contributing to production, investment and maintenance activities of holdings. The collection of information on employment of agriculture household members also provides a look at the economic situation of these household members and establishes their contribution to the operation of the agricultural holding. In order that comparisons and analysis are more complete the results should be consistent with production-oriented statistics obtained from other inquiries. This information is also useful for designing adequate social and economic policies for the agricultural sector.

1.3 The choice of measure and the items to be collected when enumerating the economically active population in the Census of Agriculture are fundamental to the scope and quality of data on the economic characteristics of the labour resources<sup>3</sup> used in agriculture and to their link with statistics on employment in agriculture obtained from other sources (e.g. the Population Census, labour force and other relevant surveys, administrative registers). It is also vital in trying to achieve international comparability of economic statistics between countries and regions.

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<sup>1</sup> This publication is being presented as a supplement to the Programme for the World Census of Agriculture 2000 on employment issues. It is simply referred to as the "main Programme" or "WCA 2000" at many places in the text.

<sup>2</sup> More developed guidelines can also be searched in the technical publication entitled "Conducting Agricultural Censuses and Surveys", (FAO Statistical Development Series No 6), issued some months after the Programme.

<sup>3</sup> The unit of enumeration in the agricultural census is the holding, which is the economic unit of agricultural production, while the units of enumeration in the population census are household and the individuals within the household. In this respect, it may be noted that when investigation is limited to determining only principal economic activity of each person with reference to a shorter time-reference period, the population census may not identify all persons involved in agricultural activity due to its highly seasonal nature.



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1.4 For these reasons, the FAO Statistics Division and the ILO Bureau of Statistics have jointly prepared this supplement to provide additional guidelines to the National agricultural statisticians responsible for the implementation of the Agricultural Census Programme in their country. Chapter II of this document is an extended presentation of the international standards on issues related to employment mainly established by ILO which would be used when observing economic activity through the Census of Agriculture and Chapter III presents technical considerations for the practical implementation of these concepts in planning a Census of Agriculture, enlightened by some country examples given in Chapter IV.

1.5 It should be recognized that data collected in the Census of Agriculture on labour cannot be used for studying average and marginal productivity of labour, which is one of the important analytical studies connected with employment. However, the data collected in the Census of Agriculture could be used for a sampling frame for such studies.

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## CHAPTER II

### CONCEPTS AND DEFINITIONS RELATING TO ECONOMIC ACTIVITY

2.1 The description of agricultural labour resources through the Census of Agriculture should be made as easy as possible for countries to incorporate into their census programmes. The inclusion of new concepts and formulations of new questions in already complex questionnaires, training of enumerators and preparation of new tabulations is a time consuming, expensive venture for all countries. It would, therefore, be advantageous if, to the extent possible, internationally recognized statistical concepts and standards could be applied to describe economic activity through census operations. Applying recognized concepts not only facilitates the preparation of specific questions, it also enhances the comparability of results obtained, thus enabling countries to more easily assess the evolution of their own situation over time as well as to compare themselves with other countries.

2.2 Economic activity is an umbrella concept which is manifested through diverse concepts. Persons found to be in "employment" as well as those in "unemployment" are in both cases said to be economically active. *The Resolution concerning statistics of the economically active population, employment, unemployment and underemployment*, adopted by the Thirteenth International Conference of Labour Statisticians in October 1982, provides the normative standards which are currently in force internationally. In this Chapter, these standards have been presented which could be used for adaptation of concepts and definitions when planning a Census of Agriculture.

#### Economically Active Population

2.3 *"The "economically active population" (EAP) comprises all persons of either sex who furnish the supply of labour for the production of economic goods and services as defined by the United Nations System of National Accounts (SNA) <sup>4</sup> during a specified time reference period."*

2.4 Activities are said to be within the production boundary defined by the SNA if they comprise (i) production of goods or services supplied, or intended to be supplied, to units other than their producers, (ii) own-account production of all goods retained by their producers, (iii) domestic and personal services produced by paid domestic workers.

2.5 The EAP can be measured in many ways. One useful measure of the EAP recommended by the ILO Resolution is the **usually active population**, measured in relation to a long reference period:

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<sup>4</sup>For further information, see ILO, "13th International Conference of Labour Statisticians, Resolution concerning Statistics of the Economically Active Population, Employment, Unemployment and Underemployment" (Geneva, 1983) and UN, System of National Accounts 1993 (UN publication, Sales No., E.94.XVIII.4).

2.6 *"The "usually active population" comprises all persons above a specified age whose main activity status as determined in terms of number of weeks or days during a long specified period (such as the preceding 12 months or the preceding calendar year) was "employed" or "unemployed" as defined" below.*

2.7 This usually active population may be subdivided into "usually employed" and "usually unemployed" in accordance with the situation which prevailed most of the time over the long reference period. The usually employed are persons for whom the number of weeks of employment is larger than or equal to the number of weeks of unemployment over the long reference period. The usually unemployed are persons for whom the number of weeks of employment is smaller than the number of weeks of unemployment over the reference period.

2.8 In applying these definitions, different enumeration procedures may be used to determine usual activity status. One procedure is to interpret it as the status that prevailed over most of the 52 weeks (or 365 days) of the reference year. Another is to set a specific number of weeks for example as the cut-off point and classify persons with at least "that many weeks" of economic activity as usually active. The impact of the choice to measure activity during the long reference period in terms of days or weeks can result in substantially different activity statuses. (See Chapter III of this Supplement for further discussion of this issue).

2.9 Countries choosing to go beyond the basic employment items recommended by the Programme and collect a subset of information on the current labour force characteristics of people on holdings measured in relation to a short reference period may refer to another concept embodied in the Resolution called the "**currently active population**":

2.10 *The labour force (the "currently active population"), measured in relation to a short reference period<sup>5</sup> such as one week or one day, which comprises all persons who fulfil the requirements for inclusion among the employed or the unemployed. This measure is the basis for the formulation of definitions of employment and unemployment contained in the Resolution, given below.*

### **Employment**

2.11 (1) *The "employed" comprise all persons above a specified age who during a specified brief period, either one week or one day, were in the following categories:*

- (a) *"paid employment":*
  - (i) *"at work": persons who during the reference period performed some work for wage or salary, in cash or in kind;*
  - (ii) *"with a job but not at work": persons who, having already worked in their present job, were temporarily not at work during the reference period and had a formal attachment to their job...*

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<sup>5</sup> In case country is interested in studying current status of labour force participation, one alternative would be to consider use of "last crop season" which would take care of seasonal nature of agricultural activity.

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(ii) *"with a job but not at work": persons who, having already worked in their present job, were temporarily not at work during the reference period and had a formal attachment to their job...*

(b) *"self-employment":*

(i) *"at work": persons who during the reference period performed some work for profit or family gain, in cash or in kind;*

(ii) *"with an enterprise but not at work": persons with an enterprise, which may be a business enterprise, a farm or a service undertaking, who were temporarily not at work during the reference period for any specific reason...*

(2) *For operational purposes, the notion of "some work" may be interpreted as work for at least one hour.*

(3) *Persons temporarily not at work because of illness or injury, holiday or vacation, strike or lock-out, educational or training leave, maternity or parental leave, reduction in economic activity, temporary disorganization or suspension of work due to such reasons as bad weather, mechanical or electrical breakdown, or shortage of raw materials or fuels, or other temporary absence with or without leave should be considered as in paid employment provided they had a formal job attachment. "*

(4) *Employers, own-account workers and members of producers' co-operatives should be considered as in self-employment and classified as "at work" or "not at work", as the case may be. "*

(5) *Unpaid family workers at work should be considered as in self-employment irrespective of the number of hours worked during the reference period. Countries which prefer for special reasons to set a minimum time criterion for the inclusion of unpaid family workers among the employed should identify and separately classify those who worked less than the prescribed time. "*

(6) *Persons engaged in the production of economic goods and services for own and household consumption should be considered as in self-employment if such production comprises an important contribution to the total consumption of the household. "*

(7) *Apprentices who received pay in cash or in kind should be considered in paid employment and classified as "at work" or "not at work" on the same basis as other persons in paid employment.*

(8) *Students, homemakers and others mainly engaged in non-economic activities during the reference period, who at the same time were in paid employment or self-employment as defined (above) should be considered as employed on the same basis as other categories of employed persons and be identified separately, where possible. "*

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*(9) Members of the armed forces should be included among persons in paid employment. The armed forces should include both the regular and the temporary members as specified in the most recent revision of the International Standard Classification of Occupations (ISCO)."*

2.12 The ILO employment definition provides separate criteria for persons in paid employment and persons in self-employment in order to accommodate the idea that employment covers any work, be it for wage or salary, profit or family gain, including production for own consumption.

2.13 Contributing family workers should be considered as in self-employment irrespective of the number of hours worked during the short reference period. In the Resolution concerning the currently active population the notion "some work" may be interpreted for operational purposes as work for at least one hour.

### **Unemployment**

2.14 (1) *The unemployed comprise all persons above a specified age who during the reference period were:*

- (a) "without work", i.e. were not in paid employment or self-employed;*
- (b) "currently available for work", i.e. were available for paid employment or self-employment during the reference period, and*
- (c) "seeking work", i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment. The specific steps may include registration at a public or private employment exchange; application to employers; checking at worksites, farms, factory gates, market or other assembly places; placing or answering newspaper advertisements; seeking assistance of friends or relatives, looking for land, building machinery or equipment to establish own enterprise; arranging for financial resources; applying for permits and licenses, etc."*

*(2) In situations where the conventional means of seeking work are of limited relevance, where the labour market is largely unorganized or of limited scope, where labour absorption is, at the time, inadequate, or where the labour force is largely self-employed, the standard definition of unemployment given in subparagraph (1) above may be applied by relaxing the criterion of seeking work.*

*(3) In the application of the criterion of current availability for work, especially in situations covered by subparagraph (2) above, appropriate tests should be developed to suit national circumstances. Such tests may be based on notions such as present desire for work and previous work experience, willingness to take up work for wage or salary on locally prevailing terms, or readiness to undertake self-employment activity given the necessary resources and facilities.*

*(4) Notwithstanding the criterion of seeking work, persons without work and currently available for work who had made arrangements to take up paid employment or undertake a*

*self-employed activity at a date subsequent to the reference period (future engagements) should be considered as unemployed. A person temporarily absent from the job on the holding with no formal job attachment (laid-off) who is available for work and seeking work during the enquiry should be regarded as unemployed.*

*(5) Persons temporarily absent from their jobs with no formal job attachment who were currently available for work and seeking work should be regarded as unemployed in accordance with the standard definition of unemployment. Countries may, however, depending on national circumstances and policies, prefer to relax the seeking work criterion in the case of persons temporarily laid off.*

*(6) Students, homemakers and others mainly engaged in non-economic activities during the reference period who satisfy the criteria laid down in subpara.s (1, 2) above should be regarded as unemployed.*

**2.15** Availability for work may be interpreted as ability and readiness to work, provided the person is given a work opportunity. Within the context of the short reference period to describe the labour force, the job search period is not limited to the specified reference period (one week or one day) but may be longer - one month or the past four weeks including the survey reference period. As seen in the international recommendations, it would be consistent to include as unemployed, persons available for work but not actively seeking work on other holdings because they believe no jobs are available. This may be applicable to rural agricultural areas. The "seeking work" criterion can be interpreted as activity or efforts undertaken during the set reference period to find a job. In principle all three criteria, "without work", "currently available for work" and "seeking work" should be satisfied simultaneously.

### **Population Not Usually Active**

**2.16** *The "population not usually active" comprises all persons (men and women) whose main activity status during the longer specified period was neither employed nor unemployed, as defined above. It comprises the following functional categories:*

*(a) students; - attending regularly any educational institution, public or private, for systematic instruction at any level of education*

*(b) home makers; - engaged for most of the reference year in household duties on the holding; housewives and other relatives responsible for the care of the home and children, but may also include some men. This does not include domestic employees working for pay, who should be considered as economically active*

*(c) income recipients (pensioners, rentiers, etc.); - persons who receive income from property or capital investments, interests, rents, royalties or pensions from former activities, who cannot be classified as "homemakers" or "students" during the reference period*

*and (d) others (recipients of public aid or private support, children not attending school, etc.) as defined by the United Nations Principles and Recommendations for Population and Housing Censuses, 1980). - all other persons who cannot be classified into any of the above groups.*

2.17 For countries collecting a subset of information on the economic activity status of all persons associated with the holding who measure the current labour force in relation to a short reference period, the ILO Resolution also provides a definition of the related *population not currently active*:

2.18 *The "population not currently active", or, equivalently, persons not in the labour force, comprises all persons who were not employed or unemployed during the brief reference period and hence not currently active because of (a) attendance at educational institutions; (b) engagement in household duties; (c) retirement or old age; or (d) other reasons such as infirmity or disablement, which may be specified.*

2.19 *Countries adopting the standard definition of unemployment may identify persons not classified as unemployed who were available for work but not seeking work during the reference period and classify them separately under the population not currently active."*

2.20 **Occupation** refers to the main type of tasks and duties performed during the reference period by persons in paid employment or self-employment jobs (or type of work done previously, if unemployed) combined with the skill level required to perform the job, regardless of in which industry the work is performed. Broadly speaking it would be sufficient to identify six skill-based occupational groups: managers, technical workers, skilled workers, machine operators, unskilled workers, and others. These groups may be distinguished on the basis of the detailed descriptions of occupations in agricultural activities according to the latest revision of the International Standard Classification of Occupations (ISCO-88), adopted by the International Labour Organization in 1990. (See the Appendix for Extracts of Agricultural Occupations and their correspondence to these broad groups.)

### **The Principal, Secondary and Ancillary Productive Activities**

2.21 The classification of activities by grouping the producer units/persons according to similarities in their outputs, inputs and technology of production, provides the basis for establishing linkages between them. To apply this concept uniformly it is necessary to know the fundamental distinctions between principal, secondary and ancillary activities. These are given below.

2.22 The **principal activity** of a producer unit is the output whose activity exceeds that of any other activity carried out within the same unit/ or by the same individual. The classification of the principal activity is determined with reference to the most detailed level of classification of economic activities as defined in ISIC.

2.23 A **secondary activity** is an activity carried out in addition to the principal activity by a producer unit at the same place of work or by an individual engaged in such additional activity either at his own place of work or at any other site as a part-time employment (in reference to ISIC). In case of the producer unit, the class of this secondary activity is generally different from the principal activity. However, in case of an individual activity,

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although the class may or may not be the same, its status is different when the same activity is performed at two different places.

**2.24** The output of an **ancillary activity**, in contrast, is not intended for use outside the enterprise. An ancillary activity is a supporting activity undertaken within an enterprise in order to create the conditions within which the principal or secondary activity can be carried out. Ancillary activities have certain common additional characteristics related to their output:

- (i) They typically produce outputs that can be found as inputs into almost any kind of productive activity.
- (ii) They produce services (and, as an exception, goods) that may not become a physical part of the output of the principal or secondary activity).
- (iii) The value of an individual ancillary activity's output is likely to be small compared to that of the principal or secondary activities of an enterprise.

**2.25** By definition, an ancillary activity is not undertaken for its own sake but purely in order to provide supporting services for the principal or secondary activity with which it is associated.



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**CHAPTER III**  
**METHODOLOGICAL CONSIDERATIONS FOR THE PROPER COLLECTION OF**  
**INFORMATION ON ECONOMIC ACTIVITY TO BE USED FOR THE CENSUS OF**  
**AGRICULTURE**

3.1 The collection of information on employment through a Census of Agriculture may be approached from different perspectives, depending on the objectives countries wish to satisfy. One objective may be to measure labour inputs or resources used by holdings during the agricultural year in relation to the type, level and source of inputs contributing to the production, investment and maintenance activities of the holding. In this case, information on the number of persons employed by holdings on a regular as well as on a temporary basis during the reference period should be collected in a way which makes it possible to distinguish between workers on a full-time and part-time basis, as well as the use of seasonal and other short-term workers, the number of persons as well as the number of work days or months worked on the holding during the reference period. To make comparisons and analysis more complete results should be consistent with production-oriented statistics obtained from other inquiries.

3.2 To satisfy the objective listed above, the measurement of the population employed on the holding should be made in relation to a long reference period, in this case the agricultural year will provide a more stable measure of the level of labour inputs and help free the data of bias introduced by the timing of the census date itself. This long reference period, measuring status over the majority of weeks or days of the reference year, is relevant where economic activity is subject to significant seasonal variations which lead to different types of productive activity or to seasonal unemployment and work on agricultural holdings tends to be seasonal. This will mean that special attention should be given to minimising the problems related to recall errors and the capturing of secondary activities carried out by persons with reference to the whole year.

3.3 Another objective of collecting employment data in the agricultural census may be to obtain an up-to-date description of the labour market situation of all members of agricultural holdings, (household members and related workers). To this end, information should be collected on the economic activity status and related labour force characteristics of all persons associated with the holding. A measure of the current labour force, in relation to a short reference period such as one week preceding agricultural census day or one day, the census day itself, may be sufficient as opposed to the measurement of the usually active population over the year. Concentration on a short reference period may also enhance the agricultural census' capacity to capture information on activities which are not usually considered as production, such as land improvement or construction of farm structures or residential buildings etc. These may otherwise go undetected if activities are recorded with one year as the reference period.

3.4 To meet both objectives, information should apply to the economic activity (employment/unemployment) of members of the holder's household and other agricultural workers on the holding, where holdings are defined in the WCA 2000 (under Category 01,

para. 5.7) as economic units operated by an individual, by a household composed of two or more persons, two or more individuals of different households, two or more households, by a clan or tribe or cooperative", etc. Holdings run by corporations through a representative manager with a household should also be included appropriately.

**3.5** List of items which may be considered for inclusion in a census very much depends on the objective of data collection. A suggested list of proposed items under alternative objectives are given below with a view to illustrate how to design a census questionnaire

#### **Objective A: Estimation of Labour resources employed in Agricultural Sector**

**3.6** A Census of Agriculture can be used to estimate labour resources employed in the agricultural sector. When a census is conducted with this as one of the objectives, generally agricultural holding is taken as the unit for reporting with the agricultural year as the reference period. For such an inquiry, the following items may be considered:

##### **Group defining variables:**

Sex; Full/Part-time worker; Full/Part-year worker

Type of worker (occupation); Household/Non-household member

##### **Items (variables):**

- \* Number of men/women employed full year:
  - by: household/non-household member
  - by: full/part-time work
  - by: type of work (agricultural/non-agricultural)
- \* Number of men/women employed part-year and number of full-time equivalent working days:
  - by: type of activity (i.e. planting season, harvest season, other peak season, other activity)
  - by: household/non-household member
  - by: type of worker - occupation (i.e. professional and technical, general skilled, machine operators, unskilled).

(Asterisk '\*': See "essential items" in paragraph 5.2 at the beginning of Chapter 5 of WCA, 2000.)

**3.7** Full-year agricultural workers are persons of either sex whose services are utilized regularly and continuously during the reference period for agricultural work on the holding. In some countries the total time worked during the agricultural year (normally six months or more) is the distinguishing limit between full and part-year workers. However, full-year workers may actually work less than six months during the agricultural year, especially those who are engaged in crop production in countries with only one crop season. These workers may engage in other work on the holding particularly during periods when no significant agricultural work is undertaken. It is recommended that the minimum number of working

days or months of the year be determined in accordance with the agricultural and other relevant conditions in the country.

**3.8 Part-year** (seasonal and short-term) workers are persons of either sex working one or more times during the agricultural year who are not expected to work regularly or continuously on the holding. These workers may be identified under type of activity, by season or by reason for short-term work, such as planting season, harvesting season and other peak season work, or other short-term activity. The number of full-time equivalent work days could be computed for these workers so as to be able to classify holdings by full year, part year workers.

**3.9** In distinguishing between **type of worker, (skilled and unskilled)** occupational groups, it is realistic to reflect inequalities of economic development relating to the agricultural sector between countries and within regions of a country. Many occupations for a country or region with predominantly labour intensive, subsistence farming will be described as low or unskilled. Occupations in the agricultural sector countries/regions with predominantly high levels of automation and productivity, employing relatively few workers, will be mostly classified to the skilled group.

**3.10 Family workers**, very often women, who assist in family holdings performing work for the holding should be included among the enumerated *usually active population* and classified as "contributing family workers" holding self-employment jobs in market-oriented holdings (equivalent to establishments), operated by a related person living in the same household. Contributing family workers can be distinguished from partners of holders, according to the degree of commitment to the operation of the holding they have in terms of working time or other factors, to be determined by national circumstances, which is not a level comparable to that of the holders themselves. It is not sufficient to include such workers simply as members of the holder's household or holder's family, as is the practice in a number of Agricultural Censuses, because their contribution to the holding would then escape detection with the resultant undercounting of labour resources available to the sector.

#### **Objective B: Labour Market Description**

**3.11** For collection of data which describes the labour market, it is necessary to take households as reporting units and a short reference period like the census week or the day can provide required data. A reporting unit like a holding does not provide information on unemployed or inactive persons.

##### **Observed individual defining variables:**

Age; Sex; Activity status; Status in Employment; Occupation;  
Education Characteristics; Time worked on holding; Other jobs (other occupation, time worked, status in employment, industry)

##### **Derived items:**

- \* Number of persons employed on holding and total number of hours worked by: sex and age group

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by: status in employment  
 by: household/non-household members  
 by: occupation on holding  
 by: education characteristics

Number of persons unemployed

by: sex and age group  
 by: education characteristics

- \* Number of persons with other job(s) not on holding and number of hours worked in other job(s) in reference period
- by: sex and age group  
 by: status in employment in other job  
 by: occupation in other job  
 by: industry (ie. agriculture/non-agriculture)  
 by: education characteristics

(Asterisk '\*': See "essential items" in paragraph 5.2 at the beginning of Chapter 5 of WCA, 2000)

**3.12** The part of the Census of Agriculture questionnaire related to economic activity should obtain for each person in the household whether they were engaged in economic activity or not and record persons in only one activity status. Engagement in economic activity may be considered in terms of total length of time spent on such activities. It may be desirable to record "not in economic activity" for persons when their main activity is full-time studies or housekeeping etc. Household members should be asked if they did any work on the holding or outside the holding and relevant variables; if not employed whether they were unemployed, and what were their educational characteristics. The collection of information concerning unemployment on holdings may be used to compile data on the duration of and reasons for unemployment, main sources of livelihood if not from the agricultural sector, etc. In the case of holders of multiple jobs within and outside the holding, the information obtained on relevant descriptive items (variables) should relate to the job which is most important (principal activity) in terms of time worked. Data on employment of hired agricultural workers, other than the holder's household, provide the means for classifying holdings by number of hired agricultural workers.

**3.13** Cross-classification of the "status in employment" variable with the variable "number of persons employed on holdings" and "occupation on holding" (discussed below) may be of particular interest to provide information on structural changes in the agricultural sector as well as changes in patterns of employment (and unemployment) in predominantly rural areas.

#### **Age limits**

**3.14** An age limit should be fixed in accordance with the conditions in each country at or above which information on the activity status of persons on holdings is to be obtained. With respect to this minimum age, countries may consider it appropriate to apply the same age

limit regarding economic activity in their Census of Agriculture as the limit used for economic activity in their Population Census. Selection of this lower limit may be linked to the minimum school-leaving age or influenced by the fact that it may be customary for younger children to participate in agricultural work. Countries might therefore wish to set an even lower age limit to enhance knowledge of the labour resources furnished by children. The guiding principle in deciding on a minimum age limit should be that participation in economic activity takes precedence over non-economic activity. Although the international recommendations propose a minimum age limit of 15 years for general employment and unemployment statistics, some countries may consider a limit below 15 more suitable to their national circumstances. In this case it would be advantageous to plan tabulations which distinguish between children from the minimum age up to age 14 and young persons 15 and above, in order to facilitate international statistical comparisons. Where countries choose to set a minimum limit below ten years of age, separate tabulations for children under 10, for 10 to 14 and persons 15 and above, should be envisaged. A maximum age limit for measuring the activity status of persons on holdings is not recommended, particularly as an important number of elderly persons may still be engaged in agricultural activities on holdings on an occasional or permanent (part-year or full-year) basis.

#### Activity status

**3.15** According to specific priority rules embedded in the labour force framework, the population is divided into three basic, mutually exclusive categories: "employed", "unemployed" and "not in the labour force" (see Chapter II, para 2.3-2.10). The first rule is an *a priori* that persons be classified according to their activities (during a short reference period) where precedence is given to employment over unemployment and to unemployment over economic inactivity. Therefore, a person both working and seeking work is classified as employed, a student attending school and also seeking work is classified as unemployed. Similarly, persons receiving pensions consequent to retirement from one job but who are, at the same time, working at another job, should be considered as employed rather than economically inactive.

**3.16** **Status in Employment** refers to persons' status with reference to their employment, defined in terms of the economic risk and/or type of authority which their employment contract gives or subjects them to. It is recommended to collect information concerning status of employment for tabulations to be prepared according to the latest revision of the International Classification of Status in Employment (ICSE-93), adopted by the International Conference of Labour Statisticians of the ILO in 1993.

**3.17** The 1993 revision of ICSE made distinctions between groups clearer and expanded (amongst other things) the content of the group own-account workers to include persons working in family holdings (enterprises) with the same degree of commitment as the head of holding. These people, usually women, were considered "unpaid family workers" in the old ICSE. That group title was also changed to "contributing family workers" in the revised version.

**3.18 Employees** are individuals who work in "paid employment" jobs where the employment contract (explicit or implicit) gives them a basic remuneration, typically wages and salaries, but may be bonuses, or payment in kind such as food, housing, training or for example a part of the agricultural products produced by the holding. Regular employees are those with stable contracts, over a continuous time for whom the employer-holding is responsible for payment of taxes, social security, etc.

**3.19 Employers** work in "self-employment" jobs on their own economic account or with one or a few partners and engage person(s) as employees on a continuous basis (it is recommended to establish the same basis as for regular employees above).

**3.20 Own-account workers** also work in "self-employment" jobs on their own economic account or with one or a few partners, but do not engage employee(s) on a regular continuous basis.

**3.21 Members of producers' cooperatives** hold "self-employment" jobs in holdings operated on a cooperative basis where each member equally takes part in determining the organisation of production, sales and/or other work, investments and distribution of proceeds amongst members.

**3.22 Contributing family workers** hold self-employment jobs at holdings (or market-oriented establishments) operated by a related person living in the same household, but cannot be regarded as partners because of their degree of commitment to the operation of the holding, in terms of working time or other factors to be determined by national circumstances. In many agricultural areas, young persons may be "lent out" to work without pay in holdings operated by related persons but do not live in the same household. In such case that requirement may be disregarded. Family members, who belong to producers' cooperatives but whose economic activity consists only of cultivating privately owned plots or caring for privately owned livestock, should be included in this group and not as members of cooperatives.

**3.23** The extent to which family workers, **particularly women**, who assist in family holdings are included among the enumerated economically active population, varies considerably between countries. In many, relatively large numbers of women assisting on farms or family holdings without pay are only included as (unpaid) contributing family workers if they worked more than one-third of a normal work day.

**3.24 Workers not classifiable by status** are economically active persons for whom insufficient relevant information is available and/or who cannot be included in any of the 5 categories listed above.

**3.25 Occupation**, as defined in para 2.27, refers to the main type of tasks and duties (principal activities) performed during the reference period by persons in paid employment or self-employment jobs (or type of work done previously, if unemployed) combined with the skill level required to perform the job, regardless of where the work is performed (industry) or their status in employment.

3.26 In the context of the Census of Agriculture, where the main job performed by the majority of economically active persons is within the agricultural sector, the formulation of questions on occupations will allow for a classification of labour resources used by holdings, by type of worker, i.e. broad skill groups, or in the case of the household approach to describe the labour market, to show detailed occupations of all economically active household members.

3.27 To capture information on occupation, census questionnaires addressing the holding would need to include one question on kind of work done by each worker on the holding. A simple second probing question on main tasks and duties (principal activities) for questionnaires addressed to household members will enable accurate and sufficiently detailed coding of individuals' occupations, and the identification of 6 broad groups: managers, technical, general skilled, machine operators and unskilled workers (Appendix A). It is recommended that occupational groups be coded to the lowest classification level possible supported by the responses received, enabling countries which have chosen the labour market objective to prepare tabulations which provide information on agricultural occupations both relevant to local conditions and allowing for international comparisons.

3.28 Professional and technical skilled workers include, for example, agronomists and related professionals applying scientific knowledge relating to crop and animal husbandry, as well as technicians who perform tasks related to developing agricultural and farming applications.

3.29 General skilled workers are those whose "tasks require the knowledge and experience necessary to produce farm products", which can further be subdivided into unit groups relating to their type of activities and to the degree of market orientation. Machine operators are workers dealing with, for example, fertiliser or harvest processing machines. Unskilled workers are those whose "occupations require limited knowledge and experience necessary to perform mostly simple and routine tasks, involving use of hand-held tools, and in some cases considerable physical effort is also needed" (for example, digging, raking, pitching and stacking hay, watering plants or animals, weeding, planting, harvesting, etc.).

#### **Educational characteristics**

3.30 Countries may consider it important to make a distinction between literacy and educational attainment in determining which "education" variables should be collected and tabulated. Persons are literate if they can with understanding, both read and write a simple text. Illiterate persons, although they may be able to write certain memorised words or numbers such as their own name or address, cannot with understanding read or write a simple statement. Literacy, moreover, is not automatically linked to school attendance and illiteracy is not necessarily due to a total lack of schooling, especially in rural areas where acquired reading and writing skills, if not applied, may be lost over time. In the context of the holding, it may be sufficient to inquire whether the head of holding is literate or illiterate and not go into the detailed levels related to educational attainment. Where the emphasis is on households, fuller educational characteristics may be supported. Both variables are

important and can support different types of analysis which may lead to different decisions concerning educational policies, especially for rural, agricultural areas.

**3.31** In view of the operational difficulties to ascertain and verify literacy associated with persons' reluctance to admit to illiteracy or submit to literacy tests (a time-consuming exercise for a census), countries should define specific criteria and instructions for collection of literacy statistics using an agreed definition based on the elements mentioned above (see also the United Nations recommendations for the 2000 round of population and housing censuses). Questions on literacy, if collected, should be asked independently of questions on educational attainment or school attendance.

**3.32** With respect to educational attainment, countries may wish to apply (part of) their national classification of levels of education, in accordance with special conditions and/or requirements of the agricultural sector. Although to facilitate international comparison, countries would benefit from defining appropriate criteria for converting and tabulating national data according to the latest revision of the International Standard Classification of Education (ISCED) by UNESCO. Countries which have not developed a national classification of education may prefer to establish levels of education for data collection and tabulation based on the revised ISCED or a modified version to suit the objectives of the Agricultural Census.

**3.33** Educational characteristics may be classified according to literacy and to educational attainment as follows:

**Literacy:** (according to a specified definition)

- literate
- illiterate

**Educational attainment:** (refers to highest completed level of education)

- no schooling
- first level (primary schooling and literacy programmes)
- second level: (lower secondary schooling)
  - : (upper secondary schooling)
  - : agricultural vocational training
  - : other vocational training
- third level : university degree - may be split into (under graduate) and (post graduate)

**3.34** Age is the time interval between birth and the census date. It is useful to record age using the complete date of birth: day, month, year in order to prepare tabulations based on any relevant age definition. Alternatively record: year of birth only, which at least will facilitate analysis of cohorts. For a complete discussion of the intricacies associated with collecting information on age, see the United Nations recommendations for the 2000 round of population and housing censuses.



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### Short versus long reference period

**3.35** The advantage of a long reference period, such as the preceding 12 months, is that information on the main activity of each man or woman over the year as a whole can be obtained. The results therefore are not dependant on the date the Census of Agriculture is conducted and may be considered to represent a more stable measure of the economically active population in agricultural activities. This in turn provides a stronger basis for economic analysis, and development planning in the agricultural sector. It may be particularly relevant for agricultural production where economic activity is often subject to significant seasonal variations, leading to different types of productive activity or to seasonal unemployment (waiting for the harvest season). Most of the work on an agricultural holding tends to be seasonal with periods when work is intensive and others when it is almost non-existent and farmers may be idle as they wait for rain or other favorable conditions. Seasonal variations in employment and unemployment may be significant both in developing and in industrialized economies, but where regular monthly or quarterly surveys are infrequent or non-existent and the variations particularly important, then the census results will provide an important component of information, especially for regions and small groups, as well as a bench mark.

**3.36** The use of a long reference period, however, also means that special attention should be given when constructing the questionnaires to minimize the problems related to recall errors and to capture secondary activities carried out by persons with reference to the whole year, in particular activities within the production boundary but not commonly considered as representing employment.

**3.37** Accurate measurement of the usually active population through retrospective questions on employment and unemployment experience during the whole year may be subject to various types of recall errors due to memory lapses, omission of events, and misreporting of their timing or duration, and need to be limited to the extent possible. One simple method is to ask the head of the holding to assess the activity status of all holding members over the long reference period. A variant is to have the interviewer determine activity status for the holder (and members) based on the information obtained during the interview. Another recall means ("whole-year recall") is to have holders summarize in terms of number of days or weeks of economic activity over the year and then compute periods of employment and unemployment, with any period(s) of inactivity derived residually. The one year reference period can also be divided into shorter periods, such as crop seasons (winter and summer crop seasons), seasons (planting, harvesting or other) or 12 one-month periods, for which information according to all-season or part-season, and similarly all-month or part-month, activity is then recorded. Minimum cut off points can be established whereby, for example, a person on the holding could be considered as employed in a month if s/he had worked for at least 8 hours. "All-month" would be employed for at least 8 hours per week, otherwise the person would be considered employed "part-month". In general the recall process on holdings will be helped if important real events such as extra heavy or lack of rains, insect invasions, etc. can be established during the long reference period. The whole-year recall method should be sufficient and is a simple enough procedure relevant for the Census of Agriculture where measurement of economic activity is not a main topic.

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### Measuring economic activity, productive activities and gender issues

3.38 Certain kinds of household activities are considered within the production boundary when this type of production is quantitatively important in relation to the total supply of such goods in a country. Of particular relevance in the agricultural sector such activities may include: production of agricultural output for storage, or of other primary products such as cutting peat, supplying water, processing agricultural yields, production of pottery, tools, durables etc. Other activities such as the preparation and serving of meals for non-household members working on the holding are also considered as production. Domestic and personal services provided by unpaid holder's household members solely for own household consumption are, however, excluded from the *the United Nations System of National Accounts* (SNA) production boundary.

3.39 The ILO international definition of employment provides separate criteria for persons in paid employment and persons in self-employment in order to accommodate the idea that employment covers any work, be it for wage or salary, profit or family gain, including production for own consumption. Data on employment of hired agricultural workers, other than the holder's household, provide the means for classifying holdings by number of hired agricultural workers.

3.40 The common notion that women are engaged generally in homemaking duties and cultural perceptions relating to sex-roles can result in a serious omission with respect to measuring women's economic activity status. Reviews of different national population census and survey practices and experimental research have shown that the potential for women to be classified as homemakers rather than economically active is high. This may particularly arise in the Census of Agriculture where employment is not a main topic and only basic activity questions are asked. It is therefore fundamental that questionnaires be carefully worded and enumerators receive special training to detect or recognize activities of women on holdings as members or as holders.

3.41 The extent to which (household member) family workers, particularly women, who assist in family holdings are included among the enumerated usually active population will vary considerably between countries depending on how they are classified. The application of the concept of work for women can seem more ambiguous than for men due to the added difficulty of distinguishing between agricultural activities actually for the holding but which are undertaken by them in the household or housing unit and not on the farm. Relatively large numbers of women assisting on farms or family holdings without pay are only included in economic activity and classified as (unpaid) family workers if they fulfilled certain other criteria such as working for more than one-third of a normal work day. According to the International Classification of Status in Employment (ICSE-93), these "contributing family workers hold self-employment jobs in market-oriented establishments (i.e. holdings) operated by a related person living in the same household". It will be of importance concerning such family workers, especially in rural areas of developing countries, to be able to classify holdings according to whether agricultural production is mainly intended for the market (as the ICSE definition requires) or for the subsistence of the holder and family. Based on

Agricultural Census results in several countries, it has been found that subsistence holdings will more likely have a higher incidence of unpaid family workers. Similarly, the number of holders who are women (and should be recognised and classified as such) will likely be higher for subsistence holdings than for market-oriented holdings.

### **Time worked**

**3.42** Time worked is the total time actually spent on producing agricultural goods during the reference period (regular and overtime hours). Activities which while not leading directly to produced goods are defined as part of the tasks and duties of the job, such as time spent preparing the land, repairing or maintaining farms or tools, as well as the farm woman who prepares the meal for hired farm hands are to be included. Time worked should provide a measure of the full contribution of persons working during the reference period, separately by main job and time spent in other job(s) if possible. With a long reference period, time worked may be measured in units of months or weeks over the year or in terms of time-intervals (e.g., seasons rather than in terms of actual amount of time worked). This helps to ensure that women, for example, who enter into and out of the work force more often are adequately accounted for. If the reference period is short it may be measured in terms of hours.

**3.43** Information on the number of persons employed by holdings on a permanent as well as occasional basis during the reference period may be collected in a way which makes it possible to distinguish between full-time and part-time workers, the number of persons as well as the number of days, weeks or months worked on the holding during the reference period.

**3.44** Time-worked (i.e. the total time actually spent producing agricultural goods during the reference period - regular and overtime hours) on the holding may be broken down according to various criteria such as the workers' sex, type and/or place of work, etc. This information is particularly desirable for researchers conducting studies on the productivity of agricultural work.

**3.45** Since most agricultural workers do not work full-year and full-time during the year on the holding, there is no simple and immediate relationship to be established between the number of workers and the quantity of work they provide. The only reasonable assumption is that the actual quantity of agricultural work cannot exceed the quantity which would have been provided if all of the workers had been employed full-year and full-time in agricultural tasks. However, in view of the various possible arrangements for labour time-tables on the one hand, and the variety and seasonality of agricultural work on the other, the maximum potential quantity of work may be far from being attained and the differences quite significant, depending on local conditions.

### **Quantity of Work**

**3.46** Therefore the need exists for setting up methods and indicators aimed at properly observing and describing the quantity of work. Experience shows that the subject is rather

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intricate, with no simple and universally applicable solution. In fact the problem has many aspects. The first aspect is related to the existence of several **measuring units**:

1) The smallest usable unit is the **hour of work**. This unit is seldom used for measuring worktime in the agricultural census, except perhaps for occasional (part-year) workers. Hours of work serve to set thresholds or to determine the main job when more than one exists: see for example the USA case in Chapter IV where a day is said to be worked if it has more than 4 working hours. In some other countries, main activity is defined with reference to the activity occupying the maximum number of hours per day.

2) Another unit is the **day of work**, now often used to measure quantity of work of occasional (part-year) workers, since most of them are supposed to be hired for the whole day. In this regard, it is useful to note that the population of occasional workers is far from being homogeneous. The main distinction between such workers is skill based, with unskilled occasional (part-year) workers hired by holders on-the-fly for specific tasks such as harvesting when fruits mature or vegetables are ready for sale or shearing of sheep. Skilled part-year workers, sometimes very skilled, are called in to perform tasks often with sophisticated equipment, that nobody else could undertake on the holding in such an efficient manner. Typical examples are harvesting machine operators who, in a few hours, can carry out the work previously entrusted to an "army" of harvesters. Therefore, number of working days should not be aggregated without a preliminary weighting based on the qualification of workers (see also under computing part-time and part-year work, below).

Attention should also be paid to capturing information on workers who take work on a contract basis, negotiating with the holder the task rather than the quantity of work. In this case, they may only be traced through an analysis of expenditures which, even when undertaken, generally gives very little information on the time worked (see the USA example in Chapter IV).

3) Another unit is the **month of work**, which could be applied to full-year (permanent) workers or to members of the holder's household, although it may be somewhat difficult to harmonize with the rhythm of agricultural work.

4) The last unit is the **year of work** which, despite being obviously a simple period of 12 months, raises questions as to the starting (or final) day. Particularly in countries with a significant cycle of seasons, agriculture observers are used to linking their observation with the agricultural year, starting, for example, at a moment of low agricultural activity preceding land preparation. This notion generally does not fit with the calendar year. Therefore, the annual reference working period for a permanent worker can be one of the three following:

- 12 months preceding a D-day, usually the day of enumeration,
- the calendar year, or
- the agricultural year

and, of course, replies and the resulting classifications differ according to the chosen definition.

3.47 Counting the number of persons employed on holdings only will give a very approximate estimate of the volume of work performed. Although emphasis in the Census of Agriculture is the source of labour inputs rather than the volume of employment, inclusion of "time-worked" helps to ensure a more accurate measure of the full contribution of persons who were in and out of the work force or who contributed only for brief times during the reference period, which particularly affects the treatment of "female" sources of labour inputs in agriculture.

### Computing part-time and part-year work

3.48 The second aspect is related to the method for aggregating these various individual quantities of work. Quantitatively speaking, the problem is not simple. Bearing in mind that the quantities of work for the different types of workers and/or the different types of work can be recorded in different units, what can the aggregating unit be? For example, is it acceptable to say that two half-time workers would be equivalent to a full-time worker? In the same vein, can someone working 20 hours a week be considered as a half-time worker at any time of the agricultural year? Those questions are very difficult to answer and in fact very few countries strive to construct rules for aggregating quantities of work. One of the existing attempts has been made by the European Community (EU) which set up the annual work unit (AWU):

"the agricultural labour input of persons who do not have a full-time job is calculated as the quotient of the number of hours actually worked (per week or per year) and the number of hours actually worked (per week or per year) in a full-time job".<sup>6</sup>

3.49 Such a calculation provides a ratio for each worker, never higher than one as it is assumed that one person cannot represent more than one AWU. For comparison purposes, among countries or in chronological series, these ratios can be summed up on the total number of workers and serve as sound indicators for the time-worked.

### Difficulty in observing the Activity status

3.50 The part of the census questionnaire related to economic activity should obtain for each person in the household whether they were engaged in economic activity or not and record persons in only one activity status (see para 3.13).

3.51 Choice of whether to use days or weeks of activity during the long reference period can result in substantially different activity statuses. In countries where employment is largely of an irregular nature and a week of employment does not generally mean a week of full-time employment or employment for a major part of the working time, the main activity status might be better based on days of employment or unemployment. In countries where employment is mostly regular and of a continuing nature (full-time or major part of the

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<sup>6</sup> quoted from "Agricultural labour in the EU 1973-1995" Eurostat 5C, Chapter 1, para 2.1.4.

working time), activity status may be based on weeks of employment or unemployment. In many agricultural settings, however, memory recall concerning economic activity carried out over a long period may tend to be remembered in relation to major tasks accomplished or associated season (planting, weeding, harvesting etc.) with no precise knowledge of the exact duration. Enumerators may encounter difficulties in obtaining sufficiently detailed information to allow for the measurement of activity status according to number of days or weeks.

**3.52** Depending on how the employment questions of the census questionnaire are constructed, the determination of the economic activity status of persons may also be influenced by respondents' and enumerators subjective understanding of the notion of work and economic activity (as seen above). In any case when using the terms "main or principal activity" many holders will reply in a way which can mislead (for example that their wives are "mainly housewives") and this will tend to exclude activities of many "marginal" workers in agriculture such as women, youth, and the elderly. Questions and instructions should reflect the international recommendations which give priority to the classification as economically active where applicable, no matter how important other activities might be in the holder's opinion.

**3.53** In applying the definition of usually economically active, there are different enumeration procedures; one is to interpret the concept as the status that prevailed over most of the 52 weeks (or 365 days) of the reference year. Another is to set a specific number of weeks (or days) as the cut-off point and classify persons with at least that many weeks of economic activity as usually active. Choice of whether to use days or weeks of activity during the long reference period can result in substantially different activity statuses. Agricultural employment largely follows its own patterns but when compared to other sectors is of a more irregular nature. A week of employment does not necessarily mean a week of full-time employment or major part of working time. How to derive the main activity status might be better based on days of employment or unemployment. In countries where employment is mostly regular and of a continuing nature (full-time or major part of the working time) activity status may be based on weeks of employment or unemployment. These procedures are recommended for the 2000 round of the Population Census. In many agricultural settings, however, memory will tend to function in terms of major tasks and/or seasons (planting, weeding, harvesting etc.) and the enumerators will encounter difficulties in obtaining sufficiently detailed information to allow for the measurement of activity status according to days or weeks over the reference year. The cut off point may then be a number of weeks estimated from the approximate amount of time in weeks such types of seasonal work generally require under local conditions.

**3.54** It should be noted that if the subdivision as "usually employed" and "usually unemployed" is made among persons already determined to be "usually active", the resulting classification by usual activity status may be different from a classification directly by main activity status (that is distinguishing between "usually employed", "usually unemployed", and "usually not economically active" directly). It is recommended to construct the questionnaire in a way which will lead first to a distinction between the "usually active" and the "usually

inactive" persons, before distinguishing between the "usually employed" and the "usually unemployed".

**3.55** Capturing usual economic activity over the whole year is not a simple exercise as seen above. It would be difficult (if not impossible) through one question for holders to accurately identify all workers' activities over the whole reference period, hence the need to quantify answers in terms of time spent. A sequence of several questions would need first to ascertain activity within the past 12 months; then how many weeks (months, etc.) in total; if not working all weeks (months, etc.) of the 12 months, whether any household members were available for work; during how many weeks, etc. and finally when not working or available for work - doing what (inactivity reasons, see ILO Resolution in Chapter II).

#### **On- and off-farm work, agricultural and non-agricultural work**

**3.56** Very often in agricultural censuses (and surveys) it is difficult to clearly define activity, occupation and employment status of an individual person. To make the task easier it is suggested that the total activity of the individual may be cross-classified using activity classification on one side (agriculture and non-agricultural activity as per ISIC) and using occupational-cum-employment status criteria on the other side (called on/off farm work) as indicated in the following table. It should be feasible to correctly classify a worker depending upon quantum of work in one of the cells.

EXAMPLES OF WORK	Agricultural Activity	Non-Agricultural Activity
On-farm work (Employer, own-account workers etc.)	<b>This is the general case:</b> growing crops, raising livestock on parcels of the holding....	<ul style="list-style-type: none"> <li>- book-keeping, doing the farm accounts...</li> <li>- repairing fences, farm equipment, working on the buildings ...</li> <li>- housekeeping, cooking for the workers</li> </ul>
Off-farm work (Employees)	<ul style="list-style-type: none"> <li>- harvesting on the neighbor's field,</li> <li>- ploughing a collective parcel...</li> </ul>	<ul style="list-style-type: none"> <li>- selling farm products on the local market as trader</li> <li>- teaching at the local school,</li> <li>- working in municipality offices,</li> <li>- operating any kind of business other than agriculture such as industry, trade, tourism...</li> </ul>

**3.57** The general case: agricultural work conducted on the holding is the most frequent situation to be encountered during the census enumeration and the simplest to observe. The three other situations, in turn, deserve some development.

**3.58** Off-farm, agricultural work: happens mostly when holders exchange work reciprocally, help themselves or when they work on communal parcels or raise collective livestock. It may also occur when farmers are called to work on sites which are not usually agricultural, but where their equipment can be useful: mowing the football field, flowering the communal park.

**3.59** On farm, non-agricultural work: apart from the tasks that are unambiguously non-agricultural, such as accounting for example, this case raises the delicate issue of where to put the limit between what is agricultural and what is no longer agricultural in the continuum of actions taken on a farm. The question is not trivial and is materialized by the absence of a universally accepted definition of agricultural work. For instance, if holders repair the heating of their house, they are certainly engaged in work (productive activity for own consumption) which is non-agricultural; is it still non-agricultural if it is the heating of the green-house? If milking is undoubtedly agricultural work, is cleaning or maintaining the milking machine alike?

**3.60** Non-farm, non-agricultural work, except for the difficulty above discussed on how to recognize the agricultural and non-agricultural work, this case in itself is rather self-understandable. It mostly applies to the members of the holder's household that are externally engaged in businesses other than agricultural. At first glance, the interest in collecting such information through the Census of Agriculture is rather questionable. Nevertheless, the fact that some members of the holder's household may have an external business is very important to know, and if possible to quantify, in order to get some ideas on how the household income is created. Particularly, if the issue of the sustainability of agriculture is under discussion, since there probably exists an inverse relation between the sustainability of a holding and the share of external income entering into the holder's household. In effect, agricultural work is generally recognized as a very tiring and low profitable one and agricultural households sometimes try to move progressively out from agriculture by developing some off-farm non-agricultural activities often more profitable. Assessment on the share of off-farm non-agricultural work operated by members of agricultural households may sometimes serve as good predicting indicators on the sustainability of the agricultural sector in some regions or for some kind of productions.

### Questionnaire design

**3.61** Guidelines on questionnaire design issues often stress 'the shorter the better'. With long questionnaires, respondents tend to become fatigued. The census questionnaire generally does not lend itself to the presentation of a long series of questions on each topic.

Yet it would be one solution for collecting a comprehensive record of the situation of each worker related to the holding's agricultural activity. In a Census of Agriculture, question sequences concerning economic activity, if asked, may often follow after a long series of questions concerning other types of information. Question wording should therefore be simple. Sometimes a second short question adds to clarity. One should not confuse concepts with the questions themselves; for example respondent holders may not recognise that they are "economically active" although they will reply yes to whether they have worked, during a specific period of time which again actually refers to the "reference



period", a term they may not be familiar with either. There are also problems associated with identifying some types of employed people because many holders may relate the word "job" to wage employment only and not to farm work, or where even farm work, if not of the big, formal farm type is not considered to be real work. Use of a broad question addressed to holders about "any work at all" being done on the holding will be more useful to capture economic activity. The difficulty in perception is accentuated in the case of subsistence farming (for own consumption) especially carried out by women. Identification by enumerators of the correct holder - whether man or woman - to whom the questionnaire is to be addressed is extremely important.

**3.62** When designing the census questionnaire, a prerequisite to be taken into consideration before embarking on loading it with additional questions on economic activity is the availability of electronic software. Ideally the list of questions should be set in advance and pretested to observe the accuracy of measurement and the breadth of information (coverage of all important variables of items to be collected) enabled by the census questionnaire. One can readily imagine how complicated the questionnaires can become if collecting individual information. The result is that countries usually make a selection of simple questions, and thereby obtain only part of the information.

#### **Presentation of results**

**3.63** Assuming that information on economic activity, despite its difficulty to be observed, would nevertheless be collected globally, a subsequent difficulty is how to retrocede it in as many ways as expected by labour observers and labour policy makers. In effect, what is observed is related to a series of individual situations. But expectation of users are for aggregations. For example, researchers studying the labour productivity in agriculture, either in evolution or for spatial comparisons, usually ask for summing up the individual and weighted quantity of agricultural work, to serve as denominators in their study. This is one way of aggregating data. But policy makers interested in the implementation of professional training programmes would preferably focus on numbers of agricultural workers, of which full-time or part-time, those having their agricultural work as main activity or not, etc.

**3.64** Many kinds of labour aggregates can be derived from the collection of individual replies to potential series of questions, depending on the selected variables, concepts, classifications, etc. Of course, not all of them can be presented in census reports. Therefore, enlarging the scope of questions concerning employment or economic activity in the census questionnaire only makes sense if the software is simultaneously available to enable the rapid production from the census file of as many aggregations on labour as desirable.

**3.65** Experience shows that these two considerations, risk of overloading the census questionnaire with a long series of questions on economic activity, and availability and practicability of a software package to rapidly produce upon request various labour aggregates, have often led census takers to limit the quantity of information collected on employment through the Census of Agriculture. The issue is certainly better addressed

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through specific household labour force surveys conducted in many countries. Should detailed information on employment nevertheless be collected during the Census of Agriculture, statisticians could usefully refer to the above considerations and to the examples in Chapter IV extracted from the 1990-round of the World Census of Agriculture, before establishing priorities for their lists of questions.



- 
- the quantities of agricultural and non-agricultural work on the holding (both with reference to the above classification), and,
  - the number of other employers for which they may work.

For the occasional workers, the following classification of works is used:

- land preparation (ploughing...)
- crop monitoring (grafting, pruning, irrigation...),
- harvesting,
- wine-making, packaging...
- trade of agricultural products,
- processing of agricultural products and packaging and trading of transformed products,
- animal husbandry,
- mixed and other tasks,

and is expected to be reported, for each kind of work, the number of workers involved and the number of working days by sex.

4.5 The information collected within these three frames give full details on the number of workers by various kind of classifications but it also lends itself perfectly to producing many aggregates on the quantities of work dedicated to the main agricultural work. Many tables were available through the numerous publications and the French Census Agency was also able to produce tables upon request for specific aggregates. It is even worth noting that from this wide array of questions, France could produce tables using a EU-standardized labour aggregate, the annual work unit<sup>8</sup> (AWU), which can be calculated at various levels and specifically used for comparisons purposes. As a result, sound comparisons of productivity can be conducted among the EU countries.

## THE PHILIPPINES

4.6 The questionnaire for the Census of Agriculture in the Philippines (1991) shows another type of recording where the coding is directly made by the enumerator. In effect, for each member of the holder's household of more than 10 years, a line of data is filled, including the three replies to the following questions:

- Type of activity, to be filled with reference to the following nomenclature:
  - 1- Agricultural activity in own-holding
  - 2- Agricultural activity in other holding
  - 3- Non-agricultural activity
  - 4- No economic activity

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<sup>8</sup> Detail on the methodology for calculating the AWU could be found in "Agricultural labour input in the EU 1973-1995" EUROSTAT, 1997

- for those people classified in the first above category, a subsequent question for determining the agricultural activity with reference to the following nomenclature<sup>9</sup>:

- 1- land preparation
  - 2- planting/transplanting
  - 3- Cultivation/application of fertilizers, insecticides, pesticides and weedicides
  - 4- harvesting
  - 5- Processing/packaging
  - 6- marketing
  - 7- livestock/poultry raising
  - 8- other (to be specified)
- a final Yes/No question is for identifying which of the members are operator.

4.7 Although the questionnaire is a rather heavy one (8 pages with detailed analysis of crops at parcel level), no question addresses the possible employment of external workers (maybe because the practice of hiring external workers is rare in this country).

## POLAND

4.8 The Polish questionnaire (1996) provides an example of a very extensive collection of information on employment of the household members: not less than 10 questions are to be completed for each household member present, or absent for less than 12 months:

- 1- number of months worked on the farm in the last 12 months?
- 2- average number of hours worked each day on the farm in any of the four seasons?
- 3- type of work during a precise week (6 to 12 June 1996); the location (on farm or outside the farm) and the time-worked (full-time, main, part-time, no);
- 4- since January 1, 1990 has the household member lost a job due to layoffs or bankruptcy of a company? (yes, no)
- 5- in the last 3 months has the member looked for a job outside the farm? (yes, no)
- 6- would the member start working outside the farm within a month? (yes, no)
- 7- would any of the household members start working outside the farm? (to be answered by the farm operator for each member according to the following list of replies: yes-full-time, yes-part-time, no, don't know, the member does not work on the farm);
- 8- main source of income<sup>10</sup>, with reference to the following list of sources:
  - farm
  - wage-work on someone else's farm
  - wage-work outside agricultural sector
  - self-employed outside agricultural sector
  - old-age pension

<sup>9</sup> It is interesting to note that more than one activity could be reported on the spot, for example coding 1+4 for a worker involved in land preparation and harvesting. This might have rendered the processing and the tabulating of such an information somewhat complex.

<sup>10</sup> being defined as main refers to highest income

- 
- disability pension
  - annuity
  - unemployment benefits
  - other non-profit source
  - supported by someone else

9- additional source of income? with reference to the above list

10- is the number registered as unemployed in the regional labour office?

4.9 This long series of questions occupies almost a whole page of the questionnaire, enabling the direct record of responses for up to 7 members (an additional page is to be used if more than 7). Such a huge collection of information on employment is seldom encountered in a census questionnaire but is rather suitable for a labour survey. If reliable when collected in the framework of the census, this data would certainly lend itself to numerous detailed labour analysis. For example the on-farm labour force can be assessed in both definitions, usually and currently active, as long and short time reference periods are asked. Even some dynamic analysis of the labour situation of the household members can be undertaken as a result of the presence of questions on past events and future intentions, provided acceptable quality of the replies to questions deeply relying on respondent memory and honesty to declare their intention.

4.10 Unlike household members, collection of information for external workers is very limited as just one question is asked if any hired workers were employed on the farm during the year before the enumeration day. Responses are recorded in term of number of workers for the full-time workers and number of paid work days for the part-time workers. But perhaps local conditions are such that the use of external workers for agricultural work is not significant, therefore a few questions provide enough details in the census enumeration.

## THAILAND

4.11 The Thailand questionnaire (1993) proposes an example of a progressive method for discovering the activity status of each of the members of the holder's household. The presentation, although somewhat cumbersome, may have eased the enumerator's work as it is a succession of columns corresponding to a series of more and more selective questions; consequently, the member should fall in one and only one column, the last one at least. The series of questions is as follows:

- Is the member **only** engaged in agricultural work on the holding? If YES stop here with code=1;
- if no, if the member is engaged in agricultural work on the holding plus on other work, is the work on the holding **main**? code=2
- if no, if the member is engaged in agricultural work on the holding plus on other work, is he/she **mainly** working on other holdings? code=3
- if no, if the member is engaged in agricultural work on the holding plus on other works, is he/she **mainly** engaged in other works? code=4
- if no, is the member not engaged on the holding but mainly hired for agricultural works on other holdings? code=5

- 
- if no, is the member not engaged on the holding, but mainly engaged in other works? Code=6
  - if no, the member is not economically active, code=7.

Hence the set up of a classification in seven mutually exclusive posts, taking into consideration the place of work (on-farm, other holdings, other places) and the type of work, agricultural or not. Specific questions are also asked of external workers: number of permanent workers by sex as well as simply the presence (yes/no) of occasional workers.

## UNITED STATES

4.12 The US questionnaire (1987) has only two questions on the work of the operator defined as "the individual owner, the operator, the senior partner, or person in charge for the type of organization". They are quoted hereunder:

- "principal occupation of the operator: at which occupation did the operator spend the majority (50 percent or more) of his/her worktime in 1987? *For partnerships consider all members of the partnership together*"<sup>11</sup>
  - farming or ranching
  - Other
- "Off-farm work: how many days did the operator work at least 4 hours per day off this place in 1987? Include work at a non-farm job, business, or on someone else's farm for pay. Do not include exchange farmwork":
  - None
  - 1 to 49 days
  - 50 to 99 days
  - 100 to 149 days
  - 150 to 199 days
  - 200 days or more

4.13 Regarding the possible employment of other workers on the holding, this can only be assessed through the scrutiny of the expenses frame which has two specific lines:

- "hired farm and ranch labour": for declaration of gross salaries, wages, commission and related expenses,
- "contract labour": for cost of workers furnished on a contract basis.

However, these two lines bring only value information (US \$) without any consideration of type of work.

4.14 Thus, the US Census of Agriculture is mostly aimed at collecting information on the operator's work. Choice between agricultural and non-agricultural work is made according to the share of time worked, without any consideration of the total worktime, and off-farm

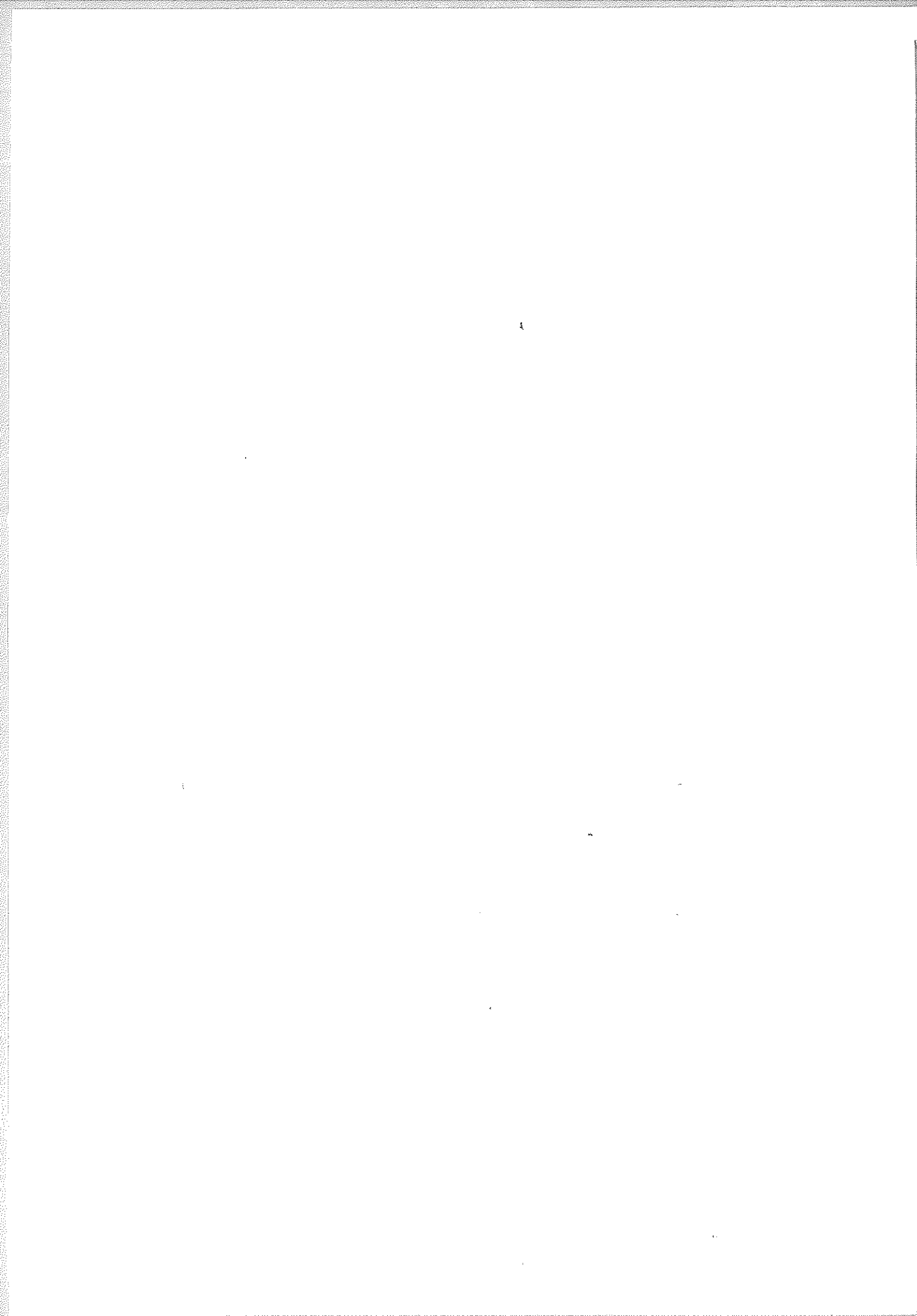
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<sup>11</sup> In the US, the questionnaire is mailed. This implies that it is self understandable, providing definitions and instructions for completion.

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work is as cumulated in number of days for which more than 4 hours are worked off-farm. Very few tables can be produced from this limited collection of information (in fact very few are presented in the reports). They can only give an idea on the number of operators involved on off-farm business with a very approximate assessment of the importance of their external activity, and of the total expenses occurring from the hiring of the external workers.





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**Appendix A**  
**International Standard Classification of Occupations**

Extract of some sample occupations related to Agriculture, from ISCO-88, ILO, Geneva 1990

**Broad Skill Groups**

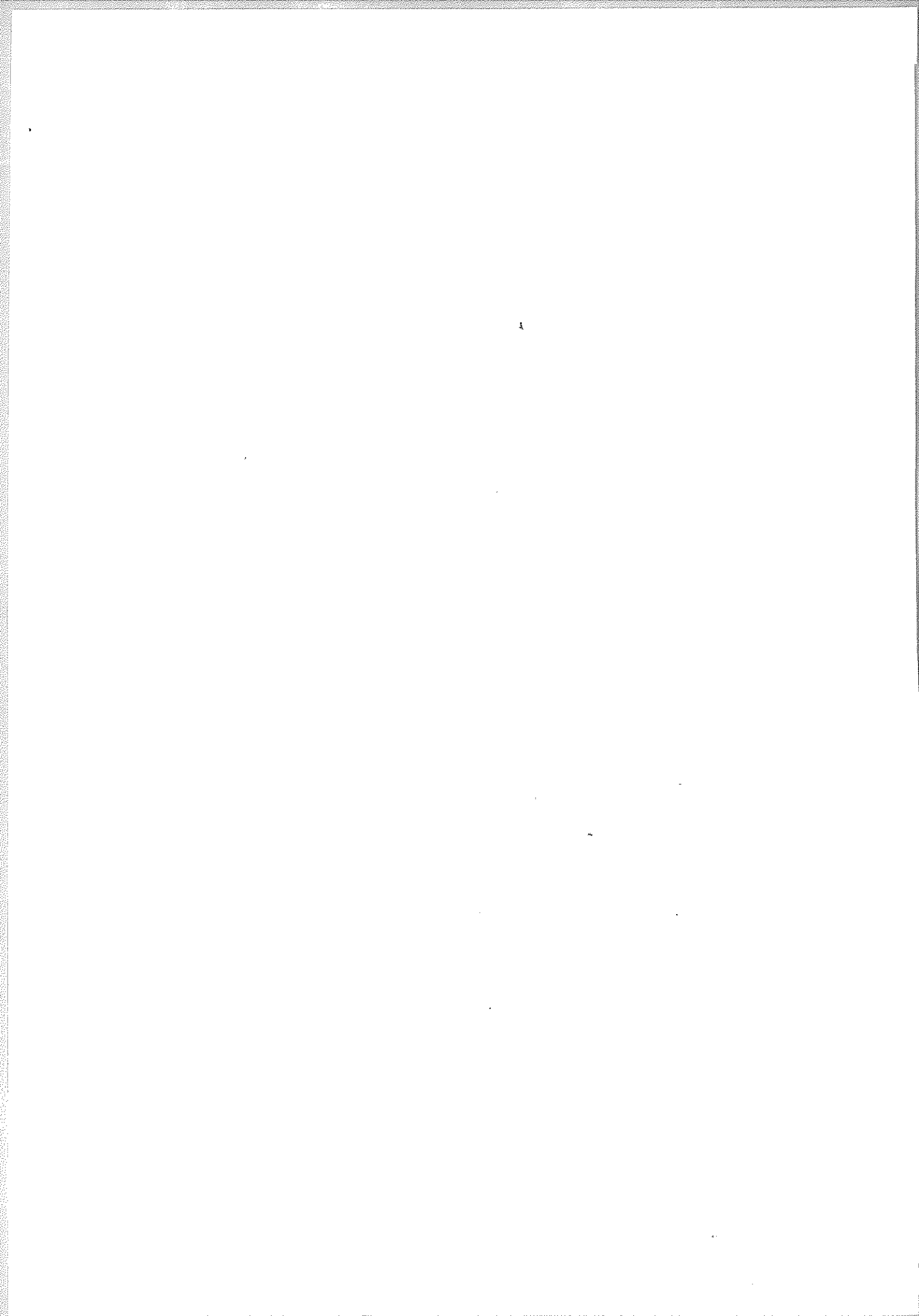
- (1) **Major Group 1: Legislators, senior officials and managers,**  
Unit Group 1311: General managers in agriculture, hunting, forestry and fishing
  
- (2) **Major Group 2: Professionals**  
Unit Group 2213: Agronomists and related professionals  
  
**Major Group 3: Technicians and associate professionals**  
Unit Group 3212: Agronomy and forestry technicians  
Unit Group 3213: Farming and forestry advisers
  
- (3) **Major Group 6: Skilled agricultural and fishery workers**  
Unit Group 6111: Field crop and vegetable growers  
Unit Group 6112: Tree and shrub crop growers
  - 6113: Gardeners, horticultural and nursery growers
  - 6114: Mixed-crop growers
  - 6121: Dairy and livestock producers
  - 6122: Poultry producers
  - 6123: Apiarists and sericulturists
  - 6124: Mixed-animal producers
  - 6129 Market-oriented animal producers and related workers not elsewhere classified
  - 6130: Market-oriented crop and animal producers
  - 6141 Forestry workers and loggers
  - 6142 Charcoal burners and related workers
  - 6151 Aquatic-life cultivation workers
  - 6152 Inland and coastal waters fishery/ workers
  - 6153 Deep-sea fishery workers
  - 6154 Hunters and trappers
  - 6210 Subsistence agricultural and fishery/ workers
  
- (4) **Major Group 8: Plant and machine operators and ssemblers**  
Unit Group 8331: Motorised farm and forestry plant operators
  
- (5) **Major Group 9: Elementary occupations**  
Unit Group 9211: Farm-hands and labourers
  
- (6) **Others**



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A census of agriculture is a large-scale periodic statistical operation for the collection of quantitative information on the structure of a nation's agricultural sector. A major component of this multifaceted economic sector is agricultural labour. *Guidelines on employment* is a supplement to the definitions, concepts and standards presented in the *Programme for the World Census of Agriculture 2000*, intended to help countries generate databases that are internationally comparable. The primary objective is to measure the amount of labour resources used on an agricultural holding and to define the type, level and source of inputs contributing to its agricultural production, its investments and its maintenance.

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