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# Measurement of Employment and Income in Rural Areas



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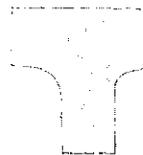
# Measurement of Employment and Income in Rural Areas



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## SUMMARY

Planners concerned with employment and living conditions and social scientists studying these matters in the Latin American countries have repeatedly expressed their dissatisfaction with the way in which rural employment and income have been measured in censuses and surveys. The purpose of this report is to identify the causes of this dissatisfaction. The statistical requirements arising from the analytical purposes for which the existing conceptual frameworks for the analysis of rural employment and income were constructed are contrasted with the measurements of these variables which are obtained through economic censuses, household surveys and economic surveys, as these are in practice the main sources of statistical information on these subjects in the region. To this end, the report discusses the adjustment of nominal and operational concepts and definitions, as well as of the techniques and data-collection tools most commonly used in investigating employment and income, to the analytical and policy purposes that provide the frameworks for such investigation. On that basis, suggestions are made and alternative procedures proposed for overcoming some of the most serious obstacles to the progress of research in this field.

The report consists of seven chapters and a statistical annex. In the first chapter, an analysis is made of the place which research on employment and income occupies within the context of the general concern of developing societies for achieving growth and equity. There is also a discussion of the major analytical purposes arising out of this general concern, i.e., the well-being of the population, the level and effectiveness of utilization of the labour force, the availability of labour, and the disequilibria of the labour markets. Since both the more general conceptual framework and the purposes which guide and give meaning to quantitative investigation in this field are equally pertinent to the

measurement of employment and income in urban as well as in rural areas, the distinction between the two is not taken into account in this first discussion. The second chapter, on the other hand, deals mainly with the specific aspects of the rural context, as well as with the unique features, in rural areas, of the problems of welfare, utilization, availability and labour markets. The third chapter is devoted to an analysis of the criteria used to identify the agricultural labour force, with special emphasis being placed on a discussion of the frontiers of production and the boundaries between economic activity and inactivity. The fourth chapter looks at the conventional classifications by kind of economic activity, by occupations and by occupational status, proposes some modifications to them and suggests additional classifications designed to provide a better description of agricultural work in Latin America which are significant in light of the discussions presented in the first chapters. The fifth chapter explains the concepts currently being used to measure the phenomena of underutilization of labour, reviews them taking into account the specific problems posed by their application to the study of employment in the agricultural sector, and proposes some new approaches to conceptualization in this field, emphasizing aspects pertaining to the availability of labour. Chapter six deals with the measurement of rural income, taking an approach whereby their investigation is integrated with that related with activities and employment. The conceptual framework to which measurements should refer is explained and the different forms of rural income and the problems posed in measuring them are analysed. Chapter seven considers the possibilities and limitations of various sources and suggests ways of linking them together and possibly integrating them, so as to overcome their individual limitations as regards the measurement and study of rural employment and income. In order to make this study more readable, the tables describing the main measurement practices in this field in Latin American countries during the 1970s have been included in an annex.

## PREFACE

This report is a revised version of a working paper prepared for the Regional Workshop on the Measurement of Rural Employment and income, held at Ixtapan de la Sal, Mexico, from 24 to 28 May 1982. This workshop was a follow-up on the Workshop on the Conceptualization of Rural Employment for Measurement Purposes, held at the same city in October 1981, which was organized by the Ministry for Labour and Social Welfare of Mexico (STPS) and the Regional Employment Programme for Latin America and the Caribbean (PREALC). At the 1981 workshop, the various theoretical frameworks for research on employment problems were examined, recent changes in the agrarian structure and employment were analysed, and the adjustment of the traditional conceptual framework to new measurement requirements was considered. The report of this first workshop provided the frame of reference for drafting the relevant parts of the document used as a working paper at the second workshop.

The Regional Workshop on the Measurement of Rural Employment and Income was organized jointly by the Economic Commission for Latin America, the Regional Employment Programme for Latin America and the Caribbean and the Employment Office of the Secretariat for Labour and Social Welfare of the Government of Mexico, with the co-operation of the Inter-American Statistical Institute (IASI).

The purpose of the workshop was to discuss concepts and definitions relating to the measurement of rural employment and income, appropriate research techniques and data collection tools, and common statistical practices in the region and, if possible, to draw up guidelines for adjusting these practices to analysis and policy-making requirements.

In order to achieve these objectives, the workshop brought together experts in household surveys, agricultural statistics and employment policy. The meeting encouraged a broad exchange of information, based on each expert's experience and approach to the problem of employment and

income in rural areas; there was also a lively discussion on how to adjust different definitions and investigation practices so as to accomplish the main purposes of the measurements. The substance of the conclusions and suggestions of the workshop for improving investigations in this field have been included in this report.

## I. THE CONCEPTUAL FRAMEWORK AND THE PURPOSES OF THE MEASUREMENT AND INVESTIGATION OF EMPLOYMENT AND INCOME

The measurement and investigation of employment and income must be set within a conceptual framework that is wide enough to allow for different theoretical schemes and to bring out the interrelations between the different analytical and policy purposes which may be served by such measurements. In this chapter, an effort is made to describe such a framework and to explain those purposes in a general way that is applicable in both rural and urban contexts. In later chapters, an effort is made to describe the particular shape this framework takes in the investigation of rural employment and income, with special emphasis being placed on the heterogeneity of rural situations and the imperfections which characterize rural markets.

### A. THE BROADER CONCEPTUAL FRAMEWORK: GROWTH AND EQUITY

There are two facets to the central question of raising the standard of living of developing societies: growth and equity. The level, structure and potential for growth of the available goods and services determine the material base of the well-being of the population. The distribution of satisfactors among different groups of the population establishes the absolute and relative dimensions of the well-being enjoyed by each group. Because of its double role as a factor of production and a determinant of well-being, employment and the income it produces are central to the relationship between growth and equity.

### B. EMPLOYMENT AS AN INPUT OF PRODUCTION

From the standpoint of production, employment reflects the insertion of one of the primary factors -labour- in the productive process and the income it generates reflects the

flow of compensation for that participation.

The various production models provide analytical frameworks for this approach to employment and labour income to the extent that they link levels of production with the derived demand for factors of production, including labour, de- through production functions which incorporate technology and the prices of goods produced, of inputs and of factors. The analysis of employment from this standpoint is enriched to the extent that the model takes explicitly into account in its production functions the requirements of different kinds of work, distinguishing between occupations -and even tasks- which call for different abilities, skills or training or which must be carried out under different employment patterns: temporary or permanent, full-time or part-time, etc.

One conceptual aspect that is important in studying the relationship between the demand for labour originating in production and the supply of labour by households, as well as for establishing a relationship between the goods produced and the employment and income generated in their production, is precisely the question of the frontier of production. In national accounting, the production of goods and services is conventionally limited to economic objects which can be traded on a market, although in fact they may be retained or consumed by the producer himself. In order to achieve greater international -and inter-temporal-comparability, the prevailing criterion in national accounting also includes own-account production similar to that which in the industrialized countries is performed for the market by specialized producers. Consequently, this conventional frontier of production includes not only goods and services produced for sale, but also the part of such goods that is retained for consumption by the producer's household, primary production and processing of primary commodities for own-account consumption, construction of fixed capital goods (e.g. buildings, improvements, plantations) to be used by the producer himself, the accumulation of unsold inventory and services of owner-occupied dwellings. Also included, even when they are not traded on a market, are services provided by governmental agencies. To these productions that are not traded on the market and, consequently, do not show a realized value some value must be imputed in order that they may be included as measured production in national accounts.

But even so, the existence of a conventional frontier

of production means that the measurements of production in national accounts cover only a part -the most significant part, at the global level- of the output of human labour leaving beyond the frontier of production that which does not have a market outside the household, is not considered subsistence production or has no institutionalized collective demand. This does not mean that a normative judgement is being made regarding the usefulness of the activities in question; it merely means that a instrumental rule is given for measuring productive activity. This rule, however, limits the usefulness of production measures to ascertain well-being, particularly in social contexts with a relatively lower degree of differentiation, such as the rural ones. This in turn makes it essential that the analysis of well-being include activities which, as is the case with domestic tasks, are outside the conventional frontier of production but do give rise to satisfactors.

### C. EMPLOYMENT AS A MEANS OF LIVELIHOOD

From the standpoint of well-being, employment is, by virtue of the income it generates, one of the means available to households to obtain their livelihood; in turn, the strategy they follow to satisfy their needs determines how much labour they supply to the productive system. Consequently, the proper conceptual framework for this approach to the analysis of employment and income would be an integrated model of the consumption and employment behaviour of the household and its members. The basic premise is that well-being depends on goods, leisure and access to public services, as well as on the size and composition of the household. The goods the household acquires for present consumption, the goods or titles of ownership it acquires as an accumulation of wealth to increase its future purchasing power, the free public services to which it has access and the range of activities it is able to carry out in its free time all constitute the various classes of satisfactors which, taken, together, determine the well-being of the household and, in the final analysis, the satisfaction of its members' needs.

This satisfaction of needs and any pleasure or usefulness to which it gives rise is experienced fundamentally, at the individual level. Consequently, the extent to which the whole set of satisfactors available to the household is

translated into individual well-being depends not only on the environmental factors that affect all members of the household but also on the physiological and cultural characteristics associated with the age and sex of each member. Hence, in measuring well-being, it is important to establish the relationship between the whole set of available satisfactors and the size and composition of the household.

To obtain the satisfactors that determine its well-being, the household has a base of resources and opportunities that consists of its net worth -the sum of its real and financial assets less its liabilities-, the endowment of time and skills of each of its members and the whole set of rights, privileges and circumstances which determine each member's access to public services, to various kinds of transfer income, to the labour market or to ownership of a unit of production having the capacity to generate quasi-rent. Land plays a key role in the establishment of the resource and opportunities base of agricultural households, which either own land or have opportunities to use it under other forms of tenancy or collective use.

The allocation of the time-skills complex among different activities is necessarily made at the individual level, in the context, however, of the household's base of resources and opportunities and through an interactive decision-making process. This process makes it possible to determine how much time each member devotes to activities for which he or she receives compensation or benefits; how much time to activities which contribute to domestic production; how much to domestic tasks which are in themselves satisfactors contributing to the well-being of the household; how much to community work aimed at increasing the household's opportunities or improving the physical or social environment which condition its well-being; how much to instruction -either on-the-job training or studies with various occupational horizons- as a means of increasing skills and thus expanding the future resource base; and, finally how much of his waking time each member of the household devotes to those activities considered as "leisure", i.e., those which directly satisfy psychosomatic, interpersonal or social needs.<sup>1/</sup> Thus, some of the activities are aimed at obtaining current monetary income which, from the standpoint of well-being, constitutes the purchasing power of the household; others, at directly obtaining satisfactors, in the form of either goods or

self-produced services; others, such as instruction, at expanding the resource base; and, finally, others are aimed at the direct satisfaction of needs.<sup>2/</sup>

The range of activities which people carry out in return for an income are usually linked with the production of goods and services. As has been mentioned before, this is conventionally limited to the processes aimed at obtaining economic objects to be traded on a market -or which could be so traded- and to government services.

These productive processes call for work of different types or requiring different skills -among other factors of production- which, when applied to production, are remunerated by means of contractual payments in money or in kind or by the appropriation of residual values of the productive process after costs are covered, as in the case of income obtained from the own business or from own-account work.

For this reason, those activities which are performed by individuals and which result in the production of goods and services are the ones which, also conventionally, are considered to be productive work and which, generally, involve earning an income. This income may consist of compensation in the form of money or of goods and services (compensation in kind), for employee work performed in production units belonging to others, or it may consist of benefits or profits obtained from the own production unit or independent work. But there is also work which, although resulting in the production of goods and services, is not explicitly remunerated: that which applies to production for self-consumption, that performed by members of the household of a producer in tasks required for production in the family production unit, or that performed by one household for another household in exchange for an equivalent service. Part of the value of such productions must be imputed as compensation for work performed, in recognition of the value of goods obtained directly without exchanging work for monetary income and applying the purchasing power therefrom to the acquisition of goods.

Income resulting from the application of time and skills to productive work is not the only kind of income a household may receive. In addition to the capital which is utilized in combination with work in its own business, giving rise to entrepreneurial or mixed incomes, its base of resources and opportunities may also include property consisting of real or financial assets provided to other economic agents, giving

rise to property income. In addition, the household as such, or some of its members, may be entitled to receive monetary income from the public social security or social welfare systems. The household may also receive, by virtue of a legal entitlement or of customs governing informal social relations, income or goods from other households for which no goods or services are provided in return (subsistence grants, gifts, non-reimbursable "loans", etc.). Finally, it may be entitled to, and actually have access to, free or nearly free public goods and services. Although this may constitute direct access to satisfactors, for some purposes it may be advisable to impute the value of those services as income.

Ideally, in allocating its income to savings and to the purchase of each consumer good, a household will take into account the expected return of the assets in which it places its savings and the prices of consumer goods, with a view to the utility it can expect to obtain by applying these goods to the satisfaction of its various present and future needs.

This circuit of decisions regarding the utilization of income is closely related with the allocation of time among different activities, which in turn depends on the wage rate each kind of labour available in the household can obtain in the labour market, on the expected profits of the own domestic production unit (taking into account the prices of products and of inputs), the opportunity cost of domestic chores, the expected utility of goods or services produced by the household for self-consumption, the opportunities for access to education, the cost of education and the expected income to be derived in the future from it, and, finally, the expected satisfaction or utility of both "leisure" activities, the different job choices, domestic chores or study.

In the context of the household, the two circuits converge in a decision-making process which determines its livelihood strategy. The results of this process can be analysed, in simplified forms, either in terms of the choice between leisure/work for the market/work for the domestic enterprise/domestic chores/education, or of the choice between leisure/consumer goods/expansion of the resource base. The first scheme of household livelihood, choices represents an abstraction of the options which determine its supply of labour; the second, of those which determine its well-being. In any event, one may assume that in taking these decisions, the household seeks optimization; i.e., it seeks to maximize the

the total utility to be obtained satisfying each group of needs of its members, subject, however, to the budgetary retrictions imposed by the size of its resource base.

#### D. EMPLOYMENT AS A COMPONENT OF LEVELS OF LIVING

The above considerations clearly show the role that employment and income from work play in determining levels of living; they are the means by which households can use their resource base to obtain satisfactors. In addition, however, employment and working conditions are a component of a household's level of living to the extent that, above and beyond the livelihood they provide, they can directly satisfy certain needs pertaining to social recognition, creativity and self-esteem. In this dimension, work no longer acts as a means for obtaining satisfactors but as a satisfactor itself. As with other human activities, work in a productive job has a component of creativity which contributes to self-esteem. Contrary to other creative activities, however (for example, domestic chores or "creative leisure") it also gives rise, in modern society, to social recognition, which in turn satisfies a need and also contributes to self-esteem. Moreover, working conditions also contain elements which, beyond the purchasing power of wages, satisfy specific needs, particularly those pertaining to security vis-à-vis any psychophysical risks involved in the job and to the stability of employment.

For purposes of measurement, therefore, when levels of living are conceptualized in terms of groups of needs that constitute aspects of a household's overall situation (i.e., components of its level of living), employment and working conditions are usually included as one of those aspects or components, along with health, nutrition, shelter, clothing, education, social protection and security, recreation, relationship with the physical and social environment, participation, and human liberties. For the same reason, the investigation of employment and working conditions should, insofar as possible, deal with the interrelations between these elements and the other groups of needs, given the multivariate structure of levels of living, not only at the conceptual level but also, and especially in the dynamic processes with which social policy is concerned.

Investigation of employment and levels of living should also deal with the interrelations between work as a factor of

production -and, hence, employment as a means of obtaining income or goods- and the satisfaction of the needs encompassed in the other components of levels of living.

The links between employment, on the one hand, and nutrition and health, on the other, are particularly important because of the influence of the latter on productivity.<sup>3/</sup> The close relationship between employment and education, in the context of livelihood strategies, although different in nature is no less important. Moreover, the relationship between employment and the non-material components of levels of living -in particular, participation- is obvious and should not be obscured by the difficulty of analysing these dimensions of levels of living.

#### E. EMPLOYMENT AS A CONTRACT: THE LABOUR MARKET

The demand for labour as an input of production and the supply of labour arising from the desire to obtain well-being usually materialize in a process of reciprocal search and interaction. Thus, a labour market is created when -as is most often the case- those who control the availability of the labour factor are not the same as those who control the other means of production. This process, through which working conditions -including wages- are established and through which those who require labour induce the units (individuals, households, communities, unions, etc.) which control the labour supply to provide it for production may be conceptualized as a contract. In this broad sense, any job in which labour is exchanged for some other benefit has a contractual aspect that is more or less explicit and formal.

The labour market is made up of all those norms, habits and customs -explicit or implicit- which govern the relation between those who supply labour and those who require it. Beyond the factors which determine the supply of and the demand for labour -including the labour market itself, in terms of opportunities- the analysis of the labour market is centered on the equilibrium or disequilibrium of supply and demand, the factors which condition it, the existence of different markets subject to different rules and the corresponding wage-fixing mechanisms, the factors which encourage or discourage this differentiation, and the existence of segmentation as well as the factors determining it.

The employment of persons working in their own production unit or on their own account is not of course contractual in nature, even in this broad sense. However, each person's assessment of the opportunities that the labour market would offer him if he were a supplier or user of labour unquestionably plays a major role in his decision to apply his working capacity to his own production. Persons who sell services on their own account, on the other hand, transfer the contractual process to the market for those services; from the standpoint of the labour market, the demand for those services is not exercised, in this market, by productive units but directly by the consumption units.

#### F. ANALYTICAL PURPOSES UNDERLYING THE MEASUREMENT AND STUDY OF EMPLOYMENT AND INCOME

In very schematic terms, one might say that the concern with the problems of employment—as regards both growth and equity—and the different analytical purposes to which these concerns give rise, are mainly based on the four basic aspects of employment: its contribution to production, by virtue of which it is a factor of production; its capacity for generating income, which makes it one of the factors that determine a household's welfare and hence the availability of labour for productive work; its value as a factor of recognition and creativity, which makes it a component of levels of living; and its contractual nature, in the broad sense, as regards interactions in the labour market.

These basic aspects of employment give rise, as has already been mentioned, to different analytical frameworks representing different approaches that may be taken to the analysis of given employment situation, i.e., one may study the demand for labour, the supply of labour, the operation of the labour market and the implications of this situation for well-being. Employment—and the income it generates—is measured, however, by observing situations of equilibrium rather than the range of alternatives which define the functions of demand for and supply of labour. For that very reason, those measures serve multiple purposes; but how to interpret them, the conceptual framework used for the measurements and the ramifications to be studied departing from them will depend on the prevailing analytical purpose.

When employment is measured for the purpose of analysing the utilization of the labour force, a comparison must be made between the supply of labour and its utilization in productive

activities; it is important to identify situations where the available labour force is not utilized in a fully productive fashion by the economic system and to find out what factors determine such situations. Therefore, when the prevailing purpose for the measurement is the utilization of the labour force, attention is focused on employment as an input of production and on the factors which determine the demand for labour on the part of the production units. These factors determining the utilization of the labour force include: the technological and organizational conditions of production, the degree to which they react to changes in the market for goods and services and to the variations in availability and cost of the factors of production, as well as their efficiency as regards the utilization of labour and of the other factors of production within each establishment. At the aggregate level, the demand for labour and, consequently, the degree of utilization of the labour force, are determined by the productive structure of the economy; its endowment of natural resources, capital and technology; the technological and productive heterogeneity of the economy; the composition of the aggregate demand for goods and services; the degree of external openness and the mechanisms of external dependency: in brief, all those features of a country's style of development that determine the structure of production.

The measurement of employment as a generator of income serves two interrelated though different analytical purposes: the study of well-being and the study of the availability of labour. As mentioned before, participation in productive employment is an element of a household's livelihood strategy aimed at maximizing its well-being. At the same time, however, the framework of motivations and decisions within which the household participates in income-generating production determines the availability of labour.

When the purpose is to study the availability of labour, it is important to look at those factors which determine the supply of labour, which in turn are determined by the livelihood strategy. In the broader sense, this means all those factors which are involved in and condition the choices a household makes with regard to what proportion of their time and skills its members will devote to working for the market, to working for the domestic enterprise, to domestic chores, to community work, to education or to leisure. Consequently, the factors that determine the supply of labour on the labour

market include, as mentioned above, not only the availability of time and skills but also the opportunities offered by the market -in terms not only of wages but also of working conditions and stability of employment-, the alternatives for obtaining income or satisfying needs more directly with the other components of the household's resource and opportunities base and the future well-being it expects from formal education. At the same time, the choices underlying a person's willingness to offer his work on the labour market are also determined by the components of prestige and social esteem involved in such alternatives. It is particularly important to bear all these categories of factors in mind, in the context of the household, in order to understand its willingness to participate in the labour market vis-à-vis the alternatives of working in its own unit of production -to obtain income or goods for its own consumption- or to perform domestic chores. At the aggregate level, the availability of labour must be viewed within the context of demographic processes which determine the size of the population of active ages, the patterns of migration, and the coverage and orientation of the educational system, as well as in the context of how the different roles are defined in the system of values.

When employment and the income it generates are measured for the purpose of studying the well-being of households, it is necessary to look at the results of employment as a means of satisfying needs, its role in the household's overall livelihood strategy and its relation to the factors which determine that strategy. Hence, this type of analysis is the counterpart to the analysis of availability, insofar as it is aimed at quantifying the levels of well-being made possible by the choices that make up the household's livelihood strategy and evaluating the extent to which different kinds of productive employment and other alternatives contribute to those levels of well-being. Ideally, such an analysis should cover not only income and goods obtained from employment and from other sources in the household's resource base, but also the non-material components of its level of living, including those pertaining to employment.

The study of employment for the purpose of analysing labour markets is focused on the mechanisms of the labour market which determine the equilibrium or disequilibrium between the demand for and the supply of labour. From that perspective, such situations should be related to

existence or absence of institutionalized labour markets and the rules governing their operation, of institutions involved in negotiations and of mechanisms for channelling information on available labour and job descriptions.

Finally, in addition to serve for analyzing the utilization of the labour force and of well-being, the approach focusing on the structure of employment and wages, at the aggregate level, can provide elements for the quantification of social classes and of their changes to the extent that occupational and income stratification are basic dimensions of social stratification which, in turn, is a determining factor in the formation and evolution of social classes.

## 6. UNITS OF ANALYSIS

Aggregate measurements of employment designed to serve several purposes are, of course, made in terms of a common unit: the number of active or employed persons. Strictly speaking, however, different units of analysis are pertinent to the study of employment depending on what purpose is pursued.

The utilization of labour in the various productive processes is the result of the demand for different kinds of labour that originates in those processes; essentially, there is a demand for labour time in respect of each task or class of work to which certain skills, meeting certain standards of efficiency, are applied. But since time and skills represent the potential capacity of individuals -who, from this standpoint, are "bearers" of labour- the demand for labour is translated in terms of a number of jobs or occupations for each class of labour, either full time or part time. In order to reduce these vectors of demand for labour to contingents of individuals employed in production, it is necessary not only to consider the time devoted to the job but also to combine -ideally, to weight according to relative productivity- individuals performing different kinds of work (at a certain level of aggregation, different occupations) who, even when performing the same kind of work, have different skills or training -which determine the "quality" of work- usually associated with their personal characteristics (education, training, experience, sex, age, intellectual abilities, etc.).

However, in order to analyse the utilization of the labour force, it is necessary to consider the conditions under which the demand for labour is generated in the productive processes taking place in production units or establishments.

Consequently, jobs or occupations, which constitute the most pertinent unit of analysis for this purpose, must be considered within the context of productive processes (production functions) and establishments, which thus become contextual units of analysis and hence units of observation for purposes of measuring the demand for labour and the utilization of the labour force. Moreover, in order to conduct such an analysis at the aggregate level and to integrate it into a broader macroeconomic framework, linking it with the other general aspects of the style of development, it is necessary to ensure that the measurements and classifications of employment are consistent with the measurements and classifications used in the national accounts estimates, in which the establishment is the unit of classification and the unit of observation for purposes of measuring production, income originating in production, inputs, employment and accumulation.

The supply of labour may also be conceptualized in terms of time and skills translated as standard occupations in various alternative classes of labour. However, it is people who have time and possess skills. Hence, the pertinent unit of analysis for investigating the availability of labour is the individual. In order to study or make an aggregate measurement of an individual's potential labour, it is important to consider not only the factors conditioning that person's willingness or unwillingness to participate in different ways in production, but also the factors conditioning his dedication and those determining the potential quality or efficiency of his work, which are associated with his personal characteristics and with the degree to which he is able or unable to meet his basic material needs: education, training, experience, sex, age, intellectual ability, health, nutrition, etc. But decisions regarding the allocation of resources and of roles which condition an individual's participation in productive activities are made within the household which therefore constitutes the contextual unit for studying availability. Although the individual is the pertinent unit for measuring availability, the study of the factors determining such availability and of his characteristics must be carried out at the household level, inasmuch as it is in this unit that livelihood strategies are articulated which will give rise to the actual and potential availability of labour and where most

of the factors determining the quality of available labour materialize.

In order to study well-being, it is necessary to consider, the characteristics and behaviour of households. In order to make a complete study, it is also necessary to examine the situation of individual members of the household who take part in or are affected by the household's decisions on the allocation of satisfactors among its members. Although it is the individual who satisfies needs, it is the household that articulates livelihood strategies and allocates the factors which determine well-being. Hence, the most pertinent unit for studying and measuring well-being is the household.

In the study of labour markets, jobs are the elementary units of analysis with respect to which one may analyse the contractual relations governing them. In this regard, measurements and classifications of employment in terms of individuals participating in productive activities through the labour market provide information on the jobs they hold. In the last analysis, moreover, such a study must be made in the context of the agents (enterprises, unions, associations, official regulatory agencies, households) which take part in the contractual process.

As will be seen, a household's livelihood strategy plays a key role in both the analysis of availability and the analysis of well-being and, for the same reason, provides the bases for linking the two types of analysis in research. The linkage between these analytical purposes and that of utilization should be made, however, in terms of individuals, the common base for measurements of employment. There are conceptual difficulties in transferring to that common base those analyses and measurements which have been in terms of the units that are pertinent for each purpose: occupations or jobs, for studies of utilization; persons, for studies of availability, and households, for studies of well-being.

#### H. PURPOSES PERTAINING TO ECONOMIC AND SOCIAL POLICY

In the above discussion, aimed at giving greater conceptual clarity to the treatment of the problems involved in the study and measurement of employment and income, the various concerns on the subject are grouped according to four basic analytical purposes reflecting different approaches, each of which can be based on a discernible theoretical apparatus. This, however, should not prevent us from

recognizing that when concerns regarding employment and income materialize at the policy level, they are more specific and may require that quantitative investigation focuses on several of the basic analytical purposes.

The purposes which policy concerns may impose on measurement are therefore more of an instrumental nature and are related to the needs of planning and policy design; hence, the demands in respect of employment and income measurement are specific ones.

One such purpose is to identify target groups for purposes of public policy, where there is a concentration of the problems to the solution of which great priority is attached (poverty, underemployment, etc.) and which might respond more or less homogeneously to specific policy measures.

Likewise, the very definition and design of policies may call for measurements to be made that will satisfy such purposes, characteristics of which will vary depending on whether the policies are mainly defined in terms of their objectives, the instruments to be used or the areas in which they are to be applied.

As regards the terms in which the solution of problems and the policies conceived for that end are proposed, a distinction may be made, typically, between measurements of the structure of employment, where changes take place over the medium- or long-term, and measurements of the short-term trend of the flows of contingents and of income.

In particular, measurements of employment and of primary incomes provide useful indicators of the conjunctural behaviour of economic activity.

On another scale, it may be useful to analyse the livelihood strategies on which studies of availability and well-being are based, as the strategies themselves may serve as a framework for designing social or economic policies affecting households.

## II. WORK PROCESSES, EMPLOYMENT AND SOCIAL RELATIONS PERTAINING TO PRODUCTION IN LATIN AMERICAN AGRICULTURE

### A. INTRODUCTION

The measurement of employment in accordance with the four analytical purposes described in the previous chapter presents certain special difficulties in the case of agricultural employment. The purpose of this chapter is to discuss those factors which make agricultural employment unique and which make it essential, for purposes of measurement, to consider certain aspects that are not contemplated in existing practice. A review is first made of the central characteristics of the work process in agricultural production which give rise to the special difficulties involved in measuring employment in agriculture. Some considerations are then put forth with respect to the agricultural modernization process which has taken place in Latin America and the resulting social relations of production are discussed.

### B. CHARACTERISTICS OF THE WORK PROCESS IN AGRICULTURAL PRODUCTION

Unlike other productive activities, agricultural activity is subject to the biological cycle; it is therefore important to consider certain characteristics of the work process involved. Indeed, once production is begun, with the planting process, there is a certain inflexibility as to the times when the remaining tasks, culminating with the harvest, can be carried out. The total duration of the cycle can be controlled up to a certain point through technology, but this is not the case with the series of tasks that must be performed between the beginning and the end of production. In other words, there are certain basic tasks which must be carried out according to a set schedule. Parallel to these central tasks are certain additional ones which vary, to a large extent because of weather conditions. If there is too

much rain, certain tasks must be performed which are not necessary during dry spells; hence, the tasks involved in agricultural production are not performed in order as a series. Nor are they homogeneous, since different tasks must be performed throughout the production process, i.e., the work done during planting is different from that done during irrigation; nor are they continuous, inasmuch as between the different tasks there are periods of inactivity during which crops do not require attention. Finally, there are also climatic factors which mean that in different ecological zones the farming seasons will vary within the same country so that labour requirements, especially for harvest activities, are different at different times of the year. This points to the existence of processes of geographical and occupational mobility of labourers working not only in agriculture but in urban occupations as well.

A second feature of agricultural production is that it can be carried out on virtually any scale. Indeed, most crops can be produced on holdings of any size without fundamental changes being made in the work process in production. What can change the process is technology, but it also can usually be applied on a production unit of any size.<sup>4/</sup> Consequently, there are many possible combinations of production unit and technology demanding labour and thus agricultural production can be carried out either by large entrepreneurs or by smallholders. In other words, purely capitalistic production units and units based on family labour can both engage in agricultural production. Moreover, on each type of production unit there are types of families that provide part of the labour supply. If to this are added the rural proletarian families, a matrix may be set up showing the interrelationships between types of production units and different types of families,<sup>5/</sup> which together make up the rural labour market. One of the features of this market is that it includes many families who live at their place of work; this has implications with regard to the family's dual role as a unit of consumption and of production, the distribution of roles among family members and the fact that, for purposes of analysing the labour supply, the family must be used as the unit of analysis in order to provide some understanding of the employment problem, inasmuch as any decisions on whether or not to enter the labour market and on who does so and when, are part of the family rather than the individual survival strategy.

Although there is a certain inflexibility as regards the time when the different tasks must be performed, for the biological and climatic reasons mentioned above, there is a certain flexibility as regards labour inputs at certain stages of production. For example, a single hectare can be planted by either one person or several. Moreover, the additional labour may be of a different quality, may include women and children, and may be occasional. Thus, the participation of the family may be intermittent and uneven without necessarily changing the final product. What does change is the level of utilization of labour and its availability.

The last factor that must be mentioned as regards the characteristics of the process in agricultural production is the fact that the activities carried out by labour are polyvalent in at least two regards. In the first place, the same person performs all the tasks necessary to produce a given product, from preparing the soil for planting to harvesting. In the second place, except in the case of specialized agricultural enterprises, most of the labour (especially permanent labour) works with several different crops. Consequently, from both standpoints, the work process in agriculture is not specialized, either at the level of tasks or at the level of products. As we shall see later on, this has important implications for the measurement of employment.

### C. THE MAIN CHARACTERISTICS OF AGRICULTURAL EMPLOYMENT

When the special features of agricultural work are considered, it becomes apparent that employment in the agricultural sector is different in several ways from urban employment. This is particularly important when it comes to making measurements, because the concepts that are used for measuring employment in the agricultural sector have been developed in the context of conceptual frameworks arising from the situation in urban sectors, particularly the modern urban sectors. It is often difficult, therefore, to measure adequately the real status of employment in the agricultural sector. Following is a discussion of some of the central characteristics of agricultural employment that affect the measurement of employment. These characteristics are not pertinent to the agricultural sector alone. Indeed, many of them are also present in urban sectors, but it is in the

agricultural sector that they become most important from the standpoint of measurement.

(a) Seasonality

The fact that agricultural production is subject to climatic and biological cycles is perhaps what most contributes to the unique nature of employment in the sector. Indeed, because there is a natural production period, the demand for labour is not stable throughout the year but rather changes to varying degrees, depending mainly on the crop structure and the technology used.

This production cycle gives rise to occupational cycles; consequently, some workers are employed throughout the year on a permanent basis while others are only employed temporarily. The temporary workers may also change their occupational category (for example, working directly on their land during one period and selling their labour force during another), branch and occupation, i.e., their participation in the labour market changes from time to time. The ratio between permanent and temporary labour will depend on the prevailing agrarian structure (relations of production, land use and technology) and on the situation with regard to urban employment, in the case of migrant workers hired for the harvest period.

(b) The family as a production unit

Unlike urban families, rural families living on agriculture do not show a clearly differentiated separation of roles among family members; hence, the various members perform a variety of functions, some of which may be productive. Domestic roles often involve productive tasks such as gardening, caring for small animals, poultry, etc. In other cases, different types of roles are combined, as when students occasionally help in agricultural tasks during their free time. Because of this combination of roles, the separation between economic activity and inactivity is not always very clear and this naturally presents special problems when measurement is attempted, since the production unit is not the individual but the family. The family's actions in the area of production are part of its survival strategy, one of the central elements of which is to maximize the use of an abundant resource, i.e., its own labour. This labour may be used within the household itself, in the case of families having access to land, and/or in production establishments, in the case of families which sell their labour. The combination of the two determines the level of the family income.

(c) Units of work time

The concept of the work day is a relatively useful one for measuring the productive contribution of individuals in the agricultural sector, mainly because of the phenomenon of seasonality mentioned above. During the harvest, labourers work 12 or 14 hours, while during the slack season they may work only two or four hours. Consequently, the concept of a "normal" working day usually does not fully apply to the agricultural sector and this may lead to significant biases, depending on when the measurement is made.

Just as the work day is not a homogeneous unit, neither is the work hour; this is due to the differences in effort that may be involved, i.e., the variations in the intensity of the work performed. It has already been noted in various research studies that during the same day, peasants combine periods of activity requiring a great deal of effort with periods of lighter work.

Therefore, it is not useful to try to estimate the underutilization of labour by means of a homogeneous time unit, because there may be heterogeneous units that cannot be grouped statistically. This heterogeneity of labour inputs is the result not only of seasonality but also of the different technology used on agricultural holdings.

(d) The availability of labour

From the standpoint of measurement, the first aspect that should be stressed is the fact that the labour supply varies throughout the year, since there the availability changes according to when the peak periods occur. Hence, measurements made at one point in time are not valid for purposes of extrapolating the volume of the supply. The implications of this phenomenon for the reference periods to be used in research on agricultural employment will be discussed later on in this study.

A second aspect of the labour supply is the fact that a distinction must be made between underutilization and availability of labour. Because the rural lifestyle itself involves a variety of jobs, labour may often be underutilized from the purely productive point of view while at the same time it is not available for tasks considered to be economic: from this standpoint, it is advisable to look into the whole range of tasks performed by individuals. The usefulness of such a measurement lies in the fact that it allows for better

planning of human resources, inasmuch as it makes a distinction between available labour and underutilized labour. In other words, it looks into restrictions on employment in terms of the labour supply; from this standpoint, the analysis relates both to the study of availability and to the study of participation in the labour market, mentioned in the previous chapter.

(e) Labour markets

A significant part of agricultural labour remains outside the labour market, either permanently or temporarily. Workers who have access to land and use only family labour belong in the first category, while those who work for pay during the harvest belong to the second. In any event, many workers have an intermittent link with the labour market. From the standpoint of demand, the labour markets do not function permanently either (during the slow seasons). This being the case, some current concepts are not really useful. One might wonder, for example, about the usefulness of the concept of "looking for work", which implies the existence of a labour market. It is obvious, however, that during the slow periods, the person is not seeking employment because the market is not functioning; hence, the concept is irrelevant. Consequently, although the person is classified as "inactive" (because he is not looking for work), this concept does not really describe his employment status. In the absence of permanent labour markets that are organized and institutionalized, some of the concepts used to measure employment are not applicable to the reality of the agricultural sector.

A second point that must be clarified is that pertaining to the relationship between what is rural and what is agricultural. Actually, these are two separate subgroups which overlap. Thus, not everyone who works in agricultural activities lives in a rural area (for example, there are workers who live in the urban sector and work in the harvest), nor does everyone who lives in the rural sector work in agriculture. This is important for several reasons. In the first place, it has implications with regard to the sources of information that can be used if the purpose is to ascertain levels of utilization of labour. In the second place, agricultural activity is not the only source of well-being of families living in rural areas; from this perspective, one should consider the operation of the rural labour market and not only that of the agricultural labour market. Nevertheless,

in this study, the methodological choice has been to centre on problems of measurement in the agricultural sector, a matter that must be clarified before an analysis of rural labour markets can be undertaken.

#### D. RECENT CHANGES IN THE AGRICULTURAL STRUCTURE AND THE IMPLICATIONS FOR RESEARCH ON RURAL EMPLOYMENT

The agrarian processes that have taken place in Latin America over the last two decades have brought about profound changes in the structure of employment. The modernization of agricultural operations, the agrarian reform, and settlement processes, both spontaneous and directed, have generated a change in demand not only as regards volume but also as regards form. The supply of labour has had to adjust in response to this new situation. Urban and rural migratory phenomena and the nature of the availability of labour are evidence of this adjustment process.

These processes have given rise to new types of agrarian structures and new forms of production relations which often are not amenable to any kind of measurement, as a result of which it is difficult to obtain adequate information on the real situation. Concepts and variables are often used for measuring employment which leave out important sectors that have not been incorporated into the conceptual framework on which the variables to be measured are based.

The modernization of agriculture in the Latin American countries has been studied in depth by several authors. For the purposes of this study, we shall look at some of the characteristics of this process that have been most important because of their effect on the structure of employment, with the caveat that there are substantial differences between countries and even between regions within a country.

Although modernization in some cases causes a reduction of employment per hectare, it usually leads at the same time to an increase in total planted area and hence to an increase in employment.<sup>6/</sup> However, the distribution of labour inputs throughout the year is different with respect to traditional farming practices, so that fewer permanent workers are required and there is an increase in the hiring of workers for specific tasks, particularly during the harvest. Thus, there has been a significant change in the ratio between permanent and temporary labour. There are fewer and fewer permanent workers, whereas the proportion of temporary workers has

increased. Thus, modernization has altered the character of seasonality. This change also reflects changes in the type of production units (for example, from latifundio to agricultural enterprise). Evidently, this process does not take place to the same degree in every country, inasmuch as it depends on the stage of production at which the technology generating the change is applied.

The increase in planted area has led to the recovery of lands handed over by the owners under precarious forms of tenancy. As agricultural operations have been modernized, the owners have found it to be more in their interest to exploit the largest possible area of land; this has led to the elimination of several occupational categories of agricultural workers having access to the land within a large property. Thus, this type of workers (huasipungos, settlers, tenant farmers, leaseholders) have declined in importance and have been replaced by pure wage earners, either permanent or temporary.

In some areas where modernization has had the greatest impact, many temporary agricultural workers live in urban areas, sometimes combining their agricultural work with participation, throughout the year, in urban labour markets.<sup>2/</sup> Their relationship with the agricultural operation is established either directly with the landowner or through contractors who perform various functions discussed below.

In brief, from the point of view of this study, modernization has had the following impact on employment and on production relations:

- the nature of the employment demand curve has changed;
- certain forms of production relations have been eliminated;
- new forms of production relation have arisen.

As regards agrarian reform, its main impact is reflected in the development of a new type of medium-sized agricultural producer, who has arisen under the shelter of State policies and who is constantly torn between achieving the necessary impetus to become a capitalist entrepreneur or suffering the process of decomposition of the peasantry.

#### E. SOCIAL PRODUCTION RELATIONS

For purposes of measurement, it is useful to analyse an individual's position with respect to the means of production and the resulting social relations because this makes it

possible to find out the origin of his employment status and of the income he receives. It is therefore important to have an adequate classification of individuals.

In the case of the agricultural sector, however, this is often difficult because the assets do not remain in a single production relation throughout the year but rather may change several times, depending on the labour requirements in a given geographical area, which in turn depend on the structure of land ownership, on the various forms of tenancy, on the land use structure and on technology. Thus, rather than having a single job during the year, a high proportion of agricultural workers, have an occupational cycle which not only changes in occupational status but often also involves changes in the geographical location where they offer their labour. In order to measure the employment status of families living from agriculture, it is essential to find out what these occupational cycles are.

In chapter IV below, the operational difficulties of measuring agricultural employment as regards the classification of workers in terms of the place they occupy within the production process are discussed in detail. What is important here is to point out, in a general way, the generic types of social production relations that are most often encountered in Latin American agriculture, emphasizing the new categories that have arisen as a result of the modernization process which has taken place in the region.

Among producers, perhaps the process that has had the greatest impact has been the agrarian reform which has been implemented in different ways in different countries. In the first place, the traditional hacendados and latifundistas who controlled large expanses of land have tended to disappear as such and to become agricultural entrepreneurs holding relatively smaller land areas on which production forms (both as regards types of crops and use of technology) have changed substantially. As regards beneficiaries, two important groups have emerged. On the one hand are those who work the land under some associative form of production (in co-operatives, ejidos, communes, etc.) where organization of production is usually closely related to the availability of labour within the enterprise itself, so that in terms of employment the units are very often self-sufficient. On the other hand are the new individual landowners emerging from agrarian reform programmes in which the expropriated land has been divided and turned over under individual deeds granting private ownership. These

units are usually operated as family holdings in which both the purchase and the sale of labour are fairly insignificant.

As regards wage workers, it has already been mentioned that one of the consequences of agricultural modernization has been a change in the composition of wage earners, ranging from the hiring of permanent labourers to the use of temporary labourers, with the ranks of the latter having grown significantly, particularly in jobs generated during the harvesting of agro-industrial and/or export crops. Some of these workers are owners of small-scale means of production or have access to the use of land under various forms of tenancy. Others belong to the families of those same workers; many of them engage in other activities that are not directly productive during the rest of the year. A third group consists of workers who are wage earners per se during the entire year and change from one enterprise to another according to the cycle of production. Finally, there is a fourth group which may include workers belonging to some of the three categories just mentioned and which consists of workers who sell their labour through the subcontracting process. Over the past decade, these mechanisms of intermediation in the labour market have become very strong in several Latin American countries. They appear in various forms and will be discussed at length later on in this paper. One important phenomenon which should be stressed is the fact that this group is probably a very heterogeneous one, ranging from workers living in urban areas who take up seasonal work in agriculture to small agricultural producers and members of their families who sell their labour through this institutional mechanism.

Most of the statistics currently in use do not provide information on either the occupational cycles or the new social production relations that have arisen recently in the agricultural sector of the countries of the region.

### III. THE MEASUREMENT OF AGRICULTURAL EMPLOYMENT AND CRITERIA FOR IDENTIFYING THE LABOUR FORCE

#### A. INTRODUCTION

Measurements of employment have traditionally been made mainly for the purpose of studying utilization. This explains why such measurements have been addressed to the dichotomous classification of the population of active age into those who participate in productive activities and those who, from this point of view, are inactive. Hence the crucial importance, for this purpose, of making a distinction between those activities which should be considered productive work and those which do not constitute work, as a means of discriminating between the two classes of individuals according to their principal activity.

In addition to presenting conceptual and practical problems with respect to the measurement of agricultural employment, this dichotomous classification does not fully meet the requirements for analysing well-being or the availability of labour within the rural population of the developing countries. As has been mentioned above, households allocate the time and skills of their members in such a way as to optimize the satisfaction of their needs. The range of activities which they undertake -including those which constitute work- is the result of this presumably optimizing life, or subsistence, strategy. In order to understand the factors which determine well-being and the role played inter alia by participation in production, information is needed on the different activities undertaken by each member of the household. In this same context, it is also important to analyse the availability of labour, if the traditional practice of restricting such analyses to individuals working in productive activities and those actively seeking to do so is to be overcome.

To the extent that it allows for greater accuracy in determining activity by considering solely those activities

Table 1

SNA RECOMMENDATIONS CONCERNING THE COVERAGE OF THE PRINCIPAL  
TYPES OF SUBSISTENCE PRODUCTION

A. All to be included

1. Primary production

Growing field crops, fruit, and vegetables  
Producing eggs, milk, and wool  
Hunting animals and birds  
Catching fish, crabs, and shellfish  
Cutting firewood and building poles  
Collecting thatching and weaving materials  
Burning charcoal  
Mining salt  
Cutting peat

2. Processing primary products

Thrashing and milling grain  
Making butter, ghee and cheese  
Slaughtering livestock  
Curing hides and skins  
Preserving meat and fish  
Making beer, wine and spirits  
Crushing oilseeds  
Weaving baskets and mats  
Making clay pots and plates  
Weaving textiles  
Making furniture

3. Fixed capital formation

Construction of dwellings  
Construction of farm buildings  
Building boats and canoes  
Clearing land for cultivation

B. Mainly to be excluded

Repairing and maintaining dwellings and farm buildings  
Storing crops  
Carrying water  
Dressmaking and tailoring  
Handicrafts not involving primary products (e.g., metal holloware, rubber shoes)

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Source: Un statistical Commission and Economic Commission for Europe, "GDP as a Measure of Output: Problems and Possible Solutions", Conference of European Statisticians, Working Paper CES/WP.22/59/Add.1, 10 December 1979.

which present greater classification problems, the recording and analysis of the different classes of activity undertaken by the rural population is also very useful to the study of employment for the purpose of analysing utilization. Likewise, in view of the different relationship that might exist between such activities and the obtaining of quantifiable income or satisfactors, a more or less detailed consideration of the question will facilitate the study of rural income.

In this chapter the conceptual and methodological problems involved in applying to the measurement of agricultural employment the criteria traditionally used to determine the labour force are discussed. Also, insofar as it is relevant, reference is made to national measurement practices in this area in population censuses, agricultural censuses and household surveys. A list of the materials reviewed for this purpose is given in table III 1 of the annex.

#### B. THE DISTINCTION BETWEEN ECONOMIC AND NON-ECONOMIC ACTIVITIES IN AGRICULTURE

One characteristic of the rural areas of developing countries is the low rate of penetration and visibility of the market in many facets of human activity. Between those activities that are clearly directed to the market and those that are clearly directed to leisure, there is a wide and varied spectrum of subsistence, domestic and community activities for which it is difficult to establish classification criteria that are analytically useful, clear, easy to apply and uniform and that allow for a dividing line to be drawn between economically productive activities and those which are not economically productive.

Subsistence activities relate to the production of food and other goods for consumption within the producer's household and are indirectly related to production for the market. On the one hand, they enable capital to pay a wage that covers only the subsistence needs of the worker rather than those of his family. On the other hand, the subsistence sector constitutes a source of cheap labour from which wage-earning labour can be extracted as the process of capital accumulation proceeds. It may also serve as a refuge for persons who believe that there are no job opportunities in the production of goods and services for the market.

Consistent efforts have been made to include production that is not directed to the market in the estimates of the

national product, as well as to include subsistence workers in the estimates of the labour force. Table 1 lists various classes of non-monetary activities that are usually on the frontier of production and are usually important in developing countries. It also shows which of these activities are recommended by the System of National Accounts (SNA) for inclusion in the production of national accounts. These include subsistence production of primary products, processing of primary products for own-account consumption and own-account fixed capital formation. SNA also recommends inclusion of the output by producers of other goods and services which are consumed in their households and which they also produce for the market.<sup>8/</sup> On the other hand, these recommendations would exclude subsistence production of non-primary products processed by households for their own consumption, as well as certain services for production.

The problem of estimating work which is part of subsistence production is not, therefore, a conceptual one but rather a practical one; it arises mainly as a result of the high degree of integration, in agricultural households, of subsistence production and domestic activity. In this regard, the interpretation of these activities may vary widely, both among interviewers and among informers, so that it is difficult to ensure uniformity in recording them, even in the infrequent cases when it is quite clear what is to be measured and precise instructions are given for gathering the data.

Domestic activity consist mainly of the transformation of products in order to make them meet the needs of the household and of a series of services performed within the household (for example, the care of children).

It is often difficult to distinguish between market-oriented activities, subsistence activities and domestic activities when they are all carried out within the same household by the same people and in a relatively integrated fashion. The process of obtaining and transforming primary products in the household is a continuum which may range, for example, from the harvesting of grains to the preparation from those grains of more or less processed foodstuff for the household's consumption. In the final analysis, the distinction between subsistence and domestic activities is essentially an arbitrary one, since they both involve production for the household's own consumption and they are both carried out within the household. This becomes evident when one considers the activities that are excluded from

subsistence production in table 1. To the extent that domestic activities, like subsistence activities, represent production for the household's own consumption, there is a reduction of the maintenance and reproduction costs of the members of the household; this provides an alternative to the application of monetary income that would have been needed to purchase on the market the goods or services that are produced in the household.

If consideration is given to the possibility of expanding the concept of production used in macroeconomic measurement to include domestic activities for own-account consumption, the problem arises as to what criterion should be used to select those activities which would be considered "productive" under such an approach. In this respect, there is some agreement that the "third person criterion" might be applied; according to this criterion, a productive activity is one which could be carried out by a third person without reducing its final utility value.<sup>9/</sup> Table 2 shows several activities usually carried out in households which satisfy the "third person criterion" but which are excluded from the definition of production that is currently in use. It has been pointed out <sup>10/</sup> that the six activities listed first in table 2 might be included in an expanded measurement of production, since they are relatively time-consuming, they are carried out to a greater or lesser extent in all countries and there is a feasible alternative for each of them on the market.

There is another subgroup of activities in the agricultural sector which conceptually may be clearly identified as comprising inputs to production, but which in practice poses problems of classification, mainly because of cultural factors. This subgroup may include activities such as scaring off birds after planting to prevent them from eating the seeds, or putting up or repairing fences to prevent animals from damaging a crop. These are tasks that are usually carried out by persons who are reported as inactive, as these chores are viewed as duties which naturally fall to them in the division of roles within the family; consequently, they usually are not defined as work.

Volunteer community development work also presents similar classification problems. This type of activity may consist of the construction or maintenance of roads, dikes, and tunnels or of tasks aimed at preventing erosion, which are carried out under rotating systems of community aid to members who need extra labour during certain seasons, etc.

To the practical difficulty of identifying and classifying with a systematic set of standard criteria a series of closely interrelated activities such as subsistence, household and community activities, is added the difficulty of justifying in substantive terms any decision as to where the cut-off point is between productive work and non-productive work.

For example, in analysing the well-being of households, it may be useful to include in the concept of productive work those activities -such as hauling water and firewood- which, although marginal from the standpoint of their contribution to the sectoral product and hence not too important in studying the utilization of the labour force in production, may play a

Table 2

COMMON HOUSEHOLD ACTIVITIES

- 1 Preparation of meals, serving and clean-up
  - 2 Transport of persons and goods by motor vehicle
  - 3 Cleaning and repairing clothes and household textiles
  - 4 House cleaning
  - 5 Educating children
  - 6 Day care of children
- 
- 7 Making clothes and household textiles
  - 8 Record keeping and bookkeeping
  - 9 Repairing and servicing motor vehicles
  - 10 Shopping
  - 11 Evening and night care of children
- 

Source:

Szalai, A. (ed.), The Use of Time, Mouton, Paris, 1972, quoted in CES/WP. 22/59/Add. 1, 10/12/79, p. 10.

significant role in meeting the basic needs of families. Likewise, the opportunity cost and the utility to the household of many domestic activities may be a very important element in determining the availability of labour for other activities which, conventionally speaking, must be considered productive from the standpoint of utilization.

In view of the difficulty of classifying information on rural non-market activities, any expansion of the frontier of production must be made very carefully, with the information being broken down by type of activity, i.e., market-oriented activities, subsistence activities, domestic activities or community activities. This would make it possible, on the one hand, to maintain the comparability of measurements of employment with measurements of production within the existing framework of national accounts. And, on the other hand, it would make it possible to use different aggregates of activities for the different purposes pursued by the data users.

A suggested detailed classification of activities for labour force surveys, based on current conditions in Africa, has recently been proposed.<sup>11/</sup> This classification lists five major groups, i.e., work (meaning productive activity), looking for work, studies/training, domestic chores and voluntary service. This classification makes it possible to establish a distinction between production-oriented activities (including subsistence activities) and domestic and community activities; it also includes the categories of "looking for work" and "education or training", which have a bearing on future opportunities for work. In addition, it allows for a more detailed description of the various forms of participation in productive activity and this in turn makes it possible to analyze subsistence strategies and, eventually the relationship between the activities of a rural household and the different types of income it receives.<sup>12/</sup> Table 3 shows the breakdown for these groups.

According to the data-collection procedures recommended in the aforementioned paper, for every eligible member (10 years of age or above) of the sampled household, information is solicited on all the activities (according to the activity classification) performed at least for one hour during the reference week. The enumerator reads out the activities from classification and records "yes" or "no" against each. The idea is to avoid destroying evidence of multiple activity, which, in the case of Africa, is the most important feature to

note for analytical purposes. Taking only the major groups of activities (the one-digit level in table 3), it is ascertained on which kind the person spent the longest time during the reference week. This makes it possible to identify the main activity and at the same time to retain the picture of multiple activity.

The above discussion tends to stress the problems that arise, as regards both the determination of the size and utilization of the labour force and the analysis of the factors that determine well-being when goods and services that are not traded on the market constitute a major share of the total output of human labour. The implications of this problem for rural development policies are evident wherever the extension of trade relations or the introduction of more productive technologies in domestic, subsistence or community activities free large contingents of workers who are normally engaged in more time-consuming jobs, thus increasing the availability of labour for the pursuit of activities involving production for the market.

Because of their usefulness in the detailed study of non-market-oriented activities in rural areas, some mention should be made here of time use analyses. The purpose of such analyses is to make as complete a description as is empirically possible of activities carried out by individuals during specific units of time.

Some of the advantages of using this methodology are the following:

(i) No a priori judgement is made as to what an economic or a non-economic activity is; hence, the findings may be aggregated in the analysis stage, when activities considered productive for each user's purposes may be included.

(ii) It makes it possible to check the validity of traditional measurements of activity and employment. By using the same definitions and aggregating the data in the same way as in conventional surveys, it is possible to check the degree to which the latter actually measure the work force and its utilization;

(iii) It provides a better description of female labour and consequently allows for a more accurate evaluation to be made of it;

(iv) It throws light on the operation of the so-called "family survival strategies" vis-à-vis critical situations;

(v) It makes it possible to identify the more time-consuming domestic and subsistence activities which might be

Table 3

ACTIVITY CLASSIFICATION FOR LABOUR FORCE SURVEYS a/

1. Work

- 1.01 Work on own or household farm/plantation/orchard. (Planting, hoeing, weeding, ploughing, picking, harvesting, threshing, husking, etc. Gardening done as a hobby is not to be included).
- 1.02 Work on own or household livestock - cattle, pigs, goats; chicken, ducks, etc. (Grazing, feeding, milking, caring, cleaning, slaughtering, etc. Work done on pets as recreation or hobby is not to be included).
- 1.03 Fishing, hunting, logging - for home consumption or sale.
- 1.04 Work on own or household business/ profession. (Trading, transport, food processing, manufacture of handicrafts, repairing, services, medical practice, legal practice, etc.).
- 1.05 Work on a job, at home or outside, for wages, salaries, commission, etc. in cash or in kind. (Paid domestic service and laundering, sewing, grooming done for others on remuneration are also to be included here).
- 1.06 Work as a learner or apprentice on remuneration in cash or in kind.
- 1.07 Buying supplies for or selling products of own or household farm, livestock, business or profession.
- 1.08 Making things at home for household consumption or sale. (Yarn, cloth, processed food and drink, excluding cooked meals, laces, baskets, etc. These are home production activities to be distinguished from regular business enterprises covered in 1.04).
- 1.09 Work on building, repairing or improving hut, house, latrine, fence, tools or equipment of the household.
- 1.10 Collecting firewood, wild fruits and vegetables, etc. for household consumption or sale.

- 1.11 Working without remuneration on neighbour's farm, livestock, business or other enterprises as part of arrangements for mutual exchange of labour.
- 1.12 Any other work which gives an income in cash or kind (to be specified as far as possible).
2. Looking for work
- 2.10 Going to work-sites, business offices and establishments, employment agencies or offices, etc. in search of work or for registering for work.
- 2.20 Going about in search of possibilities for starting business or profession or in making arrangements for the same.
- 2.30 Applying to firms, giving advertisements, answering advertisements, attending interviews, etc. for getting work.
- 2.40 Contacting friends, relatives or other persons to get recommendations for work.
- 2.50 Any other efforts to find work.  
(To be specified).
- 3 - 5 Other Activities
- 3.00 Studies /training.  
(Attending educational or training institutions; taking correspondence courses or private lessons; learning trades or vocations without remuneration).
- 4.00 Domestic chores.  
(Cleaning, washing, cooking, child care, fetching drinking water, bringing food to fields, shopping for food and clothes, etc. Such work done on remuneration will go under 1.05).
- 5.00 Voluntary service.  
(Social, religious, political, charitable or community development activities without remuneration).
- 

a/ See, ILO, "An Alternative ...", op. cit., Geneva, 6-10 April, 1981.

simplified by introducing suitable technologies, as well as by investigating the effect on time use of the introduction of such technologies (see Chapter V).

In order for the time use method to be efficient, however, a substantial amount of human and material resources must be assigned to it. The investment includes the cost of recruiting qualified interviewers and training them in specific data-collection techniques; in addition, the work of completing the questionnaires and codifying and processing data requires more time and involves more complex procedures than are usually required for conventional household surveys.

For these reasons, it would seem advisable to schedule the application of this method so as to associate it in time with the development of codification and data-processing techniques and the development of suitable schemes for classifying activities and aggregating categories in groupings that are significant from the substantive point of view, as well as of the capacity to bring new data in line with existing data so as to maintain historical and spatial comparability. If this is done, it should be possible to make the best use of the experiences gained in the studies so as to improve data collection through conventional instruments having a broad scope, such as censuses and surveys.

### C. SEASONALITY, REFERENCE PERIODS AND ANALYTICAL PERIODS

Because agricultural production is seasonal by nature, and consequently, so are the agricultural work patterns, any estimate of the number of active and inactive persons in rural areas, of the distribution of active persons by sector, occupation, and employment status; of the magnitude of unemployment and underemployment rates, and of the income of households will be strongly affected by the time at which the data are collected and hence by the period covered by the respondent's replies.

A distinction should be made between the period covered by the respondent's replies, usually called the "Reference period", and the period used for analysing the data, i.e., the period of time for which the data are meaningful. In a study of agricultural employment and income, this usually means the entire agricultural year. This latter period will be referred to in this paper as the "analytical period".

The reference period may coincide with the analytical period, but in most cases, and particularly in surveys that are made more than once a year, it is shorter. In practice,

in most Latin American countries, the reference period will often cover only the week prior to the taking of the survey. In any event, every effort should be made to ensure that the reference period is suited to each one of the characteristics of the employment or the income to be studied and that it allows for estimates to be made with respect to the behaviour of the variable studied for the period used in analysing the data.

Reference periods are used when there is no other valid, reliable and accurate way to obtain a complete and detailed listing of the activities performed by each person throughout the agricultural year. Ideally, this could be achieved with a methodology - to be applied throughout the analytical period - such as the one proposed for Africa at the ILO meeting of experts mentioned above.<sup>13/</sup> But this alternative is not a practical one, as it calls for a reconstruction to be made of the vicissitudes of employment and income throughout the agricultural year by using data gathered for shorter reference periods. The optimum length of a reference period is determined by the specific characteristics of each variable, by the timeliness and periodicity of the data collected, and by the need to establish a relationship among different variables from the same source and to maintain consistency with relevant data collected from other sources.

When the reference period does not coincide with the analytical period, the length of the former should be set so as to allow for a reconstruction to be made of the information for the analytical period being studied. Where working patterns are quite stable, the activities recorded over a short period of time can be representative of those which would have been recorded in a detailed history of the activities of the population studied over the entire analytical period. In the case of the agricultural sector, however, short reference periods will often cover atypical and temporary situations which can only be used as part of an aggregated reconstruction of the vicissitudes of employment and income throughout the agricultural year by means of periodical measurements. The periodicity of such measurements is therefore intimately associated with the length of the reference periods used and the type and intensity of the changes occurring in working patterns throughout the period analysed.

In most studies of agricultural employment and income, the most important reference period is the one used to determine activity status, as it sets the limits of the group

within which the other characteristics of employment and income will be studied. The reference periods used to study the latter characteristics must, however, be consistent with the reference period used to study activity status. If this is not done, the data could lead to a distorted interpretation of the employment situation. An illustration of this is the case of a respondent who had been working as a craftsman during the week prior to the survey, but who works as an agricultural labourer during most of the year. If a respondent's activity is reported as the one he carried out during the week prior to the survey and his occupational characteristics (occupation, branch of activity and employment status) are reported in terms of the occupation in which he usually works throughout the year, he will be reported as being a craftsman, but his activity status will be recorded as the one corresponding to the occupation, branch and status of a person who usually works as an agricultural labourer. This would mean that the capacity of one economic activity -crafts- to absorb labour would not be recorded, while another activity -agricultural production- would be credited with generating employment when that was not actually the case at the time of the survey.

Similar examples may be found in the relation between variables pertaining to the study of employment and income and those recorded for periods of different lengths.

#### D. CRITERIA FOR DEFINING THE LABOUR FORCE

Once criteria are established for defining the boundaries between productive and non-productive activities, it is necessary to study the relations between individuals and activities. In its most rudimentary form, such a study makes it possible to separate the employed from the unemployed and the active from the inactive. Before discussing the details of classification and how to adjust it to a study of rural employment and income, let us take a separate look at each one of the criteria used to define the labour force.

##### a) Age limits

Discussions on the establishment of age limits are usually carried out at two different levels: data analysis and data collection.

For purposes of analysis, it is important to have information for all the age groups that are relevant to the various purposes of the research on employment and income. Bearing in mind the three basic purposes mentioned in chapter I, we may say, at the risk of oversimplifying, that from the

standpoint of the utilization and availability of labour, a relatively homogeneous labour force should be used so as not to include individuals whose current or potential contribution to the product is significantly lower than the national average. In the developed countries, where most activities call for a relatively high level of skills and hence a relatively long training period, a person's contribution to production can be predicted quite reliably by establishing whether he belongs to an age group of under 15 or over 15. In predominantly agrarian developing societies, on the other hand, where typical activities usually require less sophisticated skills, a work force that is relatively homogeneous in terms of skills can be established with lower age limits. Indeed, the differences between the skills required for typical activities in one context or the other are reflected in the differences in the participation rates of minors in the developed and the developing countries.

From the standpoint of well-being, it must be borne in mind that the activity of minors may be particularly important in determining the living conditions of a large proportion of agricultural households, i.e., the ones in which most workers in low age groups are concentrated (see annex, table III.2). When this is the approach, therefore, it is useful to set the age limits as low as possible, -with due regard for cost independently of the significance that may be attributed to the contribution minors make to the national product.

The costs involved are those arising from the increased workload of interviewers, coders and data processors, as well as the cost of the resources required for these tasks, which result from lowering the minimum age of the subjects of a study of the economic characteristics of the population. These costs must be borne in mind as an important factor that must be considered in any decision on the setting of age limits during the design stage of the study.

As shown in table III.3 in the annex, which gives the age limits applied by the countries of the region in censuses and surveys aimed at studying the economic characteristics of the population, most countries have set the minimum age at between 10 and 12. International recommendations indicate that the minimum age to be used in classifying the population as economically active or inactive should be established by each country on the basis of the characteristics of employment in economic activity. A country whose adolescent population plays an important role in economic activity will want to set

a lower minimum age than a country where this phenomenon either does not exist or is not significant in socioeconomic terms. For purposes of international comparability, it is recommended that the minimum age should in no case be higher than 15 and that those countries which use a lower minimum age should record their census findings on the matter in such a way as to make it possible to distinguish between the population over 15.<sup>14/</sup>

b) Reference periods for activity status

In section C of this chapter, we stated that because of the seasonal nature of agricultural work and the irregularity of working patterns among the rural population, there could be no question but that the agricultural year must be used as the time frame for interpreting data on agricultural activity. Persons who regularly participate in agricultural production tasks during the peak seasons may be recorded as inactive or unemployed or working in a different sector when they are surveyed during a short reference period at other times of the year. Moreover, the only way to establish whether a person's link with agricultural production is permanent, temporary or occasional, and to identify the factors which determine this link at the individual and household levels is through the use of a long reference period.

Reference has also been made to the difficulties which the use of long reference periods entail for the measurement of employment: the interview takes more time, the number of activities or of changes in the respondent's employment status to be recorded increases and so does the risk of inaccurate responses being given because of memory failures. It has also been pointed out, however, that these factors do not have the same effect on every aspect of a study of the activities carried out throughout the year. For example, a person may be able to recall with reasonable accuracy how many months he worked during the year, but he may not be able to remember equally well the dates when he began and finished his productive activities. In such a situation, a special effort should be made to identify those characteristics for which sufficiently reliable information covering long periods of time can be obtained.

As mentioned above, it is important to choose long reference periods when studying the vicissitudes of rural employment at the individual and household levels when aggregate measurements are to be obtained. It is possible, however, to reconstruct the fluctuations of the population

throughout the year, between activity and inactivity, between employment and unemployment, and between sectors, occupations and occupational categories from information gathered in surveys using short reference periods and carried out at different times of the year, so as to cover the peaks and slumps of production cycles. With this method, it is possible to benefit from the advantages of using these periods and to avoid destroying information which, at the aggregate level, can be valuable for the various analytical purposes mentioned in the first chapter.

As regards national practices, table III.4 in the annex shows that except for Haiti, which used a reference period of six months, the other countries used a one-week reference period for their 1970 population censuses.

In the case of the agricultural censuses, the reference periods used to identify persons working in farming show much greater variations between countries than do the population censuses (see table III.5 in the annex). Argentina, Brazil, Peru and Venezuela used the day of the census. Chile, Dominican Republic, Ecuador, Mexico and Panama used the week prior to the census. El Salvador and Honduras used the agricultural year. Mexico and Venezuela also collected data on persons employed at peak periods during the agricultural year; this information can be used as a frame of reference for more detailed studies of the employment situation in the sector. Mexico asked questions on the population working during the winter and the spring-summer harvests, and Venezuela gathered data on the number of workers employed by agricultural operations during the months of maximum and minimum activity.

In agricultural censuses, the length of the reference period used to determine how many people are working on a holding determines the probability of that person's also being recorded as working on another holding. The probability is greatest when the reference period is a long one and the minimum working time required for a person to qualify as employed is low.

In most of the national household surveys analysed, the reference period was the week prior to the interview except in the case of Brazil, which used one fixed week and the last twelve months of the year (see table III.6 in the annex).

c) Criteria of priority

According to the international recommendations on the measurement of employment, in classifying persons by activity status, first priority should be given to the fact of their having worked during the reference period; next, to the fact of having looked for work and, finally, to other types of activities. This makes it possible even to study the employment status and occupational characteristics of persons whose main activity is not considered productive.

As long as this criterion reflects the priorities applied, after the data are collected, for the specific purposes of the analysis, there may be nothing wrong with using it in studying rural employment. In practice, however, this recommendation leads to the setting up of guidelines for organizing the actual collection of data. It has been reflected both in the order in which the alternatives of employment, unemployment and other activities are presented in the questionnaires and in a series of instructions to interviewers which, in the last analysis, are designed so that anyone who has devoted a minimum amount of time to work (in the sense of economic activity) or to looking for work is reported as active even when that minimum amount of time is shorter than the time spent in other activities (e.g. studying, caring for the home).

When the criterion has been applied correctly, the user will be able to identify all those individuals who have carried out some economic activity during the reference period and will find that he has a clear listing of the employed and the unemployed populations. He will also find, however, that individuals have been classified under one single category, and that he therefore cannot analyse the information concerning the activity on which the individual has spent the most time ; nor can he identify the most frequent combinations of activities among the population and within specific social categories. The loss of analytical options that results from applying the criterion of priority at the data-collection stage can seriously hinder research on rural employment. Indeed, as mentioned before, a unique characteristic of rural life is the large proportion of the population that performs several different types of activities, often in combination, sometimes interchangeably with other members of the household -depending on what decisions the household takes in dealing with concrete situations- and with no regular pattern of time spent on a particular activity. In such circumstances, the

procedure that is implicit in the criterion of priority as applied to data collection, i.e., of placing each person in a single category, may cause certain data that may be crucial to the purposes underlying the study of rural employment to be ignored.

In brief, it would appear that, at least for the study of rural employment, it is not advisable to apply the criterion of priority to the classification of individuals at the time of collecting the data, but rather to try to obtain as many details as possible regarding the many activities carried out by each person and as much information as possible regarding the amount of time of spent on each activity.

d) Time worked

In practice, in employment research the amount of time a person has devoted to productive activities during the reference period is used to describe the relationship between the person and the productive activities, to assess the significance of his contribution to the product and to define the boundaries between work and non-work.

The term "time worked" is used to designate the minimum amount of time a person must have worked in order for his productive activity to qualify as work. In most of the censuses and surveys carried out in the region, this minimum operates as a "filter" for classifying an individual by activity status. The purpose is to identify those persons who belong to the economically active population at the same time that the data are gathered so as to obtain, rapidly and economically, aggregate measurements of that population. The homogeneity of the aggregated EAP will depend on what requirements for time worked have been applied.

The wisdom of applying a minimum time worked—either as a "filter" in the questionnaire or as a criterion for distinguishing between analytically different groups at the data-processing stage—and the choice of a minimum requirement in one case or the other will depend on how the different purposes for studying rural employment are reconciled. As has already been mentioned, a rapid and economical estimate of the aggregate EAP is usually obtained by using the minimum time worked as a "filter" in the questionnaire and establishing a minimum time requirement that will guarantee some degree of homogeneity in the EAP thus obtained. But for most of the purposes associated with the study of rural employment, it is not advisable, except for the sake of reducing costs, to set only one minimum time requirement. It is best to have

information on everyone who has carried out some productive activity, including looking for work, in order to leave the user free to choose the form of data aggregation that most suits him. If a high minimum time requirement is set in the questionnaire for the purpose of identifying persons as active, it would not be possible, for example, to get a complete picture of the situation with regard to underemployment in agriculture. It would also be impossible to study the participation in and availability for productive activity of segments of the population which -although perhaps marginal from the standpoint of their contribution to the product- can through their work make a substantial contribution to the well-being of rural households. Moreover, the use of low minimum time requirements to ensure adequate identification of these marginal workers does not necessarily mean that they must be included in the population that is economically active in agriculture. The information on them can be included in the data base in such a way as to allow for specific analyses to be made of the characteristics of those workers.

In trying to establish a minimum time requirement that would make it possible to obtain an aggregate measurement of the EAP and to satisfy the different purposes for which the study of rural employment is made, it should be borne in mind that, if cost is not a consideration, aggregate measurements of the EAP having different degrees of homogeneity can be obtained during the data-processing stage by using information on the different characteristics of the activities carried out by each person. The best way to proceed would therefore seem to be not to set a minimum time requirement at the time of gathering the data other than that which is implicit in the question on whether the respondent has carried out some productive activity during the reference period.

In studying practices with respect to the establishment of minimum working time, a distinction should be made between those countries which have used the criterion of main activity, i.e., the activity on which the respondent has spent the most time during the reference period, and those which have not used it. Of the eight countries in the 1970 population censuses, two of them -Chile and Nicaragua- have added instructions to the interviewers to classify under the category of persons who worked those who worked continuously for at least the equivalent of one working day. The fact that economic activities are given priority over non-economic activities -and "work" over "looking for work"- is reflected

in the order in which alternative answers are set out on the census form, which, in some cases, included an instruction to the interviewer to stop asking questions once an alternative had been given. Some countries asked respondents who stated they were economically inactive with respect to their main activity whether they had not done some work; if the answer was affirmative, these persons were then recorded as part of the economically active population.<sup>15/</sup>

As will be noted from table IV.4 in the annex, a total of eight censuses applied specific working time, requirements to classify individuals under the category "worked" during the reference period, independently of whether or not working time requirements had been established for classifying individuals by activities status.

As regards household surveys, seven of the ten surveys analysed classified as working any person who had done some work during the reference period, while the remaining three classified as working those who had worked for a minimum of one hour (see table III.7 in the annex).

Of the thirteen agricultural censuses reviewed (see table III.5 in the annex), only four set a minimum time requirement during the reference period to identify persons working on farms. The Dominican Republic considered that a person had worked on a farm when he had worked on it at least two days during the reference week or for a number of hours equivalent to two working days. Panama recorded as working those who had worked at least one day the previous week, whereas Ecuador classified as working those wage-earners who had worked on the holding at least one hour during the week preceding the census. Honduras only took into account jobs, rather than persons; hence, there would be no point in establishing a minimum time requirement. Most countries, on the other hand, used time requirements in order to distinguish, among the persons working on a holding during the reference period, between permanent, temporary and occasional workers.

The 1970 World Agricultural Census Programme defined as permanent workers, those who had worked on a holding for no less than half the working days of the year; as temporary workers, those who had worked a total period of less than half but the equivalent of at least one third of the working days of the year; and as occasional workers, those who had worked for less than one third of the working days of the year.<sup>16/</sup>

### Unpaid family workers

In the case of unpaid family workers (UFW), the minimum working time of at least one third of the normal working day is usually established even in cases where a very low minimum working time, or no minimum at all is required for the other potential members of the labour force. The idea is to maintain the homogeneity of the EAP, on the assumption that this group's average contribution to the production is significantly lower than that of the other workers.

The category of unpaid family workers is made up chiefly of women and minors whose activities are mainly concentrated on the family agricultural production unit. Aggregate measurements of unpaid family workers are subject to a great deal of error because persons working as such are not bound by formal job regulations and consequently their participation in productive activity follows irregular patterns in which it is difficult to see when they go from economic to non-economic activities, their tasks are assigned interchangeably to the different members of the household according to the circumstances of the moment, and many of the productive tasks are perceived by those performing them as an inherent part of the household's activity and consequently are not defined as work.

It is therefore particularly advisable to investigate the activities carried out by women and minors in rural areas in as much detail as possible and to identify the unpaid family workers as thoroughly as possible according to the time they devote to each activity. This procedure, the application of which will obviously depend on the budgetary restrictions of each particular study, allows for greater flexibility in the inclusion of unpaid family workers in the labour force, to meet the specific purposes of the study in question.

In most of the population censuses reviewed, the requirement was established that unpaid family workers should work at least one third of the normal working day (see annex, table III.4, column 5). Most of the household surveys also used this criterion (see annex, table III.6).

The exceptions were Costa Rica, Peru and Uruguay, which applied to this category the same minimum working time that was applied for classifying a person as "working" during the reference period, i.e., to have worked one hour or more, in the case of Costa Rica, and to have done some work during the reference period, in the case of the other two countries.

A review of the surveys which published a definition of unpaid family workers reveals some significant differences. Brazil, for example, extends the conventional definition to

include persons who live with an own-account worker or an employer whom they help without receiving pay. Uruguay also includes apprentices under unpaid family workers, whereas Venezuela excludes from this group those persons who, although working without pay in an economic enterprise operated by another member of the household, were also looking for work during the reference period (see table III.7 in the annex).

Most of the materials on the revised agricultural censuses do not include a specific definition of unpaid family workers. The exceptions are Ecuador, Honduras and Panama. Ecuador defines them as members of the farmer's family and persons not related to him who live in the household studied, who perform agricultural work and do not receive full wages in cash or in kind and who have worked the equivalent of one day or more during the week covered by the census. Honduras includes family workers who do not receive cash wages for fixed periods, although they may receive wages in kind. Panama defines them as persons who worked for six months or more during the year without receiving wages for their services, including the farmer and members of his household.

f) Classification by activity status

In the preceding paragraphs, the advisability and application of each criterion for determining the labour force was discussed in the light of the main purposes guiding the study of rural employment and income and the preparation of aggregate measurements of the agricultural labour force. In each case it was noted that, except where cost was a consideration, the criteria should be applied in such a way as to obtain maximum disaggregation of the data. This allows for greater flexibility as regards the inclusion or exclusion of certain segments of the labour force, as the procedures can be adjusted to the purposes for which the statistic are to be used.

In practice, this would lead to a broader formulation of the classification by activity status to include, on the one hand, all activities performed in order to obtain a good or a service, as discussed in the first part of this chapter (Section B) and, on the other hand, the detailed consideration of the so-called "discouraged unemployed", i.e., those who have no job and say they are available for work, but who are not seeking work because they are convinced it is no use (see chapter V). As mentioned above, this procedure would allow for a reclassification of the data at the tabulation and analysis stage, as required for the purposes of different users.

## IV. OCCUPATIONAL CHARACTERISTICS OF THE AGRICULTURAL LABOUR FORCE

### A. INTRODUCTION

The classification of the economically active population according to occupational characteristics makes it possible to differentiate workers according to the type of production relations under which they carry out their productive activity, describe the tasks they perform, show the distribution of employment by economic sector and provide the data necessary to determine what characteristics are required of the human resources of a country at a given moment.

The classifications by branch of activity, occupation and employment status have been conceived as interdependent and complementary. Thus, only a simultaneous analysis of all three classifications will allow for a person's work to be described in sufficient detail to serve a variety of purposes related to levels of well-being and the utilization and availability of labour.<sup>12/</sup>

### B. TRADITIONAL CLASSIFICATIONS

#### a) Classification of occupations

To classify occupations, the ILO has drawn up the International Standard Classification of Occupations (ISCO). In this classification, an occupation is the smallest segment of work which is specifically identified. Each occupation describes the general functions and the principal duties and tasks of the workers.

The definition of an occupation covers various "jobs" or "positions" which are held by individual workers who perform one or another of the different possible combinations of the tasks described. "Positions" are distinguished from one another by minor differences in duties, level of responsibilities of each position, is a matter to be decided by the authorities of the individual enterprise, ISCO was

drawn up on the understanding that the classification of "jobs" or "positions" goes beyond the scope of a standard international classification and that these elements should therefore not be taken into account as criteria for the classification of occupations.

Agricultural workers are classified along with forestry workers, fishermen and hunters as Major Group 6 of the 1968 revised edition of ISCO; this is the level of aggregation at which a large number of countries in the region publish their census data on occupation. At the two-digit level, agricultural workers are separated from the rest and a distinction is made between farm managers and supervisors, farmers, and agricultural and animal husbandry workers. At the three-digit level, farmers are broken down according to whether they are general farmers or specialised farmers. The same breakdown applies at this level to workers, although in this case the specialised type of occupation is also given. At the four-digit level, managers are classified separately from supervisors; specialised farmers are separated according to the main product of the farm and specialised workers are classified in greater detail than at the previous level, according to the type of production in which they specialise.

With respect to agricultural workers, the COTA 70 classification of occupations is quite similar in structure to the 1968 revision of ISCO. The main differences are the following:

(i) The maximum disaggregation is at the three-digit level;

(ii) The classification of agricultural workers according to specialisation has fewer categories and consequently is more aggregated;

(iii) The disaggregation of farmers according to specialisation is at the three-digit instead of the four-digit level as in ISCO and no distinction is made between farm manager and farm supervisor.

Contrary to what happens in other branches of activity, the typical occupations of the agricultural sector are not usually found in other sectors. This means that at the one-digit level, agricultural workers can be identified indistinctly either by a classification of occupations or by a classification by branch of activity. As may be seen in table 4, most persons working in agricultural establishments state their occupation as agricultural workers, whereas very few

Table 4

LATIN AMERICA: COMPARISON BETWEEN EAP IN AGRICULTURAL ESTABLISHMENTS AND  
EAP IN AGRICULTURAL OCCUPATIONS. POPULATION CENSUSES  
CIRCA 1970

Country	Year	EAP in agricultural establishments (1)	Agricultural occupations		%Percentages	
			In agricultural establishments (2)	In all establishments (3)	(2)/(1)	(3)/(1)
Argentina	1970	1 331 100	...	1 296 100	...	97.37
Bolivia	1976	693 049	689 608	697 140	99.50	100.59
Brazil	1970	13 090 358	13 037 657	13 109 059	99.60	100.14
Colombia	1973	1 546 317	1 487 872	1 600 370	96.22	103.50
Costa Rica	1973	213 226	205 691	207 709	94.47	97.41
Cuba	1970	790 356	...	...	-	-
Chile	1970	570 155	548 643	558 648	96.23	97.98
Dominican Republic	1970	549 315	...	611 818	...	100.42
Ecuador	1974	896 897	883 033	892 722	98.45	99.46
El Salvador	1971	632 054	626 026	875 910	99.05	99.95
Guatemala	1973	884 100	863 605	1 430 984	97.57	99.07
Haiti	1971	1 429 073	...	453 113	-	100.13
Honduras	1974	460 612	448 728	4 952 200	97.42	98.37
Mexico	1970	5 103 519	4 878 524	236 297	95.59	97.04
Nicaragua	1971	237 327	230 800	181 709	97.25	99.57
Panama	1970	187 947	180 185	76 780	95.87	96.68
Paraguay	1972	79 586	78 217	1 509 402	98.28	98.99
Peru	1972	1 520 157	1 494 912	551 617	98.34	99.29
Venezuela	1971	...	...	...	96.89	100.05

agricultural workers state that they work in non-agricultural establishments. Non-agricultural workers (cooks, packers, salesmen, those working in personal services, veterinarians etc.,) who work in agricultural establishments represent a very small portion of the labour force in these establishments.

At the two-digit level, the classification of agricultural occupations does not seem to add much to the information that could be obtained from crossing the classification by branch of activity. As may be seen in table 5, which is based on 1970 census data for countries of the region that publish the cross-tabulation of occupations at the two-digit level and employment status most own-account workers and agricultural managers are farmers; most unpaid family workers in agriculture are agricultural workers and most employees in the sector are agricultural workers or managers/supervisors of an agricultural holding. Hence, if one knows a worker's employment status and the branch of activity to which the establishment where he works belongs, one may infer his occupation at the two-digit level with a high degree of probability. This procedure would not allow, however, for a distinction to be made between managers/supervisors and agricultural workers, since the great majority of persons classified in these minor groups of ISCO (COTA 70 subgroups) are employees. Nevertheless, occupations could be separated by applying the occupational classification at the one-digit level if agricultural managers were included in ISCO major group 2 (administrative and managerial workers).

It may be concluded from the above, at least at the two-digit level, that one might question the usefulness of including agricultural workers and the disaggregation thereof in separate groups with respect to other occupations, particularly in the light of an approach which assumes the classifications to be interdependent and complementary.

At the three-digit level, the breakdown of agricultural workers and farmers takes into account the type of production in which they specialise.<sup>18/</sup> As is noted in the introduction to the 1968 revision of ISCO, "... in practice, (the classification by type of product) corresponds closely with the type of farm on which the work is performed."<sup>19/</sup> This correspondence may indeed operate in most cases. As regards the farmers, who in most cases are own-account workers, this correspondence can be expected to be perfect or nearly perfect. As regards the agricultural workers, this is often also the

Table 5

LATIN AMERICAN COUNTRIES. EAP IN AGRICULTURAL OCCUPATIONS ACCORDING TO EMPLOYMENT STATUS.  
POPULATION CENSUSES. CIRCA 1970 (PERCENTAGE)

Country	Employer	Own-account worker	Employee	UFW	Not respond- ing, others, not known	Total
<u>Costa Rica</u>						
Managers			99	1	-	100% (3 890)
Landowner farmers	2.9	93.6	2.1	1.4	-	100% (55 751)
Agricultural workers		0.20	79.5	20.3	-	100% (145 255)
<u>El Salvador</u>						
Managers and supervisors of agricultural holdings	10	1.8	87.8	0.3	-	100% (5 692)
Farmers	4.8	94	0.6	0.6	-	100% (193 763)
Agricultural workers	-	2.3	73.2	24.11	0.3	100% (426 035)
<u>Guatemala</u>						
Managers	2.5	3.1	93.6	0.7	-	100% (9 414)
Farmers	1.7	97.3	0.4	0.5	-	100% (395 258)
Agricultural workers	-	1.4	65.1	33.3	-	100% (439 955)
<u>Honduras</u>						
Managers	-	100	100	-	-	100% (2 495)
Farmers	15.7	84.2	-	-	-	100% (220 943)
Agricultural workers	-	-	52.40	47.4	-	100% (207 891)
<u>Venezuela</u>						
Managers and supervisors	5.26	22.1	71	1.6	-	100% (8 990)
Farmers	0.3	94.9	3.8	0.9	-	100% (359 757)
Agricultural workers	0.9	26.8	63.7	8.1	0.4	100% (222 975)

case, since establishments are classified according to their main product and most of the workers will naturally be engaged in work that is directly related to this product.

One of the basic objectives of the design of ISCO has been to provide a model to enable the countries to develop or revise their own national classifications. In this regard, the breakdown of agricultural workers according to tasks associated with types of products may vary from country to country. In some, the differences between types of tasks will usually be determined by the main product of the establishment; in others, it will instead be determined by the specialised type of work, cutting across various products (for example, workers specialised in ploughing or in growing different types of crops).

When the criterion of the establishment's production is given priority in the classification of agricultural workers and farmers, consideration should be given to breaking the classification down according to branch of activity, thus avoiding the use of spurious criteria in classifying occupations. Strictly speaking, if occupations can be classified according to the main product of the establishments where they are performed, it should also be possible -and more appropriate- to classify the establishments according to these different types of products.

The disaggregation of agricultural workers by type of production is based on the assumption that there is very little differentiation and specialisation among the activities of the sector and that the persons working on agricultural establishments carry out a wide range of activities involved in the production of the economic unit. Although this is the true situation in a large number of countries, this approach may not take into account the new occupational situations which arise as a result of technological changes in agriculture and changes in the use of the labour force on the more modern farms, especially those producing for export.

As the emergence of these phenomena has been noted, it has become important to encourage the use of the findings of studies on work processes and of anthropological and sociological studies of occupations in order to update and systematize the criteria used as a basis for occupational classifications in individual countries. This means that those responsible for producing official statistics must follow up more closely and make wider use of the results of

existing studies than they are at present. In this respect, it is useful to look at the experience gained from the 1970 census of Brazil, which applied a classification of occupations that differs from ISCO and COTA in two important regards: In the first place, livestock farmers, crop farmers, poultry farmers and farmers raising small animals were classified under administrative occupations, in a minor group of owners, and agricultural managers were included in the minor group of managers. In addition, agricultural workers were classified at the two-digit level, according to the skills required of them, into two minor groups: skilled, unskilled. At the three-digit level, the group of skilled workers included agricultural technicians and rural practitioners, plough and tractor operators; the unskilled included vegetable and flower farm workers, gardeners, hoers and animal husbandry workers. The importance of this initiative is evident when one considers that of the classifications of the occupational characteristics of the active population, only the classification of occupation makes it possible to follow up on the changes in skill requirements resulting from changes in technology and in the production relations of the agricultural sector.

Other problems to be considered are those which arise from the level of disaggregation -given the existing classifications- at which data must be analysed in order to obtain results that are significant for the usual analytical purposes of research on the labor force of the agricultural sector. As mentioned before, the distinctions between types of farmers and agricultural workers are made at the three-digit level in COTA 70, and at the four-digit level, in the case of farmers, in ISCO Rev. 1968. Of the censuses carried out in the region, only four countries published occupational tables at that level of disaggregation. Consequently, unless they have access to unpublished tabulations or to the census data archives, students of rural employment in most countries of the region will not obtain from the occupational classification published in the censuses any benefit in addition to that which they can obtain from the information on population classified by branch of activity and by employment status.

Moreover, at the level of disaggregation at which the current occupational classifications can provide information that is significant for the analysis of rural employment, it is

not practical to use the data provided by household surveys, since because of the wide range of sample sizes currently used, it would be impossible to avoid distortions arising from sampling errors.

b) Classification by branch of activity

The purpose of the classification by branch of activity is to provide homogeneous categories of economic units based on the similarity of the main goods and services produced by each unit.

As stated in the United Nations Handbook of Population Census Methods, "generally speaking, industry (also called 'branch of economic activity') refers to the type of product produced or the kind of service rendered by the establishment".  
20/ This refers to the establishment in which the economically active person has worked during the reference period established for occupational characteristics.21/ As in the case of the other occupational and employment characteristics, the degree to which economic activities are differentiated and specialised and the degree to which social work is divided can either facilitate or complicate the task of assigning economic units to the corresponding branches of activity. In the countries where this process is more advanced, one often finds economic units that are specifically organised and designed to manufacture or distribute a given product or provide a given service. In the developing countries, where the division of work is not so advanced, one often finds units of production that combine different types of such as agricultural production, retail sales, and production of crafts.

In order to classify this type of unit, one must have clear criteria for distinguishing between its primary and its secondary activities. Ideally, the main product or service of an economic unit should be identified by reference to the value added of the products it sells or the services it provides. In view of the difficulty of obtaining this information, the alternative followed in practice is usually to use either the proportion of gross output of an economic unit represented by certain goods or services, or the proportion of the total labour force of a unit of production that is employed in one of its activities.

In the case of agricultural censuses or farm surveys, the units of production are identified a priori from the data gathered, so that such problems usually do not arise in the field.

The situation is different in the case of household surveys and population censuses, where the respondent's replies must be used to determine the branch to which the establishment in which he carries out his main occupation belongs. This means, on the one hand, that the respondent must provide information that is specific enough to enable the statistician to codify its main occupation and, on the other, that the respondent must correctly classify the establishment where he works according to its main product.

The problems of assigning an establishment to the agricultural sector arise particularly in family production units where agricultural production is combined with crafts and even with the retail sale of some of these goods and in which, because of the size of the unit, the fluctuations which occur in the making of the various products and the uncertainty with regard to their final destination -the family's own consumption or the market- it is difficult both for the respondent and for the persons constructing the data to establish what the main product of the unit is. Also when faced with the problem of identifying the main activity of the family production unit, the respondent may indicate the one which gives him a higher status. The task of obtaining a reliable reply is further complicated if the respondent is not actually the person surveyed but rather another member of the household.

One characteristic of the International Standard Industrial Classification of All Economic Activities (ISIC) that could be a major obstacle to the study of agricultural employment is the low level of disaggregation which it proposes for the divisions and major groups of Major Division 1 (agriculture, hunting, forestry and fishing). Establishments engaged in agricultural production can only be identified up to three digits, at which level they are separated from agricultural services and from the other major groups included in Major Division 1 and this is the maximum level of disaggregation proposed in ISIC for this sector. This means that it is impossible to identify persons working in stock-raising establishments or those working in specialised farms growing export products such as coffee, cotton or sugar cane. In the countries of the region, such operations account for a large share of the agricultural EAP and these workers are subject to working conditions, forms of

organisation of tasks and social production relations that are significantly different from those prevailing in the traditional forms of agriculture. Although it is true that the character and definitions of the categories of ISIC are presented as a structure designed to encourage countries to design their own classification in such a way as to allow for the regrouping of national data for purposes of international comparability, it is no less true that in actual fact very few countries in the region applied, in their 1970 censuses, any classifications that were different from those of ISIC, both as regards the activities included in Major Division 1 and as regards the level of disaggregation at which they were presented. The three countries that did use classifications different from those of ISIC in the 1970 population censuses were Brazil, Cuba and Mexico. Brazil used a detailed three-digit classification that includes the most important agricultural and plant products of the country. The classification also makes it possible to identify the economically active population in stock-raising, poultry and apiary establishments. It does not, however, include ISIC Major Group 112, agricultural services. Cuba distinguishes at the two-digit level between sugar cane agriculture, non-sugar cane agriculture, stock raising and mixed agricultural activities. The classification used by Mexico makes it possible to identify separately agriculture, stock raising, poultry raising and forestry, and, like Brazil, does not include agricultural services under Major Division 1.

The restrictions with regard to disaggregation which characterizes the classification of agricultural activities in ISIC are a result of the application of certain criteria. One is the relative importance of the activities that should be included in the classification with regard to the total agricultural production of a country. Another is that, in order to constitute a group in ISIC, the production of the class of goods and services which characterizes a given group should account for the bulk of the output of the units classified to the group. According to this criterion, unless the economic units specialising in a certain type of agricultural or livestock product account for a major share of the total amount of those goods produced in all units, it cannot constitute a group. A third criterion, which is complementary to the second, is that if a product characterizes a group, this product must constitute the bulk

of the output of each unit included in the group. Finally, the breakdown of a classification is also affected by the requirement that the unit of observation and classification by class of economic activity must provide data not only on the products generated in it but also on the direct and indirect inputs used by each type of activity, separately. Because such data are hard to obtain, in practice economic censuses define establishments in functional terms, such as the combination of activities and resources devoted to them; to this end, separate records are kept of data relating to the production of these goods or services and to the materials, labour and physical resources used in producing them. In the case of agricultural activities in Latin America, where a large proportion of farming is mixed, agricultural activities have been classified at low levels of disaggregation because of the difficulty of obtaining separate records by type of activity.

In population censuses, knowledge regarding the active population in agriculture is obtained solely from the information provided by the respondent concerning the main product of the establishment where he works, independently of the type of relationship that exists between the respondent and the farm. In agricultural censuses and surveys, on the other hand, the information is provided by the farmer or the person responsible for the farm; he is asked to give information on the farm's main products (area planted, value of production). The criteria proposed in ISIC can then be applied to these data to establish the categories of classification by kind of activity.<sup>22/</sup> In this regard, agricultural surveys and censuses can provide the information necessary to proceed, on the one hand, to adjust the classification of agricultural activities to the national situation, and, on the one hand, to adjust the classification of agricultural activities to the national situation, and, on the other, to keep open the possibility of regrouping the information within the schemes proposed by ISIC to facilitate international comparability.

Finally, it should be noted that, independantly of the classification adopted by countries for the 1970 population censuses, the level of disaggregation at which the data were published further hinders the study of agricultural employment. In most of the tables providing information that is important for research on employment, the data on branch of activity are

given only at the one-digit level, so that agricultural activity is combined with stock raising, poultry raising, forestry, hunting, fishing and agricultural service. Efforts to adjust the classification of activities to the reality of agricultural production in the countries of the region must therefore include specific indications as to the cross-tabulations and levels of disaggregation that are required to satisfy the most important analytical purposes guiding a study of agricultural employment.

c) Classification by employment status

Any detailed description of the job in which a person is economically active (or was when last employed) would be incomplete if it only covered occupation and industry, because an essential component of any job is the relationship of the person performing it with the means used for the production of goods or services. Hence, classification according to status is intended to supplement the International Standard Classification of Occupations (ISCO) and the International Standard Industrial Classification of All Economic Activities (ISIC).<sup>23/</sup>

The importance of this classification becomes clear when one notes that much socially significant behaviour is determined more by a person's status -as employee or employer- than by the specific occupation in which he works or the industry to which the economic unit where he works belongs. In this regard, classification of the active population by employment status provides the basic information needed to break it down into meaningful social strata.

The employment status of a member of the economically active population describes the manner in which his work is compensated, given his position in production relations. It shows the distinction, which is traditional in the social sciences, between persons who own the means of production they use and the unit of production in which they work (independently of any contractual relations or commitments that might legally compromise the patrimony of the enterprise or production unit) and those who, on the other hand, work as employees, for a wage, in a production unit belonging to others. Therefore, the basic distinction in a classification by status is the distinction between entrepreneur and employee.

The international standards for population censuses to be carried out during the 1980s define status in employment as the status of an economically active individual with respect

to his or her employment and recommend a classification which includes the following categories:24/

- (i) Employer
- (ii) Own-account worker
- (iii) Employee
- (iv) Unpaid family worker
- (v) Member of producers' co-operative
- (vi) Persons not classifiable by status

As in the case of other international classifications, the purpose of this one is to provide a framework that will facilitate international comparison. It is recommended that countries establish their classifications in such a way that the resulting categories can be regrouped according to the classification proposed.

The international recommendations on classification by employment status only give main groups. Nevertheless, various subdivisions of the main groups have been considered; these have not been developed to the point of recommendations because of the difficulty of using such subdivisions to establish internationally comparable groups.

For the purposes of a study of agricultural employment, it would seem advisable to discuss the possibility of dividing the workers falling under each of the main groups (employers, own-account workers and employees) into smaller minor groups having greater internal homogeneity as regards the degree to which the individual controls his own job and the means of production he uses.

One subdivision that is important for the various purposes guiding the study of agricultural employment is that which refers to the number of persons employed by an employer. Neither of the other two classifications of occupational characteristics allows for a distinction to be made according to the number of employees an employer has, even though such information, in addition to providing data that are essential for describing the social status of an individual, would make it possible to analyse significant changes in the social structure which are generated by the system of production, in any industry. One of the reasons given for not making this distinction is that it would be difficult to set a maximum number of employees that would be equally significant for all industries and all countries. Although this argument is indeed a reasonable one, there is no doubt that in the absence

of any other information in this respect, a minimum distinction, such as that which could be made between employers employing less than 5 persons and those employing 5 or more, could provide data that would be useful for different analytical purposes. The usefulness of such a distinction will vary from one sector to another, but within each sector it would make it possible to analyse the relation between changes in the establishment's size and changes in various characteristics of its demand for labour. In the agricultural sector, the criteria for measuring the size of the staff of a farm should be determined bearing in mind the fluctuations in the demand for labour that are inherent in the sector, regardless of what research tool is used. An additional advantage of this approach is that it brings to light the problems involved in making a distinction between own-account workers and employers in agriculture, in view of the fact that many persons who are usually own-account workers occasionally hire one or more temporary workers for the harvest.

Even when criteria of size are specifically set, it may be difficult, in population censuses and household surveys, to make an adequate classification of establishments according to a dichotomy of size, particularly when the respondent is not the person whose data are being recorded. Strictly speaking, any question on the viability of such research must be answered by exploratory studies. On the other hand, although economic censuses and surveys provide more reliable data on the number of employees in establishments, they do not provide data on the socioeconomic characteristics of each employee.

Another distinction that is not considered in the recommendations on employments status—although it was proposed at the ninth International Conference of Labour Statisticians, in 1957—is that of subdividing the groups of employers and own-account workers according to their status with respect to ownership of the agricultural establishment they operate. The subdivision makes a distinction between owner-farmers, and tenant farmers and sharecroppers. The behaviour of persons and families who depend on their participation in agricultural activities for their main support is more closely associated with their status with respect to ownership of the land than with the main production of the farm on which they work or the type of tasks they perform. Although the differences between owner-farmers and tenant-farmers, as regards the degree of independence with which they are able to work the land, varies

depending on the level of development of the national legislation regarding tenancy, in most countries of the region the tenant-farmer is highly dependent on the landowner, who, because of his direct interest in enhancing the value of the farm, may intervene in the management of the land held by the tenant. This dependency is greater if a tenant's contract provides for payment to the landowner of a considerable share of the crop.

Finally, with respect to agricultural employees, we discussed in chapter II the importance of the process of substituting permanent workers for temporary ones who are hired for specific jobs inherent to the agricultural production cycle and the fact that with the appearance of independent contractors, there has been a change in the way these workers are hired. In the most general terms, the temporary nature of a worker's job is revealed by the changes in his place of work, occupation, industry, employment status or activity status. Because the range of possible combinations is so wide, the fact that a job is temporary can only be established by asking more or less detailed questions on the relative importance of the activities carried out throughout the year. The necessity of estimating the magnitude of this phenomenon and of discovering its characteristics has given rise to several measurement efforts. Some agricultural censuses and surveys include questions on the number of temporary and occasional workers, defining each type by the number of months worked during the year on the farm. When this question is asked only with respect to those persons who were working on the holding during a short reference period close to the time of data collection, however, there is a risk that the size of such groups will be overestimated or underestimated, depending on whether the reference period is close to a peak period or a slow period of agricultural activity. If a reference period of one year is used, on the other hand, there is the possibility of the temporary work being overestimated as a result of duplication, as different farms may list the same persons as temporary or occasional workers.<sup>25/</sup>

The person responsible for the establishment may be a reliable source of information about the number of persons working on the farm, particularly when workers are hired through contractors who take charge of hiring, supervising and establishing the terms of the labour contracts. In such

cases, the best source of information is the contractor himself, who is responsible for a service production unit, but who, as such, usually is not one of the units observed by agricultural censuses and surveys. Finally, this type of tool does not allow for a study to be made of the characteristics of the workers employed by the farm nor does it allow for a study to be made of the combinations of activities which establish the fact that these persons are temporary workers.

The only way to study temporary job from the data provided by the population censuses and national household surveys is through inferences drawn from questions on main and secondary occupations. The 1980 census of Brazil is an exception; because of the weight of this group within the population that is economically active in agriculture, an attempt was made here to identify the temporary workers called volantes as a subdivision in the classification by employment status. Volantes are a type of temporary workers who earn wages in all their occupations but who work in different establishments and who consequently cannot be identified through the conventional cross-classifications of employment status. The census also establishes whether they are hired indirectly -through a contractor- or directly by the persons responsible for the farm.

The main problem with considering these categories of workers as subdivisions of the employment-status classification in population censuses lies in the practical difficulties that arise when additional questions are included in already overloaded questionnaires and in the resulting increase in the cost of collecting, codifying, and processing the data. Each country must decide on whether or not to expand its classification, weighing the usefulness of the additional information against the cost of obtaining it. This additional disaggregation is more feasible, however, in national household surveys, particularly those that cover only the rural area.

### C. IDENTIFICATION OF AGRICULTURAL CONTRACTORS AND THEIR STAFF IN TERMS OF CURRENT INTERNATIONAL CLASSIFICATIONS

Perhaps one of the phenomena to have emerged most strongly as a result of modernization is that of the new production relations in agriculture arising from the sub-contracting of temporary agricultural workers. Although it is true that in some specific regions this phenomenon has been

common for several decades (for example, in the Argentine and Chilean Patagonia), this form of labour contracting has been extended, with the modernization process, to other regions, particularly Brazil, where it is estimated that today 39% of the population that is economically active in agriculture is hired under this system.<sup>26/</sup> From the point of view of measurement, it is helpful to separate contractors conceptually from the workers who are subcontracted by them.

Generally, the phenomenon consists of the employers' contracting labour through an intermediary (contractor, gato, enganchador, etc.), who takes care of obtaining the labour necessary to do the jobs and determines the wages and the general conditions of employment. Most of the workers contracted live in urban areas. The contractors are of various types. They may be permanent employees of a large-scale farming operation, or simply the owners of trucks who charge for carrying people to their place of work, while these people contract their wages directly and individually with the employer. More commonly, however, the contractor is a person who negotiates with the employer with respect to the carrying out of a specific job, and later contracts the labour to do it. His income comes from the difference between what the employer pays him and what he pays the workers in wages, plus his expenses.

#### (i) Contractors

From an analysis of the possibilities of identifying the contractors through cross-tabulation of classifications of industry, occupation and employment status in the current statistics, the following four groups of recruiters can be distinguished:

##### - Independent suppliers of labour:

Their function is to locate and concentrate the labour required for specific jobs on a farm at a given time of the year, without subsequently participating in supervision of agricultural tasks. For this, they receive lump-sum payment from the farmer. Their occupation is classified in ISCO under 1.94.20 (personnel specialist) and their branch of economic activity is classified in ISIC under 8329 (business services). The definition of the producers of these enterprises fits the description of category 112 of ISIC (agricultural services). Their employment status is that of employer.

- Contractors of machinery and agricultural equipment:

The classification by branch of activity of establishments employing persons who lease machinery or agricultural equipment depends on the characteristics of the service provided. If it includes the supplying of personnel to operate or assist in the operation of the machinery or equipment leased, they are classified under group 112 of ISIC (agricultural services). Within this group of establishments, and for purposes of classification by occupation and employment status, a distinction must be made between establishments made up of the owner and his paid staff and establishments in which the owner works alone, with occasional help from unpaid family members. In the first case, the occupation of the contractor falls under ISCO 2.19.90 (other managers) and their employment status is that of employer. In the second case, the occupation of the contractor who by himself operates the machinery and equipment he leases, depends on the particular type of machinery or equipment concerned (tractor, fumigating equipment, etc.), and his employment status is that of own-account worker.

As regards contractors who do not provide personnel, their establishments should be classified under ISIC group 8330, (machinery and equipment rental and leasing). As regards employment status, they may be own-account workers who work alone or with the help of unpaid family workers, or employers who use employees to perform these tasks.

- Employees or unpaid family workers whose main occupation is the recruitment of labour:

As in the previous case, these persons may be classified under ISCO 1.94.20. Their branch of activity, however, would be that of the agricultural establishment for which they work (ISIC group 111).

- Labour contractors:

These persons recruit and supervise the work of the labour on the farms that contract their services for any of jobs involved in agricultural production. Inasmuch as they organize, direct and control recruitment operations, the working conditions of the labour force, the performance of the workers, the search for and signing of contracts with establishments requiring these services, as well as the duties inherent in the management of the enterprise, their occupational classification under ISCO would be 2.19.90 (other managers). Their employment status would be either that of

employer or own-account worker, depending on whether or not they had employees.

As may be seen from the brief description given, it is not possible, using the three classifications simultaneously at their maximum level of disaggregation, to make a distinction between labour contractors and machinery and equipment contractors whose service includes the operators.

Consideration should be given to the possibility of breaking down ISIC group 112 so as to allow for the establishments corresponding to each of the contractors mentioned to be defined at the four-digit (group) level.

(ii) Workers hired by subcontract

This term refers to persons who work on one or more farms but whose working conditions are agreed on with a contractor, who also supervises their work and is responsible for paying them.

These persons should be identified under agricultural services (112). The international recommendations for agricultural censuses do not consider workers hired under subcontract as part of the labour force of the farm and consequently do not allow for an estimation to be made of the magnitude of this group. Nevertheless, it is possible to include among the traditional questions made in agricultural censuses on equipment and machinery leased during the year a question on the labour brought to the farm under a contractor. In order to determine the feasibility and advisability of such a procedure, however, an exploratory study should first be made to ascertain the general capacity of the farmers or persons in charge of the farms to provide information on the number of employees brought in through a contractor. When a farmer agrees to pay a contractor for getting the work done within a given time, he may then remove himself from any concern about how the contractor meets the terms of the agreement and consequently he may not know the size and composition of the labour force actually used. In such circumstances, there is no question that the ideal respondent would be the contractor himself. These, however, are usually not studied in agricultural censuses and surveys. An alternative would be to identify them through household surveys in which, at least theoretically, there would be the same likelihood of each contractor being selected in the sample. Since there are not many contractors, however, and each one may employ a highly variable number of workers, any

estimate of labour contracted that was based on his statements would probably give rise to an overestimation or an underestimation of that segment of the labour force that is made up of workers hired under subcontract.

In population censuses and household surveys, the size of the group of workers hired under subcontract can be estimated from the information provided by these persons themselves. In both cases, an effort should be made to determine whether the employer of each temporary agricultural worker is a contractor or the farmer responsible for the holding.

Another way of identifying these workers is through the strict application of the criteria on which the current classifications of occupational characteristics are based, since most of these workers are farm helpers (occupation) who are employees (employment status) who perform their work in establishments belonging to agricultural services (branch).

A person who at some time during the year has worked for a contractor as an agricultural employee may have also worked under different circumstances (type of employer, branch, status and occupation), and may have been unemployed or inactive at other times of the year. When data are gathered during a slow period of the year -which is usually the case, at least in agricultural censuses and surveys- it is quite likely that persons who throughout the year have had some experience working under a subcontractor will not be so employed at the time when the data are collected. Therefore, in order to be able to assess the relative importance of subcontracting as a method of employing the labour force in the agricultural sector, a reference period must be established within which the respondent can include the number of months or weeks or days during which he was employed by a contractor. In many countries of the region, the presence of a contractor on the agricultural labour market is closely linked with the production cycles of specific crops; hence, the countries should have an interest in trying to identify the types of crops associated with this method of hiring agricultural workers.

Several difficulties may arise in connection with the identification of the branch of the establishment where they work -or of the characteristics of the employer- in population censuses and households surveys. The two greatest difficulties may be, firstly, the fact that in most cases the information

can only be provided by the person whose data are being recorded, which means that the questions on this subject would have to be made at times when agricultural activity is slow, which is when temporary workers are most likely to be at home. Secondly, in household surveys, the limited size of the samples makes it difficult to obtain estimates of agricultural services that are not biased by sampling errors. The tables on branch of activity published by population censuses usually do not provide the breakdown necessary to identify workers of agricultural services. To do so, the data on branch of activity would have to be published at least at the three-digit level, at which agricultural production (ISIC 111) can be separated from agricultural services (ISIC 112).

During the 1970s, only five countries -all of which used reference periods of one week to determine main occupation- published branch-of-activity data at that level of disaggregation; of those countries, only four showed a cross-classification on employment status that would allow for the identification of employees of agricultural services. As might be expected from the above discussion, these tables would appear to underestimate seriously the population that is economically active in agricultural services. In four of the five countries, the EAP in agricultural services amounted to less than four per thousand persons economically active in agriculture; only in one of them, Uruguay, did the EAP in agricultural services amount to 19 per thousand EAP in agriculture (see table 6).

#### D. THE NEED FOR ADDITIONAL CLASSIFICATIONS

Discussions on the limited usefulness to the study of rural employment of the traditional classifications of the active population according to occupation, branch of activity and employment status have been concerned, on the one hand, with the usefulness of the categories and of the criteria on which they are based and, on the other, the need to adjust the levels of aggregation at which classifications are currently presented in order to show phenomena that are significant to an understanding of changes in the agricultural labour force in the region. Thus, in discussing each classification, it has been suggested, inter alia, that consideration should be given to the possibility of using the level of specialization and skill required for a job as an additional criterion in the classification of the occupations of agricultural workers, of

Table 6

POPULATION ECONOMICALLY ACTIVE IN AGRICULTURAL PRODUCTION AND AGRICULTURAL SERVICES BY EMPLOYMENT STATUS  
-POPULATION CENSUSES- LATIN AMERICAN COUNTRIES

	Costa Rica (1973)*		Guatemala (1973)*		Honduras (1973)*		Uruguay (1973)*		Peru (1973)*	
	Agricul- tural produc- tion	Agricul- tural services								
Employees	125 863	119	315 499	2 729	131 620	145	82 618	591		
Own-account workers	52 459	14	405 073	113	185 939	8	48 804	2 243		
Employers	1 633	1	7 498	23	34 864	3	14 761	184		
Unpaid family workers	30 326	8	152 453	12	101 650	4	14 399	31		
Looking for work for the first time, and unknown	-	-	699 <sup>a/</sup>	1 <sup>a/</sup>	186 <sup>a/</sup>	8 <sup>a/</sup>	721 <sup>c/</sup>	12 <sup>c/</sup>		
TOTAL	<u>210 281</u>	<u>142</u>	<u>881 222</u>	<u>2 878</u>	<u>454 259</u>	<u>160</u>	<u>161 303</u>	<u>3 061</u>	<u>1 506 433</u>	<u>3 923</u>

Source: Dirección General de Estadística y Censos, Censos Nacionales de 1973, Población, Costa Rica, December 1974.

a/ Not known.

b/ Excluding those looking for work for the first time.

c/ Includes members or producers' cooperatives (383, agricultural production and 4, agricultural services).

\* EAP aged 12 and over.

breaking down the categories of own-account workers according to forms of land tenancy, and of adjusting the classification of branch of activity in the light of the increasing importance of specialised farming which is a result of the modernization of agriculture in the region.

Mention has also been made of the importance of distinguishing between permanent and temporary workers. This, as well as the disaggregation of temporary workers according to the number of jobs held during the year and the combinations found to be typical as regards changes of branch of activity, occupation, employment status and place of employment, are analytical tools that are well suited to the study of rural employment and income from the standpoint of the labour market and of the utilization of labour.

The common characteristic of temporary workers is the fact that they change jobs more or less constantly; it is thus possible to identify them by the number of jobs they have had over a given reference period. Although it is important to identify an agricultural worker as temporary in order to point out the existence of a phenomenon that has significant social and economic implications and to assess the relative weight of this group within the population that is economically active in agriculture, this in itself is not enough to show the wide variety of occupational cycles that are associated with different groups of agricultural workers, each cycle consisting of a sequence of changes as regards activity status, branch, occupation, employment status, place of residence and place of work. The significance of these changes will vary from country to country and possibly from region to region within the same country.

Ideally, one might reproduce the vicissitudes of each person's occupational cycle by studying his activity status at different times during the reference period and the occupational characteristics of each job he has held. The disadvantage of this procedure is its cost; because of this, the usual practice in household surveys is to investigate the characteristics of the main occupation and the secondary occupation and, in some cases, activity status at different times of the year. Even this alternative is difficult to put into practice in population censuses, which usually only look into the characteristics of the main occupation.

Because of these limitations, which are inherent in national data-collection tools, and of the difficulty of establishing criteria for disaggregating temporary workers into

meaningful minor groups, consideration has been given to the possibility of carrying out studies designed to provide detailed descriptions of the occupational vicissitudes of such workers prior to the investigation of occupational cycles through censuses and surveys. These descriptions could be used to construct typologies of temporary workers in which each category would represent the combinations of activities that have been found to be typical in the agricultural work force of a given country at a given time. The typologies would make it possible to initiate or improve efforts to include temporary workers in the conventional tools used for broader coverage.<sup>27/</sup>

These studies show that in some countries, a temporary worker is typically a worker who moves at different seasons from urban centres to rural areas. In these cases, when policies are being formulated which require a forecast of the labour supply available for the harvest season, the researcher should try to obtain information that would enable him to identify the main sectors of activity from which the labour supply proceeds and then study the particular features of its dynamics in urban areas.

In other cases, the typical temporary worker will be a person who works all year long as an employee in the agricultural sector, but whose place of work changes constantly according to the growing and planting cycles of different crops (migrant worker or golondrina). In order to identify this phenomenon, it would be necessary—in addition to conducting the conventional study of occupational characteristics—to include a special question on the number of jobs the person has held during the year.

There may also be countries, or regions within a country, in which most temporary workers stay on a family farm during the slow period of the year, thus combining over the year the status of farmer (or unpaid family worker) and the status of employees during peak periods. Focusing on the changes that take place in the absolute and relative size of these groups allows for an analysis to be made of the relationship between the proletarianization of the rural labour force and the capitalistic modernization of agriculture.

One or the other of the categories of temporary agricultural workers that have been given as examples in the preceding paragraphs will represent a significant share of the agricultural labour force in the different countries of the region. Our purpose in mentioning them here has been to alert

statisticians to the possibility of expanding the classification of employment status to include one or more categories covering the most important types of temporary agricultural workers in the country.

Role assignment and decisions on who is to work within the household, who is to work outside and when and for how long are all part of a household's subsistence strategy. Information on the characteristics of a household therefore provides an adequate framework for determining how many agricultural workers are available for the labour market and in what way. It is therefore advisable to have a typology of households, which, on the one hand, should be developed from criteria designed to provide a useful framework for the analysis of availability, and, on the other, should not be too strict as regards the information required for preparing it, in order that the typology may be included as a subproduct of the data collected through conventional tools such as censuses and household surveys.

To illustrate how such typologies of agricultural households might be constructed to meet these requirements, we suggest that the central variable should be the type of exchange of work that takes place between the household and its social environment, for which two simple dimensions can be crossed, i.e., the purchase of labour force by the farm and the sale of labour force by the household. The purchase of labour force is understood to be the hiring of labour or its use through reciprocal systems for the exchange of labour among holdings. The sale of labour force is understood to be the work performed for other holdings in exchange for money or services. One of the advantages of this method of describing household-farms is that the information required can be obtained without adding to the cost of conventional questionnaires for household surveys; it does mean that changes have to be made at the data-processing stage, since it involves aggregating the information collected, taking the household as the unit of analysis.

For the purpose of this example, we suggest that a distinction should be made between households whose head sells his labour force and households where the labour force for sale is provided by other members. This distinction is based on the assumption that in rural areas certain cultural factors and elements that are common to family subsistence strategies tend to keep the head of the household at home. It should be borne in mind, in this respect, that, contrary to the case with

other members of the household, the socioeconomic position of the head is the main factor determining the status of the household within the community to which it belongs and that the status of independent farmer usually carries more prestige than that of agricultural employee.

The following table can be obtained from crossing the aforementioned variables.

Purchase of labour force by the farm 28/

Sale of labour force by the house- hold	Head and other members Only other members Does not sell	<u>YES</u>	<u>NO</u>
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A brief description of the types of households resulting from the cross-classification will clarify its usefulness:

- 1) Households of farmer-employees: During peak production seasons, the farms operated by these households require outside labour in addition to that provided by the household; however, in order to maintain the unit throughout the year, the head of the household and possibly some other members must supplement the income from their own farm by working for wages on other farms.
- 2) Households of agricultural semiproletarians: These have the same characteristics as category (1), but their farms do not require outside labour.
- 3) Peasant households who use outside labour during peak seasons: The head of the household does not sell his own labour to obtain additional income, either because the income generated during the peak seasons is adequate to support the head and part of the family during slow periods or because the active presence of the head is required to care for the farm throughout the year. Some members of the household do seek outside work, however, taking advantage of the opportunities offered by the market during slow periods on their own farm.
- 4) Peasant households such as those described in category (3) but which are not large enough to absorb a significant amount of labour in addition to that provided by the household itself.
- 5) Agricultural entrepreneurs whose farms are large enough to purchase labour and whose output is sufficient to

maintain the household without its members having to sell their labour to obtain additional income. There are different types of households of agricultural entrepreneurs, depending on the family labour required on the farm.

- 6) Peasant households such as those described under (5) but which are not large enough to purchase outside labour. The category may include both specialised farms producing mainly for the market and farms producing a variety of crops mainly for the household's own consumption.

To this stratification should be added a seventh category covering agricultural employees who do not have land, or those who own or have been assigned by the owner of the farm on which they work a dwelling surrounded by a plot which is only large enough to maintain a garden and a few animals for the household's own consumption. These workers are different from semiproletarian peasants in that they are chiefly agricultural employees and try to maintain that status all year round, even though it may mean emigrating to other regions, either alone or with their families. In measuring the well-being of households in this category, however, it should be borne in mind that they obtain income in kind from their family gardens.

The study of the exchange of labour between the household and its social environment may be refined if information is available on the number of labourers hired in by the farm and whether or not they are members of the household, as well as on the number of labourers hired out by the household. Although this information would make it possible to construct an index of the degree of use of outside labour in relation to the use of household labour,<sup>29/</sup> which is undoubtedly a refinement with respect to the method proposed in the preceding paragraph, we have not used it in this example because of the typical limitations of the tools to which these suggestions are directed. It is very difficult to include additional questions in the questionnaires used for national household surveys, especially when, as in this case, the informant's ability to recall accurately the amount of labour hired declines rapidly only a few days after the event. Since the significant reference period for this measurement is the agricultural year, the limitation can seriously affect the reliability of the measurement obtained.<sup>30/</sup>

Obviously there are many other criteria for drawing up a meaningful stratification of agricultural households. Some that may be considered are those relating to income in money and in kind, the extent to which the unit's output provides enough to feed adequately the members of the household, the size, of the farm, the quality of the land, equipment and technology, and the destination of production (for trade or own consumption). The advantage of the above suggestion regarding stratification according to the relationship between the household and the labour market is that it provides a typology which is also useful in drawing up a meaningful stratification relating to the well-being of the household and the opportunities available to its members, as well as for analysing employment from the standpoint of the labour market and the availability and utilization of labour market and the availability and utilization of labour. In this regards the household typology can be used as a contextual variable which provides a framework for interpreting the behaviour of individuals on the labour market and the importance of the characteristics of each worker's occupational cycle.

## V. DIFFERENT WAYS IN WHICH LABOUR IS UNDERUTILIZED

### A. INTRODUCTION

The purpose of this chapter is to explain the concepts now used to measure the underutilization of labour and to review them in the light of the specific problems which arise in applying them to the study of employment in the agricultural sector. From this perspective, the chapter criticizes the frame of reference in which the concepts are viewed and suggests some new approaches, including in particular those which place greater emphasis on factors related to the availability of labour.<sup>31/</sup>

### B. TRADITIONAL WAYS OF MEASURING UNDERUTILIZATION

#### (a) Open unemployment

After the size of the economically active population has been established and that population has been classified, the next step is to determine how much of it is underutilized. The most commonly used of the traditional measures is open unemployment, defined as those people without work and actively seeking work. Consequently, the rate of open unemployment is obtained by dividing the economically active population by open unemployment.

There is a broad consensus concerning the lack of usefulness of the concept of open unemployment, as it is defined in international recommendations, for the analysis of the underutilization and well-being of rural labour in the developing countries. One of the reasons for this view is that the concept of job-seeking makes no sense when there are no stable and institutionalized labour markets; when, because of low standards of living and the absence of mechanisms for alleviating unemployment, there are many people who simply cannot stand to remain jobless and, finally, when the demand for employment fluctuates so that the measurements used are affected by seasonal factors.

Moreover, consideration has also been given to the fact that owing to the heterogeneous environment in which agricultural production takes place, some of the economically active population remains on the margin of the labour market throughout the year. This is why it has been suggested that the concept of open unemployment be used only with reference to the wage-earning population or else, in a broader meaning, to refer to those members of the active labour force who have had experience as wage-earning workers even though at the time of the survey they can be classified under another occupational heading.

By taking these and other factors into consideration it may be seen why the widely held view of a Latin American rural sector which is affected by chronic shortages of productive jobs is not supported empirically by the data shown in population censuses and household surveys, which usually show rates of open unemployment and visible underemployment in rural areas which are significantly lower than what might be expected. Table V.1 provides an illustration of this, comparing the rates of urban and rural unemployment taken from some censuses and household surveys carried out during the 1970s.

As a partial solution to the problems mentioned above, the concept of seasonal unemployment has been introduced in an attempt to measure the number of people in the group without work at a given moment who are jobless because of seasonal variations in production but would normally be working if the data had been collected at another time. Although it is true that this concept of seasonal unemployment goes beyond and improves on the notion of open unemployment, it presents difficulties, particularly with regard to the real availability of labour during slack periods in production, which may occur in the occupational cycle of persons engaged in work which, while not traditionally considered to be productive, is nevertheless necessary for the development of families in rural areas.

Finally, recourse is also had to the concept of hidden (or discouraged) unemployment, which refers to that portion of the population which is unemployed and not seeking employment but which would be doing so if its expectations of finding employment were reasonable. However, these people cannot be brought into the economically active population unless it is first shown that their services are available for the

production of goods and services. And it is particularly difficult to prove that their services are in fact available; in practice the declaration of willingness to work has been adopted for that purpose, but this has meant, for the seasonally unemployed as well as for those who have been discouraged from looking for work, that certain additional problems must be solved, such as the problem of finding out whether the terms on which the workers are making their services available are the same as those which obtain in the "market" for that level of skill, if the workers in question are immediately available, if they would accept full-time work or only part-time work and whether they wish to work on or off the family holding. PREALC research covering the urban area suggests that not nearly so much labour is available as the number of people in the "hidden unemployment" category would suggest, if the restrictions on participating in the labour market are taken into account.

In all these cases it is important to consider the period covered by the declaration adopted to investigate the incidence of job-seeking. Although for purposes of clearly identifying the jobless it seems appropriate to operate within a short period, it is also useful to possess data on job-seeking over more extensive periods. With larger periods it becomes possible to give adequate consideration to job openings which, by their very nature, require that the seeker awaits the outcome of preliminary investigation or to the kind of thing which frequently happens in rural areas, where a seasonal, severe and visible shortage of jobs discourages any active attempt to seek work on the part of people even though they would like to set to work immediately. As may be observed in table V.2 in the Annex, the majority of household surveys examined used two periods - a short period and a long period - to examine job-seeking. When the long periods are used, however, it must be taken into account that people without jobs who have made some attempt to seek work in say the past three months may no longer be willing to work at the time when the data is collected. In order to detect such cases, another question - on current availability - would be necessary.

With respect to national practices, all the population censuses carried out in Latin America in the 1970s recorded the unemployed and those people who were looking for work for the first time. Only three censuses (Brazil, Mexico and Peru) concerned themselves with the time devoted to job-seeking as an indicator of an active effort on the part of the seeker, while

the remaining countries ranked as unemployed all people who indicated that they were "without work but seeking work" or more equivalent response. In spite of the COTA 70 in this connection, only the censuses of El Salvador, Mexico and Panama included the "discouraged unemployed", i.e., persons not seeking work because they were convinced they were not going to find any, in their definition of unemployment.

In the surveys, on the other hand, the examination of open unemployment is much more detailed. In table V.2 (see Annex) the surveys are classified according to the characteristics of the unemployment examined. As may be seen, a number of countries have requested information on the means used in job seeking as a way of measuring job-seeking more objectively.

(b) The concept underemployment

The open unemployment situations described in the preceding sector represent the extreme opposite of full employment - a situation which usually characterizes labour markets which are functioning correctly (generally in developed countries). Conversely, in economies such as those of Latin America and the Caribbean, employment situations located between the two extremes and difficult to characterize and hence to measure are more frequently encountered. These grey areas are usually referred to as situations of underemployment and may be approached very differently, as seen below.

In view of the variety of ways in which labour may be underutilized, it would be a good idea, in considering underemployment, at the same time to analyse all those factors which may combine to make up different degrees and types of underemployment. However, since our concern is to examine the problems related to measurement in an orderly fashion, the traditional approach to the topic is taken here.

In the resolution on measurement and analysis of underemployment and of the insufficient utilization of manpower resources adopted by the Eleventh International Conference of Labour Statisticians in 1966, an underemployed person was defined as being one whose occupation failed to meet certain standards or to compare favourably with another occupation he might have had in view of his professional qualifications. A distinction was made between visible and invisible underemployment. Visible underemployment is a statistical concept which describes the situation of people whose job does

not last as long as a normal job and who are looking for or would accept additional work. It is a situation in which not enough work is available. Invisible underemployment is an analytical concept which reflects a poor distribution of the labour resources or a fundamental imbalance between labour and other production factors. Its characteristic features are a low level of income, a failure to take full advantage of the skills available (hidden underemployment), and low productivity (potential underemployment).

(i) Visible underemployment

The visibly unemployed include all people who habitually and unwillingly work less time than is considered normal. To identify them the normal work day of a person is compared with the hours he would have worked had the productive unit or units in which he performs his activities been working to full capacity.

A considerable proportion of farm production takes place in family production units, in which the large majority of the workers are own-account workers or unpaid family workers. They may be permanently employed, but they maintain a very low level of productivity. Thus, the usefulness of the concept of visible underemployment in analysing underutilization in agriculture has been repeatedly questioned. Moreover, the concept of working hours may vary depending on the use to which it is put.

For example, if a study is being conducted to determine well-being the activities which are considered as work will be different from those which will be taken into account if the purpose of the study is to analyse the utilization of labour.

But even among wage-earning farm workers, the measurement of visible underemployment runs into a number of problems. In the first place, some criterion must be used to decide what normal working hours are a farm on which the intensity of the activity fluctuates depending on both the growing season of each crop and weather variations. If the criterion chosen is the average number of hours worked during the period of reference, it will vary in accordance with the number of part-time labourers who leave or join the economically active population during the reference periods.

Secondly, it is necessary to specify what "time worked" indicates: i.e., what period will be adopted as a reference period and, whether the time worked will refer only to the main occupation.

(ii) Invisible underemployment

In spite of gradual refinements, which in general have resulted in a more accurate definition of the aims for which data is sought, the best way of estimating the magnitude of invisible underemployment is still a matter of controversy, due to the many different perspectives from which the problem is approached and the tendency of analysts to adopt perspectives with a single discussion in spite of the obvious advantages of considering these phenomena from a multidimensional perspective in any study intended to lead to informed and effective policies. In practice the estimates of invisible underemployment in agriculture are based on farm productivity or on the income of the farmers or the members of agricultural production units.

-The criterion of productivity

The criterion based on a standard of productivity is the one which is most frequently used, but it presents serious difficulties of interpretation and measurement. In the first place, it cannot be used directly but must be based on research in which the unit of observation is the farm or establishment. In a household survey, for example, it is virtually impossible to achieve a high degree of accuracy in measuring the level of productivity of an establishment or production unit, unless it is a private smallholding, in which case the holdings household survey may be considered to be equal to those of a survey of establishments.

Secondly, as may be observed in connection with the measurements discussed below, the standard adopted is necessarily based partly on some other standard which is taken as a point of reference.

The most widely employed measurement of agricultural underemployment is arrived at determining the surplus labour which could be transferred to other sectors without significantly affecting agricultural production and is based on some standard of average productivity of the labour force. 32/ In order to make such estimates, information is needed on the extent of the area sown, the type of crops and the technological level of the farms. Then technical coefficients of labour requirements based on assumptions concerning its average productivity are applied. The difference between the size of the economically active agricultural population which is available for work and the numbers of workers which these calculations say is needed is the surplus farm labour which

is assumed to be employed at low levels of marginal productivity. Obviously, this way of estimating agricultural underemployment may be defined only in terms of surplus members of the economically achieve farm population, without differentiating between situations of unemployment and visible or invisible underutilization.

Due to the many farm characteristics which must be taken into account to make these estimates, it is difficult to view the establishments in terms of a limited number of strata which are useful in distinguishing between relatively similar ways of utilizing labour. Possibly, the estimates become more arbitrary as the level of aggregation of the data used increases, moving away from the observations recorded at the farm level to characterize large agricultural areas.

Another way of estimating the magnitude of potential underemployment in agriculture, which requires no guess work concerning the man-hours required for production, takes into account the number of hectares under a given type of crop needed to provide an adequate per capita income. The number of hectares available could be used to estimate the number of persons who can earn an adequate livelihood from such a farm, and when this number is from the farm population living on that land it will give the level of the surplus population. The accuracy of the results obtained with this method will depend on the validity of what is assumed to be an "adequate income" and of the relationship between the number of hectares and the income for each crop cultivated. In any case, it should be clear that the result is an estimate of the population surplus and not of the labour surplus, although it is possible to convert each of these variables into the other by using a coefficient based on assumptions concerning the proportion of active elements in a typical production unit.

In the sources most commonly used to make these estimates (farm censuses), the work actually done by the members of the production units observed is not taken into consideration. This means that the relationships of complementarity in the demand for labour by different types of establishments, such as those which might be formed in the minifundio-latifundio relationship, in which the holder of the minifundio is employed as a wage-earner in the latifundio, cannot be explored. In these circumstances, it may happen that even though a farm does not produce much, the holder and his family obtain enough income from other farm work to keep them

above the line of poverty from the point of view of welfare and the situation is such that the entire labour force of the farmer's household is not underutilized.

Finally, productivity is normally measured in monetary terms, so that it is not only a physical aspect of a strictly technological nature, but this physical output is also measured in terms of the value of the product. In situations in which the price may be abnormally low (when, for example, it is distorted by conditions in a monopsonic market), (monetary) productivity may appear to be relatively low without that necessarily meaning that the technological level of the farm has declined or that its resource endowment is very small.

-The income criterion

As for the income criterion, its greatest limitation is that its use may mean that the concept of underemployment is identified with that of poverty. From a strictly analytical point of view, a low standard of living should be considered to be an attribute of underemployment (with underemployment defined independently of a low standard of living), and consequently from the point of view of methodology, there are objections to using the level of income as a standard, as will be seen below.

But first it must be stated that when the income criterion is used to measure underemployment, recourse is had to various standards which may be classified under two headings, depending on whether they are endogenous or exogenous to income distribution. The most commonly used exogenous standards are the minimum legal wage and the cost of a basic basket of consumer goods. Both have certain drawbacks, some of which are reviewed below.

In the first place, the minimum wage is normally not a single wage. This problem may be solved by breaking down the active population into groups, so that for everyone employed in a particular sector or branch the wage corresponding to that sector or branch is used, even in the case of independent workers who are not legally covered by the minimum wage. In addition, some criterion must be adopted for those sectors for which a legal minimum wage has not only economic criteria but also factors of a socio-institutional nature, such as the bargaining capacity of the enterprises and trade unions and government policy, are used. It should be asked why a change in the bargaining power of such groups or in the income policy should be reflected in the level of underemployment. Finally, minimum wages are frequently eroded by inflation. The

estimated level of underemployment at any given time may very much depend on whether the minimum wage used has been in force a short time or a long time. In the latter case, the historical pattern of underemployment may show abrupt changes which reflect nothing more than changes made in the minimum (monetary) wage in an attempt to restore its real purchasing power.

For its part, the utilization of the cost of a basket of basic consumer goods as a standard gives rise to at least two problems, as follows: The first problem, which is a practical one, is related to the serious difficulty of coming up with a reliable indicator of that cost. Nevertheless, the growing interest in the problem of basic needs has resulted, among other things, in some relevant statistics in this respect.<sup>33/</sup> The second problem is that if the cost of the basic basket is used to analyse the evolution of underemployment in time, it will be necessary to change its contents and also, of course, its cost. A basket which satisfies basic needs varies in time, since it is felt that its composition should reflect the general economic conditions obtaining in the country. Additionally, its contents obviously vary depending on whether it is intended for urban or for rural areas; and the relative share of each type of area also tends to change radically during periods of rapid urbanization.

Consequently, if this kind of adjustment is not made in the contents of the basket, there will be a tendency for underemployment to be increasingly and systematically underestimated.

As for those standards which are endogenous to the frequency distribution, the most widely used are the mean (or part of it) and some mixture of the mean and the standard deviation. The main problem attached to the use of this kind of standard is that in practice, in view of the frequently unimodal approach taken to distribution, relatively small variations in the standard bring about significant changes in the estimated magnitude of underemployment because any reasonable value placed on the standard of income will tend to come close to the prevailing income. Even so, this problem diminishes when it is a matter of producing historical series since in such a case any reasonable standard which is consistently applied will make it possible to obtain reliable measurements of the percentage change in underemployment, even

though its estimated level may be controversial.

Finally, reference should be made to some conceptual problems of a more general nature which are involved in the use of an income criterion and are even related to other criteria. In the case of wage-earners, situations may be found in which the low wages they earn are not attributable to low productivity but rather to the fact that they are simply underpaid. This kind of situation shows that there is not always a direct correlation between productivity and wages, owing to the influence of other variables which come into play and are reflected in differences in the margins of profit and even in the rate of gain itself. Examples of this situation may be found in cases in which there is a chronically high rate of unemployment and underemployment which induces salaries to fall or when labour legislation is not sufficiently advanced or is not applied with enough vigour, as regularly happens in the agricultural sector. In such conditions, the use of the income criterion will result in a marked tendency to overestimate underemployment.

Similarly, in the case of own-account workers there are also difficulties in using the same variables mechanically. Thus, the productivity associated with some jobs may be estimated as being relatively high, while the income obtained by the people performing them is low because there are mechanisms for appropriating the surplus, mainly in the financial and commercial realm, which intervene in the relationship between productivity and income. Again, there is doubt as to whether such situations may be described as underemployment.

Population censuses and household surveys, whose units of observation are individuals and households rather than economic establishments, collect data which make it possible to identify the total amount of personal income, by type of sources, and to aggregate it for more complex units. The reliability and validity of such data is very problematic as has already been pointed out in a number of documents.<sup>34/</sup> The problems of validity are not unconnected with the variety of approaches used in collecting and analysing data on the underutilization of the labour force. Thus, personal income may be considered as an indicator of the productivity of labour, as an indicator of the inability of the type of work to provide incomes which will keep the workers above the poverty line, and as an indicator of the ability of the

economy to provide alternative occupations which make it possible to earn an adequate income. In addition, it is often difficult to distinguish between low incomes which are due to faulty productivity, and low incomes due to the fact that the worker is exploited.

Both the problem of data quality and the need to consider the variety of approaches which associate personal income with underutilization mean that the analyst must clarify his concepts and methodology before using the data available to him on income.

After analysing the data obtained from 14 farm censuses, we have concluded that the income from production was investigated in some detail in only three of them.

Although population censuses are not suitable instruments for exploring invisible underemployment, the data obtained from them may provide a rough idea both of the magnitude of this phenomenon in the agricultural sector and of the characteristics of the social sectors in which such underemployment is concentrated.

As may be seen in table V-4 in the Annex, only seven countries gave any consideration to income in the population censuses carried out in the 1970s. Even first glance at the table gives rise to doubts concerning the possibility of comparing income figures between countries, in view of the dissimilarity in the ways in which the question was considered. In four of the seven countries consideration was given to the income of the entire population of active age, whereas in the other three data was collected only with respect to the income of wage-earners. The periods of reference are also dissimilar. Moreover, of the seven countries in which income is taken into consideration, only Panama showed the relationship between income and time worked, and then only for wage-earners. As for the concept of income used, no country included wages in kind (although in the case of Brazil there is no indication whether the question relates to monetary income or to income in kind) or subsistence production. Wages in kind may be particularly important in the case of agricultural wage-earners, who usually receive a considerable part of their income in the form of housing, food, clothing and other benefits. In the case of subsistence production, not only is it hard to define in such a way as to make a distinction between production for home-consumption and the rest of farm production but it can in all probability

only be measured correctly by making a detailed study of the foodstuffs grown and the proportion consumed by the family. Even then, however, the problem of what value to place on subsistence production remains, as does that of the validity of the criteria which may be used in the field to obtain acceptable results.

The measurement of the income of agricultural enterprises gives rise to another set of problems associated with the value to be placed on the total production of large farms over and above the income earned by sales. The most serious such problems relate to the appraisal first of the direct investment made by farmers in their holdings through their own efforts, and second of the variations in the number of livestock they possess.

As may be seen in table V-4 in the Annex, the censuses also vary in respect of whether they include total personal income or only the wages or salaries from the main occupation. If the objective is to determine levels of income in order to identify persons, families or households living under the poverty line (which may make it possible to study also the occupational characteristics and employment situation of that segment of the population), it is important to have data on the total personal income of each of the persons involved. If, on the other hand, the purpose is to pinpoint agricultural activities which are not efficient enough to generate income higher than a minimum established level, it will be necessary to examine the income derived from the principal activity of those people, and here the observations made above concerning the advisability of having equivalent reference periods for incomes derived from the main activities and the time devoted to them are relevant.

Analysis of the national household surveys carried out in the region shows that there are great differences in the depth and detail with which income is covered. As may be observed in table V-5 in the Annex, the surveys also vary in respect of whether they cover the total income from all sources (including remunerations in kind), the total income from all occupations and the income from the main occupation. As regards the income from the main occupations, the surveys are divided between those which ask the same question in respect of all those employed and those which ask different questions for wage-earners and for own-account workers or employers, and different reference periods are usually established for each of the two cases.

To estimate the advantages or disadvantages of these practices in respect of the provision of data for describing hidden underemployment, it is necessary to identify the approach used in collecting the data. If emphasis is placed on well-being, it will be useful to obtain data on family income from all sources, which may be collected or computed by making the corresponding changes for a given reference period. The data should make it possible to identify those persons and family units which, by virtue of their income, are located below an established poverty line, so that subsequently consideration may be given to the occupational and employment characteristics of each of the persons in or members of such units.

If, on the other hand, what is sought is to determine kinds of economic activities whose efficiency is not enough to generate income above the established poverty line, it will be necessary to look into the income derived from the main activity of each person, taking the time devoted to that activity into account.

(iii) Equivalent unemployment

So far we have been discussing the identification of persons who are in the economically active population but are underutilized, either because they are unemployed or, in the case of the underemployed, because of the kind of job they hold. There may, of course, be objections to the practice of merely lumping together. In order to calculate the rate of underutilization of the manpower in the unemployed group and that of those in the underemployed group, it is necessary to introduce the concept of equivalent unemployment (included in the concept of underemployment). This concept is a hypothetical measurement which is usually defined in one of the following two ways:

- (a) as the number of employed people who would be unemployed if the existing demand for labour were distributed in such a way that all those who worked were fully occupied;
- (b) as the number of full-time posts it would be necessary to create to absorb all the underemployed.

Both of these methods may be applied on the basis of the hours worked and/or the income received. In the case of both visible and invisible underemployment, equivalent

unemployment is represented by the number of full-time posts, to the total working hours and income received in respect of the work, which it would be necessary to generate in order to absorb the existing underemployment in a given economy. The sum of the equivalent unemployment contained in the visible underemployment and the invisible underemployment and the number of unemployed persons reflects the equivalent number of underutilized persons in the labour force. This number divided by the economically active population represents a percentage which is known as the rate of underutilization of the labour force.

### C. UNDERUTILIZATION AND EFFECTIVE AVAILABILITY OF LABOUR

#### (a) The importance of the distinction

Although the quantifying of underemployment as well as open unemployment represents a considerable advance at both the analytical and the methodological level, it must be noted that there are still some fairly complex aspects of the measurement of underemployment on which more work might well be done. This is due to the fact that some of the hypotheses used in computing underemployment are open to discussion, in particular in so far as the traditional sectors are concerned. Thus, in as far as it is always necessary to set a standard, whether it be in terms of days or hours worked, level of income, effort involved in the work or other variables, the implication is that there is some involuntary underutilization of the labour force if its members were given a good opportunity, to work, they would seize it. This line of reasoning suggests that people have a rational attitude to work, and that this rationality is defined exogenously. Actually, this conceals certain institutional and cultural factors, as well as factors associated with the class structure, which should be taken into account. Similarly, in the case of the traditional sectors, it is necessary to draw a distinction between availability for work in the labour market and availability to work within the household when the latter is also a productive unit.

The importance of quantifying unemployment and underemployment is related to need to plan for the full use of human resources in order to promote well-being. This means that in terms of employment planning and economic and social development planning in general, steps must be taken to avoid the risk of identifying the reserve manpower with the manpower which is immediately available, since, because of the factors

mentioned above, the latter group may be smaller than the former. Thus, an increase in total demand may bring about the full utilization of the manpower immediately available but may not affect all of the reserve manpower, which will be fully incorporated into the labour market only when more comprehensive policies designed to remove the institutional, economic and cultural obstacles to the fuller utilization of human resources are implemented.

Another danger which should be avoided relates to the fact that underemployment is usually conceived of as static, the implication being that some of the underemployed manpower could be dismissed without changing the level of production if the remaining variables (technology, capital, etc.) remained constant. What is actually happening here is that a difference between two atemporal situations is being estimated.

Finally, because of the way the concept of invisible underemployment (based on a criterion of income) is usually used, what is actually being measured is poverty and not underutilization of manpower in its strict sense. Such an approach may therefore be useful in special cases when it is desired to study underemployment in the context of well-being, but is less useful for dealing with the problem of the availability of manpower.

As one way of solving the problems posed, recourse has been had to some additional alternative methodologies. The possible usefulness of these alternative methodologies relates to the fact that they help to distinguish between underutilized manpower and manpower which is immediately available. In the first place, to the extent that the indexes of underutilization are statistical aggregates, it is necessary to stress the fact that some of the rates of underutilization computed are not strictly matched by similar amounts of available manpower. Secondly, it should be added that because of the nature of the work in the traditional sectors, it is easy to imagine that there can be manpower which is underutilized but at the same time is not available for entry into the labour market. For this reason, the studies made to find out the volume of human resources and the degree to which they are utilized should focus not only on underutilization but also on the availability of manpower at different points in time. It should be noted that the importance of the latter aspect is partially due to the fact that personal income may also be increased by increasing the time available to people for entry into the labour market and/or by giving them greater opportunities to work productively.

There follows a summary of some of the supplementary methodologies referred to.

(b) Supplementary methodologies

(i) Analysis of the use of time. One of the supplementary methodologies recently proposed for calculating the magnitude of underemployment and studying its main characteristics involves studying the use of time and its distribution within the family. This methodology is based on a critique of the concept of surplus manpower as it is usually applied in the traditional sectors. Thus, surplus manpower is defined as the difference between the available manpower and its present use, measured in standardized units of working time. In addition, the concept of available manpower is not always clear unless it is assumed that all the people in a certain age group are physically and culturally able and willing to be included in the labour force. In the absence of organized labour markets, and in view of the impossibility of *distinguishing between voluntary and involuntary idleness*, this kind of exercise usually remains very much in the realm of theory.

The methodology referred to is aimed at learning how the various members of a family use their time, so as to find out how the family functions as a unit of production and consumption. For this purpose, a matrixe is designed in which on the one hand people are classified by age and sex and, on the other, the time devoted to various tasks is measured, such tasks including, for example, preparation of meals, fetching of wood and water, repairs, marketing, care of animals, farm work within and outside of the family property, handicrafts, child care, illness, social visiting (see chapter III).

The tasks in the list may be grouped together or broken down, depending on the purpose of the research, but in any case the studies which have been carried out (mainly in Asia and Africa) suggest that there is a division of labour by age and sex which it is important to describe in order to understand the participation of individuals in the labour market. At the same time, it is possible to investigate the work no work dichotomy in greater detail. In particular, this methodology is useful for investigating the volume and nature of the reserve of manpower.

The main results of these studies show that there is very significant by women in work which is directly productive;

that the participation of children, particularly those of male sex, in production may amount to as much as three hours a day; that work which is directly productive accounts for close to half of an 8-hour day and that the rest is employed in activities which, while they cannot be considered as employment in the strict sense of the word, generate well-being and are necessary for the functioning of the family and the production unit. Finally, other interesting findings include the fact that illnesses constitute a significant factor in the non-utilization of manpower. In summary, these studies provide valuable information concerning the division of labour within the family, the participation of family members in productive activity, and the real availability of manpower.

(ii) Breakdown of underutilized manpower. Another of the methodologies which has been used recently seeks to break down the category of those who are not fully employed into its component parts.<sup>35/</sup> This methodology is also aimed at making a more thorough study of the manpower supply. In particular, it makes it possible to distinguish between that portion of the underemployed category which could be fully employed if the aggregate demand were increased and those who even in such circumstances would remain underemployed, since their circumstances are attributable more to social, cultural and institutional factors.

The formula expresses the rate of underutilization, defined as the surplus of working time available over and above the time actually used, in terms of other quotients. Thus we have:

$$\frac{LA - LU}{LA} + \frac{LA - LW}{LA} + \frac{LW - LO}{LA} + \frac{LO - LU}{LA}$$

in which:

- LA is the total number of workdays potentially available in a year for everybody of working age;
- LW is the total number of workdays potentially available in a year for everybody who actually works;
- LO is the total number of workdays actually offered in a year by all those who work;
- LU is the total number of workdays actually used in a year.

The above formula is usually interpreted as follows:

$$\begin{array}{l} \text{Rate of underutilization} \\ \text{of manpower} \end{array} = \begin{array}{l} \text{Rate of voluntary} \\ \text{unemployment} \end{array} +$$

$$\begin{array}{l} \text{Rate of voluntary} \\ \text{underemployment} \end{array} + \begin{array}{l} \text{Rate of involuntary} \\ \text{underemployment} \end{array}$$

As may be seen from the formula, the statistical requirements for the accurate measurement of the real offer of labour are that a number of questions as to the work potentially available from the manpower in different conditions of activity and also the workdays actually offered by the active population should be added to the traditional measurements. In this way, a clear idea would be gained of the availability of labour which can actually be mobilized.

## VI. THE MEASUREMENT OF RURAL INCOMES

### A. INTERDEPENDENCE IN RESEARCH ON RURAL EMPLOYMENT AND INCOMES

As was pointed out earlier, the conceptual framework guiding the measurement of employment, participation in production activities and the income derived from that participation occupy a central position in the relationship between growth and equity, production and well-being.

Employment and income are two sides of the same coin. From the point of view of production, they are two basic elements in the transaction through which labour is applied to the production process. From the point of view of well-being, employment is one way of using the skills of the members of a household to obtain incomes as a means of obtaining goods or the purchasing power to satisfy its needs.

In view of this interdependence of concepts, it is not possible to analyse employment in any depth without taking into consideration the income it generates or pays as one of its basic characteristics, or to go more deeply into the analysis of primary income without considering the nature of the employment which generates it.

The income obtained in a job is a synthetic indicator of the characteristics of that job in terms of demand for labour and for the various skills offered by the employee, both of which are subject to all the factors which determine the operation of the labour market in question and the remuneration provided. Whatever the prevailing relationship between productivity and remuneration in that market may be, there undoubtedly is some relationship. In the case of agricultural employment, we have seen the extent to which the income may be an indication of degrees of underutilization of manpower. Furthermore, the sources and composition of the incomes of rural households constitute key indicators in explaining the strategy of survival of those households and the intra-family allocation of functions involved in that strategy, which determine the behaviour of the household members insofar as

their participation in production is concerned. From this point of view, income represents an essential variable in linking the observed behaviour of the individual participants in production activities to the basic model used to explain that behaviour, which is rooted in the household.

Conversely, the characteristics of employment and what they reveal concerning the factors which determine the remunerations paid help to explain how the levels of income are determined. Although, with regard to the latter, the final aim of measuring incomes is to evaluate and analyse one of the basic aspects of the well-being of a population, concern for income distribution also leads to an analysis of the conditions in which those incomes are generated in productive activity.

These considerations show the need for examining rural employment and income together. In the same connection, there are other considerations of a technical nature and operational advantages inherent in the instruments of measurements. Linking primary income to the employments from which it is derived in household survey questionnaires makes it possible to determine remunerative activities other than the main activity, facilitates recall on the part of the informant or informants, gives the measurements used greater conceptual uniformity and makes it possible to produce a more consistent analysis.

For a broad range of rural households, examining primary income in conjunction with the productive employment from which it is derived is not, however, enough to provide even a partial overview of their strategy of subsistence and hence of their living conditions. To get such a picture, it is also necessary to examine what goods the household produces for its own consumption and what activities are carried out within it which, although unrelated to production, are key activities in the articulation of its subsistence strategy. This leads one to think that the most appropriate framework for studying employment and income is to examine all activities performed by the members of the household. This would result in the first place in a global understanding of the basic features of the subsistence strategies and the role played in them by market-oriented productive jobs and the income obtained through such jobs. Secondly, and as an accessory to the foregoing, it would make it possible to impute economic values to activities carried out for the

purpose of directly obtaining goods for household consumption or goods which contribute to domestic production, using those imputed inputs to complete the picture of the aspects of well-being on which a value can be placed.

## B. CONCEPTS OF INCOME

### (a) The frame of reference

The System of National Accounts,<sup>36/</sup> developed by countries in different stages of development and by the international community since the war, represents an attempt to provide a broad and detailed frame for the systematic and full registration of every kind of transaction which takes place in an economy. As development proceeded, it became necessary to put the concepts and classifications of the various types of transactions which take place in the economy, including household income, into some kind of consistent order. Furthermore, the systematic nature of the scheme guarantees that the different macroeconomic aggregates are conceptually and numerically consistent. Because of this, the System of National Accounts provides a good general frame of reference for the concepts of income used in any measurement which it to be placed in the macroeconomic scenario for policy purposes. Moreover, the conceptual consistency of these measurements and that of other macroeconomic aggregates which are made in the framework of a country's national accounts, in addition to making it possible to point to discrepancies between the two types of measurements, facilitates the joint use of all the macroeconomic information available for purposes of analysis and policy.

Taking the SNA recommendations as a conceptual frame of reference for household incomes and the actual estimates in a country's national accounts as a quantitative frame of reference does not mean that too much attention will be paid to these estimates to the detriment of the other measurements of rural income proposed, which might make those other measurements too complex and more precise than they need to be, if such a step were carried to its extreme. Nor need it limit the range of possibilities for analysis opened up by the measurement of income to the big aggregates of the frame of reference made up by the national accounts.

In this connection the guidelines on statistics of the distribution of income, consumption and accumulation of households <sup>37/</sup> prepared by the United Nations constitute a

system which is related to the SNA but which puts great emphasis on and is more directly oriented towards the analysis of well-being and, in defining transactions, takes into consideration their relevance for households more than for the economy as a whole and introduces more detailed and relevant classifications and tabulations than those which can be included in the SNA.

However, the breakdown of income envisaged in this basic conceptual system may still be insufficient for the analysis of well-being in the broad context of living conditions and for analysing the factors which determine the availability of manpower, since it does not take into account all those factors which pertain to the subsistence strategies of households. Nevertheless, it provides a good point of departure for the consideration of the concepts of income to be used in measurements, since it ensures that those measurements will eventually be conceptually consistent with the measurement of other aggregates of the economy, particularly those which show the results of production.

Adequate consideration of those aspects of the subsistence strategies which govern the availability of manpower and those components of well-being which complement that achieved through the work/income relation means that it is necessary to complement the basic conceptual framework provided by the guidelines with some scheme which incorporates the non-monetary components of well-being. One possible solution is to extend the examination of activities carried out by household members beyond those related to work for pay or benefit and to seek data concerning the economic value or usefulness of the other activities.

b) Household income in national accounting

As has already been pointed out, the classification and definition of the income flows included in the income and outlay account of the Guidelines 38/ provide a general conceptual frame against which to refer the measurements of income obtained from different sources. Tables 6 shows the components of the total income of households classified by primary income, property income or current transfers and other benefits received. It also shows the differences between this concept and the other concepts on total disposable household income and total disposable income of the population.

To be clear as to how this frame relates to the more usual macroeconomic aggregates it is necessary to bear in mind

the series of steps in the generation, appropriation and redistribution of income, as they are recorded in the System of National Accounts.<sup>39/</sup> In general, the household and unincorporated enterprises income and outlay account in the System of National Accounts is the base on which the income and outlay account of the Guidelines, as summarized in table 6, has been built. However, this account provides for the sub-division and reclassification of some items from the SNA account with the objective of showing the stages in the formation and disposal of household income; it makes it possible to explain the concepts of primary income (not used in the SNA) and that of disposable household income.

The concept of total disposable income of the population (which is not used in the System of National Accounts either) includes, in addition to the total disposable household income, the value of the goods and services received free or at nominal cost by households. This accounting concept needs to be constructed by imputing such values. It is included in the conceptual frame because there is a need to incorporate the redistributive effects of public expenditure, just as the concept of total disposable household income incorporates the effects of direct taxation.

c) Concepts of income and objectives of analysis

As has already been pointed out, participation in productive, income-generating employment is one of a number of decisions which is taken within the household with a view to maximizing the well-being of its members in view of the restrictions on its resource base and opportunities. These decisions make up the particular subsistence strategy followed by the household, which is reflected in all the activities carried out by its members. These may be market-oriented activities (either the labour market or the commodities market); they may be indirectly related to production for the market (such as labour on the family farm or other holdings, in payment for equivalent productive services); they may be related to the direct acquisition of benefits (such as production for home consumption, domestic chores or community projects), the future expansion of the resource base (such as instruction), or they may even be activities whose mere performance represents a satisfaction. Thus, those decisions govern, inter alia, the availability of manpower to participate in productive activities in general and in the labour market in particular.

From the perspective of well-being, income constitutes a leading, though of course not the only, element in the household subsistence strategy aimed at raising its well-being to the highest possible level. In this connection, to analyse these subsistence strategies it is necessary to consider all activities carried out by the members of the household, whether or not they are directed at the acquisition of income in the market. For a similar reason, it is necessary to consider the income from all sources, and not only primary income derived from participation in production; in addition, the measurement of income must include all the sources of rural household income, including that derived from non-farm activities.

This shows the logic of imputing income values to those components of satisfaction which are obtained directly by the household from the performance of non-market oriented activities. In this connection, as has already been pointed out, comparability with the macroeconomic frame of reference given by the national accounts brings an element of arbitrariness into the picture: the conventional definition of the production frontier includes as subsistence production (to which a value must be imputed and which must be added to the value of market production) both primary production and the processing of primary goods for home consumption, construction and improvements on one's own account, and the production of other goods produced for the market but consumed at home. On the other hand, it does not include as subsistence production non-primary products elaborated by households for home consumption, certain services for production on the family holding, and domestic activities. Since, conceptually speaking, income originates in production, the activities which give rise to it cannot exceed the limits of production. For this reason, the need to impute income in a way which is consistent with the national accounts is confined to the net value of the subsistence production included in those accounts (see table 7).

Although, for reasons of comparability with the national accounts, such conventional limits are recognized in measuring household income, for analyses of well-being, subsistence strategies and ultimately the availability of manpower, it becomes necessary to include such income in the broader frame of the set of activities making up subsistence strategies. This may be achieved, if, for example, the income actually received is measured and the other income is imputed with reference to the comprehensive list of activities given in table 3 (Classification of activities).

Table 7

## COMPONENTS OF HOUSEHOLD INCOME

1. Primary income
  - (a) Compensation of employees
    - (i) Salaries and wages
      - a. In cash
      - b. In kind
    - (ii) Employers' contributions to social security and similar schemes
  - (b) Income of members of producers' co-operatives
  - (c) Gross entrepreneurial income of unincorporated enterprises (including withdrawals from quasi-corporate enterprises).
2. Property income received
  - (a) Imputed rents of owner-occupied dwellings
  - (b) Interest
  - (c) Dividends
  - (d) Rent
3. Current transfers and other benefits received
  - (a) Social security benefits
  - (b) Pensions and life insurance annuity benefits
  - (c) Other current transfers

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Total household income

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Less

4. Direct taxes paid

Less

5. Social security and pension fund contributions
  - (a) Social security
  - (b) Pension fund

---

Total disposable household income

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Plus

6. Income due to free or reduced-cost services furnished by government and private non-profit institutions and industries or government subsidies

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Total disposable income of the population

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Source: Adaptation of table II.1 in United Nations, Provisional guidelines on statistics of the distribution of income, consumption and accumulation of households (ST/ESA/STAT/SER.M/61), New York, 1977.

Within the general frame of reference of the different concepts of income shown in table 7 it is also possible to show which concepts are most relevant to each type of analysis.

Both for measuring standards of living for an analysis of well-being and for analysing the availability of manpower, it is advisable to use the concept which fits in best with the budgetary restrictions which households have to face when seeking to maximize their benefits. This concept is that of the total disposable household income, after deducting the direct taxes and all social security contributions from the total household income. However, for some policy purposes it may be advisable to consider the disparities in the standards of living measured on the basis of the total household income (i.e., prior to making these deductions), since a tax policy designed to promote redistribution would be based on that income.<sup>40/</sup>

Income measurements to be employed in analysing the use of the labour force should, on the other hand, concentrate on those components of the household income which are directly related to participation in production, i.e., income which comes under the heading of primary income (and for this very reason is usually known as participation income). Moreover, to the extent that labour force utilization is analysed within the theoretical framework of decision-making within enterprises, consideration must also be given to the employers' contributions to social security, which represents a cost element in the use of wage-earners.

Similarly, participation income in the primary income category includes wages and salaries which are relevant for the analysis of the labour market.

### C. TYPES AND FORMS OF RURAL INCOME AND THEIR MEASUREMENT

Although the broad concepts of income used in national accounting form the overall frame of reference, for the analytical purposes considered here, macroeconomic measurements at the level of the corresponding units of analysis (whether households, individuals, occupations or holdings) are required.

Those measurements should be defined operationally not only in accordance with the general kind of income corresponding to them in the context of the national accounts,

in accordance with the classification shown in table 3, but also on the basis of the source of the income and the form in which it is received, so that consideration can be given to the households and their members and the ways in which the informants identify it or can have information pertaining to it in their possession.

For this reason, the Twelfth International Conference of Labour Statisticians (October 1973) has recommended that:<sup>41/</sup>

"For the purposes of surveys on family income and expenditure, household income is the sum of money income and income in kind and consists of receipts which, as a rule, are of a recurring nature and accrue to the household or to individual members of the household regularly at annual or at more frequent intervals.

Household income is derived from the following main sources: employees' salaries, wages and other related receipts from employers, net income from self-employment, business profits, income from personal investments (rent, interest, dividends), royalties and commissions. For purposes of household surveys, it is desirable to include as income periodic payments received regularly from an inheritance or trust fund, alimony, pensions, annuities, scholarships, remittances and other cash assistance regularly received, and various other periodic receipts, together with social security and assimilated benefits in cash and in kind".

In this enumeration, an attempt is made to identify the traditional sources and forms of household income, for both urban and rural areas. However, it must be acknowledged that this is more relevant for research into income in urban areas and, within them, for those sectors in which formal economic relationships predominate.

Moreover, to the extent to which employment and income are examined simultaneously within the conceptual framework described in chapter I, it is possible to use existing relationships between activities, occupational conditions, income and production to establish, on the one hand, the relationship between income, employment and activities so as to gain an explicit picture of the main elements of the subsistence strategy; in addition, this approach makes it possible to obtain more accurate and homogeneous measurements of household income, with the necessary conceptual coverage.

This is particularly relevant and important for the measurement of agricultural income, in view of the special characteristics (described above) of agricultural work and of the subsistence strategies of rural households.

By using this approach to the problem of establishing a general classification of types and forms of rural income applicable to situations in Latin America as a first step in considering the difficulties of measuring such income, it becomes possible to differentiate between different forms of primary income, according to whether they correspond to different activities considered to be "work" in the classification of the type contained in table 3, and considering not only the dependency relationship and the place in which the work is performed, but also the form in which the primary income is generated and received. At the same time it is necessary to incorporate the specific ways in which transfer and property income are received in the different types of rural communities.<sup>42/</sup>

(a) Compensation of employees

The compensation of employees, which appears as one of the types of income covered in table 7, has different forms in rural communities. Both to facilitate the detection of all farm household income through the use of this concept and to make it possible to analyse their subsistence strategies, it is desirable to make a distinction at least between:

- (i) work done on agricultural holdings as a wage-earner or person of similar status, including that of a person who, in return for his work, receives the right to use a plot of land; for purposes of analysis and with a view to identifying the nature of wages and salaries more precisely, it is advisable to specify whether this work is agricultural work or whether it is performed in the household of the employer (to cover domestic work performed by members of the family of the person working for pay as part of his work contract), and, in the first case, whether permanent or temporary employment is involved;
- (ii) dependent work in non-agricultural occupations performed either in the home, or outside of it but in the same locality;
- (iii) dependent work performed outside the locality, involving temporary migration;
- (iv) work as a paid apprentice or trainee.

For measuring the wages and salaries of persons working for pay it is necessary not only to record the various usual forms of gross monetary payment (salary, commission, wages, payment by units or piece, lump sum wage paid to the head of the household, etc.), but also the non-monetary benefits—use of housing, provision of food, clothing and other items and free services received from the employer. With a view both to covering the measurements adequately and to making the analyses of the subsistence strategy more comprehensive, it is a good idea to take account of the labour unit remunerated (person/month, person/week, day worked, units produced, area worked or task completed) and the stability of the work contract (fixed, temporary, subject to the completion of a task, etc.), any awards or benefits (whether related to the production results, or the yield from the labour, or imputed by law or custom), and whether or not the work involves assistance from the family of the person working for pay. The various forms which labour contracts may take to cover these aspects result in different ways of remunerating persons who work for pay.

In the case of the households of persons who work for pay where there are dependent workers whose labour is remunerated through the use of a plot of land and perhaps also the loan of means of production belonging to the employer, the value of the production of that plot, minus the inputs acquired by the person working for pay, constitutes a form of income of the household of such a person working for pay.

It may be advisable to record the monetary remunerations net of deductions, as an aid to the memory of the informant and to make the conceptual content of the replies more uniform. In such a case, it must be borne in mind that this method excludes any deductions to contributions to social security systems. Deductions such as commissions paid to contractors, union dues and deductions made by the employer to pay for goods and services provided to the person working for pay are, on the other hand, included in the net pay, even though they do not form part of the liquid money received by the person working for pay, and it is desirable to determine their approximate amount or, at least, determine if such work takes place, since this constitutes important information for the analysis of the setting of salaries and wages in the labour market and for measuring welfare.

The salaries or wages received by members of the household who migrate temporarily outside the locality for purposes of selling their labour in other rural localities or

in urban centres must be excluded from the computation of rural household income, since during this period the migrant member does not comprise part of the consumption unit. Only the remittances (monetary or in kind) received from this member by the household should be taken into consideration, and even then separately.

(b) Entrepreneurial income or income from self-employment

Rural household income from the self-employment of its members (which, in the classification contained in table 7, is included as part of entrepreneurial income) may be derived from different activities, some of them related to agricultural production and some not. Both to facilitate their measurement and to analyse the subsistence strategy of rural households, it is a good idea to support the measurement with a relevant classification of the self-employment activities which may give rise to different kinds of entrepreneurial income, monetary or non-monetary:

- (i) work on own holding or family plot in tasks related to crops, livestock or farm animals;
- (ii) work to improve plots (levelling, installation of conduits, weeding, removing rocks and stones, etc.) or building, enlargement or repair (fences, corrals, sheds, housing, etc.) on the family holding;
- (iii) fishing, hunting, collection of manure, gathering or cutting wood;
- (iv) work performed on neighbouring holdings under reciprocity agreements;
- (v) activities related to purchase of provisions or materials for the family holding or to the sale of its products;
- (vi) purchase of provisions or sale of commodities on behalf of third parties;
- (vii) transport of provisions or products on behalf of third parties;
- (viii) independent labour in one's own trade or occupation by rendering services to third parties or working independently or on one's own account; from the conceptual point of view, those situations in which the person working on his own account may be considered to be a unit producing services differ from situations in which one's labour is sold to an employer; however, the fact that in both cases the compensation is for "work", services or a completed job may lead to confusion; perhaps an appropriate

criterion for differentiation consists of considering work done "under contract" as a kind of self-employment when the means of production utilized are the property of the worker; in the case of professional or similar services, thought must be given to the inclusion of services which require certain special qualifications and constitute a relatively habitual occupation, as is the case of traditional professions in agriculture (animal trainers, healers, labour contractors, sheepshearers, etc.);

- (ix) work in the family business as distinct from the agricultural holding;
- (x) home food processing, dressmaking or cottage industries;
- (xi) manufacture or repair of tools, machinery or equipment for third parties.

The measurement of monetary income or the imputation of non-monetary income derived from these activities in each case presents special problems of interpretation of varying degrees of difficulty.

The work done by household members on the family holding itself in connection with the crops, the livestock or the farm animals is remunerated in the form of the residual income obtained from the holding. It is possible to measure the gross inflow of money from the sale of crops, livestock, wool, milk or farm commodities (in theory the greater the number of headings specified, the more accurate the measurements will be). But in addition it becomes necessary to compute the commodities in each category which were consumed by the household or bartered for consumer goods. These ways of utilizing the commodities produced represent non-monetary inflows; the imputation of values, at producer prices, is necessary not only for calculating the total household income as an approximative aggregate measure of its welfare but also for obtaining some indication as to the value assigned to the work put into the production of these commodities in the household subsistence strategy.

Finally, to measure the income -both monetary- derived from the operation of the family holding, it is necessary to deduct from the gross earnings (which do not constitute an indicator of welfare comparable with the salaries and wages received from other sources) the costs incurred in production

whether monetary (inputs purchased, payments of wages or for services, payments for services in the form of means of production, rents paid in cash, financial charges and taxes) or non-monetary (commodities given in exchange for inputs, approximate value of the goods delivered for persons working for pay as part of their wages and salaries, and value of the production handed over as rent or sharecropping).

The resulting gross entrepreneurial income covers payment not only for the land and capital of the holding, but also for all the work done on it by the holder and his family. Consequently, work of this type performed "without remuneration" by members of the holder's family is actually paid for in the form of the income generated by the family holding.

Improvements or building activities carried out on the holding itself are also included in its production. The value of such activities, after the materials purchased have been discounted, constitutes part of the entrepreneurial income derived from the holding and therefore part of the household's non-monetary income; since such income represents an accumulation of capital on the family holding, it must be considered as household savings and does not affect the household's current consumption and welfare potential but helps to explain the allocation of the productive work performed by the members of the household and the value it has for the household as an extension of its resource base. The same may be said of variations in livestock herds.

The reciprocal work performed on neighbouring holdings represents repayment for services done on the holding itself for production purposes. It may be considered to be an indirect way of performing work on the holding's own production; consequently, it is paid for implicitly by the income obtained from that production in the course of the agricultural season.

Activities related to the purchase of supplies for the holding itself and to the sale of the commodities produced on it are necessary in connection with the holding and are therefore remunerated in the form of the income obtained from it. However, side by side with these activities similar activities may be carried out in the fields of purchasing, commodity marketing or transport on behalf of third parties. If those services are paid for in some way -in money or in kind- such "commissions" must be considered as income derived from self-employment, deducting any taxes or tolls which may have been paid.43/

Activities related to fishing, hunting or gathering may result in the obtaining of commodities used on the holding itself (in which case income in addition to that mentioned above is not generated) or sold or consumed at home. In the latter two cases, they may constitute significant contributions to household income. Independent work performed in rendering services to third parties and paid for as a job, a service or work completed, constitutes a source of income from self-employment as distinct from the operation of a family holding. The same thing happens in the case of the work done in a family business except that in the latter case the gross earnings obtained should strictly speaking be reduced not only by the purchase cost of the goods sold (in the case of shops or kiosks), but also any wages or taxes paid to operate the business.

Domestic production of foodstuffs processed in the households of peasant families which possess a plot of land are usually confused with the operation of the plot, and in such cases it may be appropriate to measure such production by putting the value represented by its sale and the value consumed at home or given in barter for other consumer goods under the heading of agricultural production, while including the materials purchased in inputs of the holding. However, when these activities are performed in landless households or when home production consists of clothing or handicrafts, its contribution to the household income must be measured by finding the difference between the value of the goods sold, consumed at home or given in barter for consumer goods and the value of the materials purchased.

The same is true of the manufacture or repair of tools, machinery or equipment, which may be performed as a regular business or in addition to the performance of similar tasks for the holding itself.

(c) Income of members of producers' co-operatives

In the specific case of holdings organized as co-operatives, the conceptual aspects of the measurement of the income produced in them are the same as have just been indicated in respect of entrepreneurial income, except that in order to change from the holdings to households as a unit of observation and analysis it is necessary to consider explicitly the direct compensation paid for the work in the co-operative and the rules governing the distribution of

profits from the production for self-consumption among the households comprising the producers' co-operative.

However, the members of the co-operative may receive direct compensation for their work on the co-operative holding in the usual forms of remuneration for wage-paid work. On the one hand, it is necessary to give separate consideration to the members of producers' co-operatives, whether they are persons who receive pay for their work or are individual producers. On the other hand, it is necessary to call the attention of these informants to the need to report any other receipts (distributed profits or goods received) which may have been obtained from the co-operative.

(d) Property income

The property income covered in table 7 is broken down into the major categories of receipts from third parties for the use of assets (real, financial or intangible) belonging to the recipients. The heading "rent" includes all categories of rent obtained in exchange for the use by third parties of one's real assets or means of production. In the examination of rural income, a detailed listing should be made of the amounts received in cash or the value of the goods or work received for renting or using the services of:

- (i) land;
- (ii) buildings or installations;
- (iii) draft animals;
- (iv) means of transport;
- (v) equipment and tools.

The imputed rent of dwellings occupied by their owners is included under property income in the Guidelines 44/, which are being used as a general frame of reference. In the case of rural housing, the fact that this rent is imputed 45/ and incorporated into the total household income make sense when we consider that this is a way of reflecting actual differences in the living conditions in the case of dwellings occupied by their owners, because it makes it possible to compare the welfare of these households with that of the households of persons working for pay who are given the use of a dwelling as part of their pay or with that of households which devote part of their monetary income to paying the rent of the dwelling they occupy.

(e) Income from current transfers

Rural households may receive monetary payments from

governmental agencies and private non-profit institutions and enterprises as a result of non-contractual rights or programmes related to social security, social assistance or charity. They may also receive free goods or services of similar origin, the volume of which increases their well-being and constitutes an item in their subsistence strategy.

They may receive, from neighbouring households or relatives living in other areas, remittances of money or consumer goods. One case in point is that of the remittances from persons usually living in the same household who have emigrated temporarily to work in another locality; although, in the context of the household survival strategy, such an activity amounts to "exporting" the labour available in the household, from the point of view of welfare it is important that only the remittances made by the member or the monetary surplus he brings back with him when he returns, and not the whole amount of his pay, should be included in the household income, since he spends the remainder on his own consumption needs. In other words, while he is away, the temporary migrant constitutes a consumption unit which differs from the household and thus, from the point of view of measurement, another household.

#### D. METHODOLOGICAL APPROACHES FOR THE MEASUREMENT OF RURAL INCOMES

Analysis of the behaviour of peasant households makes no sense unless it is included, at least from the methodological point of view, within the framework of the holding household system. It should be borne in mind that both of these terms are only conceptual constructions and that the alternative consideration of the holding or the household as units of analysis and the application of different analytic apparatuses to them limits the body of theory in use. However, in reality, the peasant unit is a single unit, and decisions relating to production, subsistence, participation in the external labour market, consumption and enlargement of the resource base are closely related.

This is the main reason why it is advisable to support the measurement of all rural household incomes in all activities carried out (whether to operate the holding or performed outside it, and whether agricultural or non-agricultural activities are involved) in connection with all the goods produced or earnings made. Moreover, such an approach

to measurement turns out to be that which ensures that the income from different sources will be covered more extensively. This is by no means a minor characteristic of such a methodological approach, since it is crucial to include all the forms of income of rural households, both to understand the subsistence strategy and the factors determining the labour supply and to obtain more comparable measurements of well-being.

The measurement of entrepreneurial income derived from the agricultural holding itself, involving the self-employment of the household members on the holding, would strictly speaking reconstruct the production account of the holding. This task, on holdings for which no records are normally kept, can only be attempted through a rough approximation. Moreover, the long periods which must be remembered in spot surveys to reconstruct the flows of production, income and costs throughout the agricultural year may result in big distortions. Even so, detailed consideration of the commodities sold, consumed at home and bartered and the main production costs is the best approach to take in measuring such income earned not only from the land and capital of the holding but also from all the work done on it by the holder and his family.

In particular, the determination and approximate valuation of agricultural production for home or subsistence consumption and home production of other kinds of goods ( an important element in the subsistence strategy of rural households) needs to be considered in detail along lines similar to those indicated in table 1.

A strategy of remeasurement which covers all possible sources of income of rural households (whether derived from activities which represent work in agricultural or non-agricultural jobs, transfers or ownership of assets, and whether it concerns the receipt of money or of goods and services) and which fits in with the conceptual specifications indicated earlier for each type or form of rural income may appear excessively demanding and doomed to failure. However, for the principal components of rural income, there is no valid alternative to the system of verifying whether or not the household receives such income and trying to make a rough estimate of it in a way which is consistent with a cross-section of households and relevant in terms of the analytical objectives sought. It is clear that this can be achieved, first through the adoption of imaginative approaches to research adapted to the population under study and rigorously

tested in the field, and secondly by going more and more deeply into the matter through different kinds of surveys.

In this connection, it may be advisable to make a preliminary classification of rural households on the basis of their sources of income in order to be selective and thorough in measuring those income sources which seem to be the main source in each case. One possibility is to construct a typology based on the classification of the activities considered and on the supply and demand of the paid labour performed by each household in the labour market.

In addition, the difficult task of measuring non-monetary income (wages in kind, subsistence production or remittances of family members who have emigrated to other localities) may be undertaken in successively deeper stages, using general statistical tools to study the receipt of this kind of income and its relative importance for the subsistence strategy, but supporting its detailed evaluation or study by taking subsamples of the population in question or by conducting special research.

In general, the methodological approach under consideration, in which income is measured in conjunction with employment and activities are specified, gives rise to other statistical problems which must be considered with care. On the one hand, there is the problem of the treatment of the units of observation and analysis: holding, household and individual. Secondly, there is the question of possible differences in the periods of reference in respect both to the measurement of income from different sources and to the relating of income to employment or activities. In this connection, it seems desirable to seek all viable ways of examining the job history of the household members, using yearly reference periods similar to those used in considering the production of family holdings.

Finally, it must be borne in mind that there is more than one viable way of studying and measuring income and that each measurement technique must be seen in the light of the possibilities of the instruments used, with clear awareness of exactly what analytical goals can actually be met with the findings obtained.

## E. MEASUREMENT OF AGRICULTURAL INCOME USING DATA FROM DIFFERENT SOURCES

### (a) Household surveys

The manner in which the concepts of income that can be used in the different types of household surveys must be adapted to the conceptual framework described -which sums up the different analytical requirements- must be sufficiently flexible not to stretch the conceptual demands beyond the real possibilities of the instrument of measurement. Even so, there is still a long way to go before full use can be made of these possibilities in the service of the conceptual validity of the results obtained from the different types of household surveys.

When farm households are surveyed it is particularly important to collect information concerning the income received in kind and that derived from production for home consumption. Income and expenditure surveys should normally record receipts in kind if their income coverage is to be the same as their coverage of consumption, in which it is assumed that the goods and services utilized should include those obtained as remuneration and those which represent the domestic production of either the household itself or of other households. Even so, it is sometimes more advisable to impute such data from the examination of consumption, which is performed in greater detail in income and expenditure surveys, so that the data can be imputed with greater accuracy and the figures for income and expenditure will be more consistent. In the special income surveys this facility does not exist, but on the other hand more resources are available per interview, so that the different kinds of income can be studied and there is a possibility of collecting detailed information on the basis of which data concerning income in kind can be imputed. It may be of more crucial importance to the conceptual validity of the findings of a survey to ensure that an estimate is made of the value of the income in kind in all cases in which such income is received, than to ensure that that estimate is in itself an accurate one. In employment surveys, the percentage of resources which can be devoted to the investigation of wages and salaries is relatively limited; to the extent that this limitation does not allow income in kind to be measured in all cases, it may be preferable to measure income in cash and perhaps to ask whether, in addition,

payments in kind have been received and in what form, rather than trying to obtain a comprehensive reply which supposedly includes the imputed value of such income.

The questions on income asked in household surveys must necessarily refer more specifically than indicated in the conceptual framework to ways in which the beneficiaries receive and visualize the various kinds of income. This is closely related to the degree of detail with which each kind of survey examines income. For example, in surveys carried out in rural areas it is essential that the wages and salaries of persons working for pay should include the total income, and not just the amount usually received. The effective identification of seasonal or extraordinary receipts depends to a large extent on what can be asked concerning such receipts in particular and in separate questions, which depends on the total resources available for interviews. Similarly, an attempt to measure gross income prior to any deductions may encounter limitations in respect of the actual means of inquiring into tax payments or deductions and contributions and verifying that the income declared is indeed the gross income.

In reality, the degree of detail with which income is examined depends on two types of precautions. First, care must be taken to ensure the inclusion or exclusion of certain items, such as those mentioned above, even though the main purpose may be to measure the total income. In addition, household income must be broken down by type of income, as required for purposes of analysis and in line with what needs to be incorporated into the data base created through the survey. The majority of these aims, including the detailed analysis of the relationship between types of income and types of expenditure, would ideally require the detail included in the guidelines and, even more, the allocation of each item to either customary or transitory income. However, for many analyses of household income formation, survival strategies and labour market behaviour it is enough to measure the four broad categories of income (salaries and wages, entrepreneurial income, property income and current transfers), which usually fit in with most of the exercises for testing the findings of the surveys with data from other sources. In this respect attention should be drawn to the need, for purposes of analysis as well as for operational facility, to draw a distinction in the primary income received by the active population, between wages and salaries and entrepreneurial income.

The foregoing discussion indicates the inadvisability of trying to measure a single concept of income in all types of survey. What is most advisable would seem to be to seek to make the best use of the possibilities offered by each type of survey, which depend on the interview resources which may be available for research into income, the method of data collection, the training and quality of the interviewers, the general structure of the interview, and the possibilities for processing the data collected in a flexible way so that they can be consistently analysed and imputations may be drawn. Depending on the possibilities available, arrangements may be made for each type of survey concerning the degree of detail of the questions, the imputing of data, whether gross or net income should be examined, the aggregation of estimates for each type of income, and finally the concept of household income to be measured. Surveys may be optimized in the manner indicated within the framework of an integrated programme of surveys which concentrates on different objectives and requires the concepts used in the various surveys to be precisely articulated, by having recourse to the conceptual framework described so that each survey contributes unequivocal estimates to help set up a common data base in which inputs are available for the majority of the analytical objectives and in which the findings of one type of survey may be brought into line with those of other types of survey by establishing a clear link between the concepts of income measured in each one of them.

So that no mistakes are made in using the findings of any survey and to ensure that they are used in accordance with the analytical model for the survey employed, as much information as possible should be made available to the user concerning the definitions used and the way in which the questions on income were handled. In order to provide information in this respect, it is advisable to publish, together with the findings of the survey, the questions used and the instructions and examples furnished to the interviewers, through a kind of glossary containing definitions of each type of income.

(b) Population censuses

In the past, international recommendations did not indicate or suggest that data on income should be collected in population censuses, nor did they even encourage the idea of doing so, because it was considered that there were serious

drawbacks in including this subject in the questionnaire and serious doubts as to the quality of the data which could be collected.

The main reservations which have traditionally been expressed with regard to including the examination of this topic in population censuses are connected with the degree of resistance the corresponding questions might provoke in the census population and the extent to which the attitude of rejection might affect not only the findings obtained on this variable but even the general acceptance of the interview and the general willingness of those included in the census to respond as accurately as possible to the other questions posed.

The need to obtain data on income and to compare them with other variables examined in population censuses, however, has led a number of countries to include questions on income, which help to throw light on some of the queries concerning the examination of this topic in population censuses. The various criteria used in approaching the examination of this subject in population censuses have presented difficulties with regard to, among other things, the international comparability of the findings, and from this point of view they have shown the need for clear and appropriate international guidelines in this area.

The tendency to underestimate which may be observed in census findings undoubtedly has an effect on the validity of the data concerning income distribution obtained from the censuses. In the first place, the tendency to declare less income than is actually received differs according to the type of income. It is immediately apparent in discrepancies between the income of persons working for pay and the income of the self-employed. Secondly, even when the distributions within each occupational category are dealt with separately, it is risky to assume that within each category the proportion of income which is not declared is uniformly proportional to the income received; indeed, it may possibly be more reasonable to assume that declaring less income than is actually received does not significantly affect the order of income recipients as regards income level within each occupational category. These limitations are not, however, confined to the income distribution data obtained from censuses.

In the face of the mass of problems involved in income measurements, population censuses also impose their own restrictions related to census methodology and the conditions in which it must be applied in Latin America. These concern,

first of all, the degree of detail with which income can really be examined -the number of questions needed to carry out such an examination and the density and detail of the instructions involved. This in turn is connected with the anticipated duration of the whole interview.

Other restrictions are connected with the average level of training and education of the staff responsible for the enumeration and their ability to implement a considerable number of detailed and complicated instructions in their work. In addition, there is the assumption that a large amount of detail in investigating income might increase the resistance of the person interviewed, because it makes him suspect that a taxation check is involved, instead of accepting the question as just one more step in the study of the population.

Nevertheless, it is feasible to examine the size of income in Latin American population censuses, as in shown by the experience acquired so far. The reconciliation of the conceptual requirements with the limitations of the census as a means of examining this topic indicate, however, that more accurate measurements might be obtained by applying to the questions on the amount of the income a few criteria which, in addition to being realistic, are aimed at greater conceptual validity and findings which are more even from the statistical point of view.

In the framework of a population census, because of the scant facilities provided by a census questionnaire and the limitations imposed by the level of the average enumerator, it is advisable to confine the concept of income under study to income received in cash after taxes and contributions, omitting those components of the household income which are most likely to be overlooked -wages in kind, self-consumption, goods taken from the merchandise of the self-operated business, imputed rent of a self-occupied dwelling, and taxes and social security contributions.

This would mean that population censuses would provide measurements relating only to the cash component of the available household income: a concept for which it is possible to attain the greatest relative accuracy. Although this will not reduce the distortions caused by declaring less income than is received, measurements of greater conceptual accuracy may be obtained.

The exclusion of wages in kind and the value of goods consumed by the declarer nevertheless constitutes a serious problem for the measurement of agricultural income, in which

these components are particularly important, especially in countries where censuses are the only way of registering farming households because of an inability to carry out household surveys at a truly national level. In the population census an attempt may be made to determine these two components separately by asking specific questions, in addition to the general questions on income, concerning actual income and the estimated value of each component.

Both distortions caused by declaring less income than is actually received and partial omissions may be reduced by increasing the degree of detail in the questions on income, since this helps to remind people of those components of relatively less importance, makes it possible to analyse the consistency in replies on occupational characteristics and helps to clarify the conceptual content of the total income of each recipient. The amount of detail that can be achieved in questionnaires for full enumeration is very limited, although the possibility cannot be ruled out without first analysing the total duration of the interview and the probable level of training received by the enumerators, or making some previous experiments on this topic, so that a comparison may be made with other ways of asking about incomes in greater or lesser detail.

When part of the census consists of a sample survey, there is considerably more flexibility. Not only it is virtually obligatory to include the topic of income, but it is also possible to consider it in sufficient detail in terms of most of the analytical objectives sought.

(c) Agricultural censuses and surveys

The basic aim of these statistical instruments is to determine aspects relating to the possession of the means of production, land use, the measurement of physical production and, in some cases, determination of the facilities utilized, its primary unit of enumeration being the agricultural holding.

The international recommendations prepared by FAO for conducting the 1980 agricultural censuses 46/ do not include income or measurements in monetary terms among the topics to be surveyed. Nevertheless, in Latin America there are a number of countries in which such censuses inquire into the monetary value of the production obtained by holdings.

In order to determine entrepreneurial income it would be necessary, however, to obtain more detailed data reflecting the different components of the production account of the establishment, taking into account under the heading of the

values of the products sold, those consumed by the household, those handed over in payment of rent on land or for labour performed, and those retained as part of changes in stocks.

In the same way, it would be necessary to collect data concerning the different components of the cost incurred in obtaining the products.

Although the data obtained by agricultural censuses make it possible to prepare production accounts and to determine certain technical coefficients which might represent the most salient structural characteristics of the agricultural holdings covered (especially family holdings), more specific questions must be directed at this stratum because of its special position in terms of the use of less-developed technologies, the share of the production which is directed towards the subsistence of the family itself, and its position as regards ownership of the means of production.

#### F. DISTORTED REPLIES IN THE MEASUREMENT OF DIFFERENT TYPES OF INCOME

Unless errors in replies are examined in detail, all that can be said about the main causes of these distortions in the replies to the questions on income must be mere conjecture, based on practical experience with regard to the way in which surveys and censuses are carried out in Latin America and on the handling of their findings to analyse standards of living.

It would seem that the main factor which determines the quality of the data obtained is the quality of the fieldwork and the degree of control exercised over it, and that this factor is even more important than the kind of examination being made and the characteristics of the questionnaire. The sufficiency and clarity of the instructions to the interviewers and the resources spent to train them have been key elements in achieving data of higher quality. Perhaps the somewhat better quality of the replies obtained in income and expenditure surveys has been due to the more careful training required for purposes of investigating consumer expenses, which has had an effect on the questions relating to income. However, the instructions relating to those questions in general tend to be rather haphazard and make no provision for the frequent distortions in the replies.

The distortions in the replies cannot be corrected in their totality, and the best way of dealing with them is to

improve the questionnaire and the conditions in which the interview takes place as far as this effort is cost-efficient, then conduct a rigorous investigation to determine the degree and direction of the remaining biases and their relevance to each of the purposes of the analysis.

There are three aspects of the questionnaire and of the interviewing techniques which may distort the replies in various ways -the period covered by the declaration, the degree of detail in which each concept of income is examined, and the choice of the subject to be interviewed. Lengthy declaration periods intended to ferret out infrequent income may cause lapses in memory. Moreover, detailed questions in an attempt here again to uncover infrequent income and perhaps find the most suitable period of declaration for each type of income are more costly and tiresome and may make the person interviewed unwilling to co-operate or supply accurate data. In the case of population censuses and household surveys, directing the questions at a single interviewee in the household may result in a slipshod underdeclaration of the other members, especially if the interviewee chosen is not the economic head of the household.

Wages in kind tend to be omitted or underestimated unless they are examined as a separate question and in considerable detail. Farm employees may consider some of the benefits accruing to them, which are really wages in kind (such as lodging), things which are simply due to them from their employer, rather than wages. Surveys of income and expenditure open the way to investigating benefits which are wages in kind from the point of view of consumption, provided a distinction is drawn between goods purchased and goods received free of cost.

The majority of the surveys investigate entrepreneurial income by asking one or more questions concerning the income of the enterprise itself, minus commercial expenditure and disbursements. It is more than likely that entrepreneurial income accumulated and reinvested in real estate, used to pay financial commitments (which may be considered as "commercial transactions" although they may be of a personal nature) or used to reduce indebtedness may be seen as commercial disbursements, as also happens in the case of payments of all direct taxes.

In reality, in estimating national accounts it is a questionable practice to consider that collective or quasi-

collective enterprises can earmark the net value of their operating surplus for institutional savings, whereas in the case of other enterprises no provision whatsoever is made for such savings and it is considered that the households appropriate all the entrepreneurial income. It would perhaps be better to drop this accounting practice and try to measure the net withdrawals of funds from private enterprises, even after deduction of direct taxes and contributions, as accurately as possible by using household surveys. Otherwise, the accurate measurement of entrepreneurial income would require a questionnaire designed to make an approximate reconstruction of the accounts of personal enterprises, largely from memory, which would not only be expensive but would also be of doubtful effectiveness.

However, this would perhaps be the only way of achieving a higher degree of accuracy in the measurement of the income of farmers, in particular with regard to that component of the household product which is consumed by the household itself. With present interviewing techniques, which are slanted in favour of urban situations, household production for home consumption is very difficult to measure, although apparently some national surveys have obtained fairly acceptable results by calculating the farm production and its uses or by seeking detailed information concerning the consumption of what is produced in the household.

Seemingly the measurement of current transfers suffers from the same type of bias in the replies as does the measurement of monetary wages, with the difference that there are fewer infrequent incomes and deductions.

Income obtained from property may be measured with any accuracy only through special surveys on savings, assets and liabilities. Unlike wages and salaries, the existence or non-existence of this type of income cannot be verified by asking other questions in the survey, and it seems that there may have been a great deal of wilful under declaration in respect of income from property.

In contrast, household surveys can measure the imputed rent of housing occupied by its owners with a reasonable degree of accuracy. The numerous questions and the direct observation of the interviewer concerning the characteristics of the housing, which any household survey can include, offer many ways of monitoring the replies in order to obtain the assessment required. If better instructions are given to the interviewers, something may be done to reduce the frequent tendency to underestimate this group of data.

## VII. SOURCES FOR THE MEASUREMENT AND INVESTIGATION OF AGRICULTURAL EMPLOYMENT AND INCOME

### A. INTRODUCTION

The problems involved in the measurement of employment are recognized both by the users of the data and by those who produce them. Dissatisfaction with the findings has resulted in a search for new approaches to and methodologies for measurement which require a clear and more precise definition of the aims sought in the various analyses and the corresponding identification of the data appropriate to those objectives.

One of the most important aspects of this development has been the reaching of the conclusion that there is a need to propose instruments and methods of measurement which are differentiated according to whether they are used for detecting employment problems in urban or in rural areas. In this connection, more intense activity and greater achievements have been noted in respect of the revision and adjustment of the instruments used for gathering statistics in urban areas, whereas the reformulation of the techniques of statistical measurement used for rural areas has been a slower matter, possibly because the work done in this field is more difficult owing to the more complex interrelationships and repercussions of rural employment policies with other aspects of population policies, the fact that measurements are not so widespread in rural areas and, finally, because there has been less experience and possibilities in carrying out studies in those areas.

In Latin America, where a large percentage of the economically active population is engaged in agricultural activities, this differentiation has more serious effects on the possibilities of acquiring accurate knowledge concerning the employment situation especially in rural areas, and on the acquisition of reliable information concerning the incomes of the farm population and its living conditions in general.

The sources of statistical information which yield data concerning the characteristics of rural employment are those which normally make up the various statistical apparatuses of the countries, i.e., censuses, surveys and administrative registers. Of the various censuses carried out, population and agricultural censuses are the ones which can provide most information concerning rural employment and income. With respect to the surveys, special mention may be made of household surveys and establishment surveys, which, although they cover different topics, may provide data for use in the analysis of rural areas. As for administrative registers, they constitute another source of information, although in the specific case of the rural sectors of Latin America their usefulness is very limited.

## B. POSSIBILITIES AND LIMITATIONS OF POPULATION CENSUSES

### (a) Frequency

One of the main characteristics of the population censuses conducted in Latin America and one which gives them a considerable advantage over other sources is that they have been "institutionalized" in that the majority of the countries of the region conduct these surveys periodically. In accordance with international recommendations, the censuses are carried out every 10 years, usually in the years ending in zero.

The central objective of these censuses is the detection of demographic characteristics, i.e., the measurement of those variables which are most significant for describing the population and its distribution. This objective is borne in mind when the dates of the censuses are determined, in that usually an attempt is made to ensure that they are carried out in those periods of the year when the seasonal factors which affect population movements are least in evidence.

These characteristics of population censuses undoubtedly affect their usefulness in estimating agricultural employment. On the one hand, their frequency means that the data collected are basically useful for obtaining a frame of reference, for sample surveys and for analysing the history of employment. On the other hand, the fact that a preference is shown for setting the date of the census at a time of low geographical mobility may cause biases due to the "abnormality" of those periods in terms of agricultural labour and hence may mean that the number of

persons employed in such tasks is underestimated because a less active period is used.

(b) De facto and de jure censuses

The decision to apply "de facto" or "de jure" criteria in conducting censuses did not result from a specific suggestion or recommendation on the part of international or regional bodies. The experience of the 1970 census round shows that only 8 of a total of 20 censuses conducted were "de jure" censuses. According to some authors,<sup>47/</sup> the application of the "de facto" criterion may be responsible for drawbacks in the censuses when used for studies on families and households, in that some heads of household are replaced in their role by their wives or other members of the household, so that declarations of kinship and family structure may differ. This factor also has a big impact on the studies of the social stratification of households in which consideration is given to a number of attributes of the heads of household and these features are applied to the households themselves by extension, so that when the head changes, the characteristics of the households also change. In addition, changes of varying degrees of importance can take place in the relationships which it is desired to study between economically dependent persons and those who support them.

In the case of farm households, any change due to the absence of the head of household and other members engaged in agricultural activities may mean that some households are not classified as agricultural, because at the time of the census no one engaged in such work is residing in the household.

However, a few countries which in the 1970 round collected information concerning "non-residents present" and "residents present" indicate that the number of the former by comparison with the latter is very low, which would lead to the conclusion that de facto censuses present no very serious obstacles for studies of family units.

(c) Universality versus intensity of research

Two of the most notable characteristics of population censuses are their universality and simultaneity. This means that they attempt to collect information concerning the whole population and also that they are carried out in a short period of time so as to facilitate comparability of data.

Although from the point of view of the user these characteristics are positive elements, they may complicate the task of the census producer to the extent that they have

some impact on the quality of the findings and impose certain limitations on the conduct of the census. In the first place, the holding of a population census involves the participation of an enormous number of workers, the majority of whom lack experience in this kind of work, so that it is necessary to develop special training methods to enable them to perform their work appropriately and uniformly. Moreover, with a view to obtaining better results as regards data collection, there is a tendency to simplify the questionnaires used both in terms of the length and the complexity of the various topics and questions included. Thus, for example, although it may be thought that the research done into the employment situation and characteristics of the population should be tackled differently depending on whether urban or rural areas are being examined, this requirement cannot be met in the case of population censuses since it would increase the problems and difficulties to be tackled in designing printing and distributing questionnaires and instructions, in the training of personnel, data processing, etc. Thus, all the specific information needed to determine and describe the economically active agricultural population, which in theory could be obtained from population censuses, is not collected because there are not enough human and material resources and it is desired to simplify each of the operations involved in the census work.

Population censuses are frequently referred to as being a "photograph" of the population at a given moment. However, in view of their ten-yearly frequency and their limitations in terms of providing an exhaustive description of the population, as mentioned above, it may be concluded that they tend to give a more basic description of the structure of the population, and in this respect they may have more in common with an "X-ray."

One point which might be made in this connection concerns the declaration periods used to determine the employment situation. In the 1970 round, 17 out of a total of 20 countries used the week prior to the census as the declaration period in respect of these characteristics. This means that the findings obtained may be influenced by seasonal or short-term situations and may not accurately reflect the usual situation, which could only be done by referring to a more extensive period. As a reference datum and for purposes of setting up a frame of information, it would be more useful

to have data concerning regular or usual characteristics, which could be defined by taking a more extensive period such as, for example, six months or one year.

The use of various declaration periods would make it possible to be more precise in determining the limits of engagement in the occupations declared and would give greater accuracy in determining the economically active agricultural population. But this would entail making the censuses more complex, and for this reason it is usually rejected. Similarly, accurate measurement of income would require a number of questions referring to the different sources of income and, in each case, the declaration period best suited to each question would have to be used. As regards the 1970 censuses, Latin American experience has been very limited in this respect. Only seven countries (Brazil, Colombia, Costa Rica, Mexico, Panama, Peru and Venezuela) examined income in their censuses, but no two countries concurred in respect of the population surveyed, the declaration period and the concept of income used.

With the aim of collecting more pertinent information of higher quality, which involves the use of longer and more complex questionnaires, simultaneous sampling in censuses has begun in the region, which makes it possible to obtain more highly detailed data on a representative percentage of the total population.

Although this technique is one solution to the need for obtaining better data, it raises a number of additional organizational and logistic problems which have not always been appropriately solved. Moreover, the use of these methods in population censuses must be reconciled with the demand for data for small geographical areas, in respect of which the findings of the sampling may prove unsuitable or suffer from very big sampling errors.

(d) Definition of rural areas

The a priori limits set for urban and rural areas for purposes of cartography and sectorization in respect of the field work for population censuses may also affect the determination of the agricultural population and the economically active agricultural population.

Urban and rural modes of human settlement differ significantly in their economic, technological, social, political, etc., aspects. The size of these differences, their intensity and hence their visibility varies according to the aspects mentioned above, the level of development and the rate

of urbanization of the country under consideration.

By referring to humanized spatial environments, it is possible to distinguish between urban and rural elements by using quantitative and/or functional criteria (processes and/or activities) and/or criteria of meaning (identification), which may refer to some or all of the different aspects mentioned.

In view of the range of criteria and objectives which condition the various definitions employed, it would be advisable to take precautions to ensure that the definition of the urban or rural character of each area is based on the characteristics detected through the data collected in the same census and data from other sources and in accordance with criteria compatible with the analytical objectives of each user.

(e) Censuses as a framework for other research

The usefulness of population censuses as a frame of reference for broader and more ambitious programmes for the production of population statistics is widely recognized. In this respect the emphasis is on the use of population censuses as sources of reference data and as frameworks for the selection of samples to be used in carrying out household survey programmes aimed at obtaining a steady stream of detailed information on the topics covered by censuses and other surveys.

The ability of population censuses to serve as a framework for other ongoing research and as a link between data from different sources depends on the preparation of a suitable census map which can be used in the selection of samples and on its constant updating on the basis of the requirements of the sample designs utilized.

It is also possible to use population censuses for obtaining a list of agricultural establishments with a view to its use in subsequent research. In Latin America this use of censuses has not really taken much hold. In the 1970 round, only five countries (Ecuador, Colombia, El Salvador, Honduras and Peru) asked questions concerning the existence of any handicraft activity or cottage industry in a dwelling. Ecuador asked whether any handicraft, commercial or other activities were carried out in the dwelling, it being possible to interpret "other activities" as including agricultural activities. Peru asked each member of a household who declared that his main occupation was agricultural, whether as an own-account worker or as an employer, concerning his type of activity and the location of the establishment in which he

worked. This gave rise to some difficulties in the population census because of the changes which had to be made in the design of the questionnaire. The comprehensiveness of the list to be obtained in this way depends on whether all the agricultural activities engaged in by persons working on their own account or as employers, regardless of whether they constitute a main activity or not, are noted. However, in actual fact, population censuses usually do not collect information concerning secondary occupations.

(f) Effective use of population censuses for measuring agricultural employment

To summarize the foregoing considerations:

(a) For many countries of the region, population censuses in practice constitute the instrument most frequently used to keep track of the evolution of agricultural employment and of the occupational characteristics of the economically active population in this sector at the national level. This is particularly true of those countries which either do not conduct national household surveys or do so only very occasionally and which in addition do not possess an adequate data base derived from administrative registers in the field of agricultural employment.

(b) As already noted, the data from population censuses is currently used as a frame of reference for the selection of the samples needed for carrying out household surveys, which can collect more detailed information on agricultural employment and income. These censuses may also be used to obtain lists of agricultural establishments.

(c) In view of the kinds of units of observation and analysis used in population censuses, the information they can provide on the labour force will be used primarily for research into the historical evolution of agricultural employment and its characteristics and into the characteristics of its spatial distribution, for the purpose of promoting well-being and on the basis of availability. Because their coverage is universal they are, in addition, the best instrument for examining these aspects in very small areas which in general are not represented, or only very poorly represented, in the samples used in national household surveys. On the other hand, the information provided by population censuses is not appropriate for analysing agricultural employment from the point of view of utilization, for which purpose it is necessary to determine the employment characteristics of the establishments using the latter as units of observation and analysis.

## C. AGRICULTURAL CENSUSES

### (a) Frequency, scope and methods of collection

Agricultural censuses are statistical operations aimed at obtaining data concerning the situation and activities of production units in the agricultural sector. The international recommendations consider that the minimum frequency for the implementation of such census programmes is every ten years and suggest that, if possible, they be carried out every five years. In Latin America there are a number of countries whose laws or regulations governing their national statistical activities establish that agricultural censuses should be carried out every five years. However, this is not put into practice. In many cases it is still difficult to carry out such censuses even every ten years.

One recommendation which the countries in general are trying to follow is that of carrying out the agricultural censuses at dates not very far from those of the population censuses. In some countries both censuses used to be carried out simultaneously, but this practice was abandoned because it was felt that the increased complication involved in this procedure was prejudicial to both censuses. However, the closeness of the two censuses has advantages in terms of operation and also in the utilization of the data obtained. First of all, as regards the execution of the census, there will be a recent set of cartographic documents which has been brought up to date for both censuses and, if sufficient precautions are taken, there will also be a geographical sectorization map appropriate for use in both the population and the agricultural censuses. Moreover, since the data from both censuses refer to periods which are closer together, this will facilitate the comparability and integration of the information collected, thus enriching the various analyses it is desired to effect. To achieve these advantages, it is necessary for this possibility to be considered in planning the two censuses and for the definitions and concepts utilized to be adapted and harmonized appropriately. This consideration is especially important in the case of the data on the farm population, the population employed in the agricultural sector (and its characteristics) and the income of that population.

The units on which information is collected in

agricultural censuses are the farms. The size, organization and administration of these establishments and the existence of accounting records in them are factors which affect the data they are able to provide. In particular, farms belonging to family units tend to be characterized by the absence of appropriate accounting records and organized administration and by productive work which is closely integrated with the work of the household. All this has an effect on the availability and quality of the information which can be collected on this kind of establishment.

The existence of a large stratum of "family"-type farms makes it advantageous to establish a link with data from the population censuses. This is because in these cases the research units used in the population census (households) are the same as the research unit used in the agricultural censuses (farm). When the two types of census are carried out simultaneously, it is possible to identify those households covered by the population census which are the same as the farms covered by the agricultural census, and vice versa. Theoretically, at least, this opens the way for describing households in terms of variables of the production unit and the production units in terms of variables relating to the households. When this is not carried out simultaneously, such a link may be established only at the aggregate level.

The methods used in Latin America for collecting information through these censuses vary widely, and it is possible to find countries where interviews take place on the farms themselves and the census-taker fills in the questionnaires. In other countries, the census-taker distributes the questionnaires to the farms, leaving them there for a time until they are collected or until the date on which they must be delivered to the appropriate census offices. Finally, another method used is that of calling the producers to the census bureaus to interview them there or to hand them the questionnaires to be filled in by them.

A rapid examination of these methods shows that there is a variety of factors which affect the accuracy of the data collected, either because the producer or person responsible lacks the information required, because another person is the informant or, usually, because the coverage is defective, especially where small farms are concerned.

In the methodological documents prepared by FAO, it is indicated that it is common practice to limit agricultural

censuses to establishments which exceed a minimum size established by each country. Although in Latin America it is not common for censuses to establish limitations of this kind concerning their coverage, in practice the fact that the operations and their findings have not been evaluated means that no categorical statements can be made concerning their comprehensiveness.

The FAO recommendations suggest keeping to a minimum the limits on the size which a farm must have in order to be included in the census, although they do not go so far as to propose that the limits be totally removed. Their removal would however represent a position more in accordance with the scope implied by the concept of a census. The infrequency with which censuses are conducted and the value of using them as a frame of reference and for designing systems of sample surveys make it necessary for their coverage to be viewed if possible in terms of total enumeration. In addition, even though small holdings may not be very meaningful from the point of view of agricultural production, the fact that they constitute the main source of livelihood for a large segment of the agricultural population means that knowledge concerning them is necessary in order to analyse the living conditions and the behaviour of the labour market in the sector. Although these aims are not the same as those of the research currently being carried out by means of agricultural censuses (which focus their efforts on the collection of information which is relevant for analysing agricultural production), they should be taken into account in an integrated statistical programme which seeks to serve multiple analytical purposes by obtaining information through the use of instruments which, though different, are consistent from a methodological and conceptual point of view.

Problems arising in agricultural censuses in connection with research into the agricultural labour force

As noted above, agricultural censuses have not usually been designed to explore agricultural employment but rather to describe as exhaustively as possible agricultural holdings, the characteristics of their production and the inputs they require. These limitations are recognized in the Programme for the 1980 World Census of Agriculture, in which it is stated that "...some of the data needed on the agricultural population and employment may better be obtained through population censuses and household agrodemographic labour force

and other agricultural surveys", adding latter on that "...the scope of the information which may feasibly be collected through the census of agriculture alone will not meet the major needs for data on population and employment in agriculture."48/

Indeed, a rapid review of the contents of these censuses shows limitations in the information on the labour force which prevents their independent use as a source for estimating the level of employment in agriculture and in the majority of cases also affects their use as a supplement to information on the subject from other sources or as an alternative for evaluating such information. International experts on censuses of agriculture also agree that it should be recommended that agricultural employment be measured by conducting continuous surveys and that the information provided by censuses of agriculture be used to set up frames of reference for the sample design of the surveys.

In spite of these limitations, the coverage, frequency, type of unit of observation, range of topics explored and the possibility of associating the characteristics of the holdings with those of the persons working in them are elements which justify the attention paid by students of agricultural employment to data from censuses of agriculture. This suggests the appropriateness of making a detailed examination of the conceptualization of information on employment in these censuses and on the steps taken to make such information operationally useful, seeking to gain a specific idea of the difficulties which arise in connection with the study of the population employed in the sector and the degree or level of utilization of the labour force and to determine in what way the information which can be obtained is useful for research for purposes other than the one for which these instruments were basically intended.

Censuses of agriculture compile data concerning the agricultural holding, which for census purposes is defined as a technoeconomic unit of agricultural production, comprising all livestock kept and all land used wholly or partly for agricultural purposes and worked by one or more persons without regard to title, legal form, size or location. The holding as a technoeconomic unit under a single management generally has the same means of production, i.e., labour, farm installations, machinery and draught animals".49/

The person who provides information on the operational unit is asked concerning the workers employed on it during the

declaration period laid down by the census for the determination of the staff, including the producer and member of his family who help in the productive tasks performed on the holding.

In view of the fact that in that period the staff may have worked on another holding, there is always the likelihood that the data recorded will be duplicated. Although that likelihood could be decreased by shortening the declaration period and increasing the minimum length of employment required for a person to be recorded as employed, both of these measures create additional problems, some of which were mentioned above in the paragraphs related to the criteria for determining the economically active population. In actual fact, the choice of the holding as a unit of observation makes it more likely that the population employed in agriculture will be over-estimated, unless the reference period is so limited that there is practically no possibility that a person could have worked in more than one establishment during the lapse of time referred to.

The estimation of the population employed in agriculture on the basis of the population employed on agricultural holdings runs into a series of difficulties which can be more easily described by considering each category of sectoral employment separately, as was done in the censuses carried out in the region in the 1970s. As may be observed in table IV.5 of the Annex, in all these census publications analysed the producers are lumped together with the unremunerated family members. Since the two groups raise different problems of measurement, however, an appropriate analysis of the distortions which occur in estimating the size of each group could not be carried out unless the category were divided into two component parts in advance, which in general cannot be done with the information provided by agricultural censuses unless some assumptions of dubious validity are made (such as, for example, making the number of producers equal to the number of holdings).

However, even when the original information on the work done by unpaid family workers is available, if that variable is estimated on the basis of data collected in censuses of agriculture, it will be distorted by at least two factors. First, censuses of agriculture either do not record unpaid family workers at all, or they record them as temporary wage-earners who move with the head of family and help him when he is hired for seasonal work.

Secondly, the majority of the censuses of agriculture conducted in the region during the 1970s (the only exception is Argentina) did not apply the definition of unpaid family worker recommended by the ILO, in which a minimum of one-third of a normal working day must be worked during the period of reference, nor, with the exception of Panama, did they examine the time worked on the holding, so that, as a result, there is no way of evaluating contribution made by unpaid family workers to farm production. As for the producers themselves, the majority of the countries of the region have adopted the FAO recommendations for the 1970 censuses, with slight variations. In them it is not laid down that in order to be classified as a a producer a person must be a member of the economically active agricultural population. The producer is the one who bears economic responsibility for the holding and generally exercises management control and takes the major decisions regarding the utilization of the available resources; he may, however, operate the holding through manager to whom he has delegated the responsibility for day-to-day management of the work.<sup>50/</sup> In actual fact his main activity or occupation may be outside the holding, either in other agricultural activities or in activities outside the sector. This may result in an underestimation of the agricultural labour force and the share in it of own-account workers and employers.

To obtain an estimate of self-employed farm workers comparable to that which is obtained by means of household surveys and population censuses it is necessary first to separate out all producers whose main occupation is in another sector and, second to identify those cases where producers, because of having worked on other agricultural holdings in the declaration period, may be recorded twice.

Although even for the 1970 censuses FAO recommended that information should be collected as to whether the holder's main occupation was in agricultural or non-agricultural tasks (thus reducing the number of holders by considering only those whose major activity is in the agricultural sector), only a few Latin American countries included concrete questions of this type.<sup>51/</sup>

Of the total of 14 countries considered, only four- Honduras, Dominican Republic, Panama and Venezuela- asked questions concerning the main occupation of the producer. On

this limited basis, it might be concluded that the number of holdings where the producer is engaged primarily in non-agricultural activities varies widely, although it is from any point of view significant : 20.2% in Panama, 18.1% in the Dominican Republic (or 21.1% if those who did not work in any sector are included), 11.9% in Venezuela and 3% in Honduras. The Dominican Republic and Venezuela asked whether the producer performed his activity on another agricultural holding, which might provide a base for estimating the number of producers likely to be recorded twice as part of the employed agricultural population. A third problem involves the property owners who are classified, according to the criteria of the censuses of agriculture, as producers on a number of holdings, deciding in the case of each of them what should be produced, how it should be produced, and taking on the responsibility and risks involved in production. The existence of producer/owners of this kind would also lead to over-estimation of the economically active population employed in agriculture.

Compared with the other categories of employment covered by the censuses of agriculture, wage-earners -especially temporary wage-earners- are most likely to be recorded twice, particularly when the declaration periods are long and the minimum length of employment required to qualify as employed is short or not specified. In the international recommendations it is usually specified that information on temporary wage-earners is useful primarily for identifying the holdings which employ them and in this way providing a sample of such units which can be studied in greater detail through household surveys.

The coverage of agricultural censuses presents another problem. Some censuses in the region do not, for example, examine very small holdings, or else they accept large percentages of omission in that connection.<sup>54/</sup> This kind of omission affects in particular the estimates of the number of own-account workers and unpaid members of the holder's household and, by extension, the estimates of the size of the employed population in the sector. In addition, because of the way in which the census operation and the field work are organized, censuses of agriculture do not usually include agricultural establishments located within administrative boundaries recognized as being urban areas.

## D. HOUSEHOLD SURVEYS

Universal recognition is given to the basic role performed by households with respect to the socio-economic growth of the developing countries. It is in the households that a significant part of the productive activity is performed, and decisions are made there on the assignment of roles to its members, which affect the intensity, the timeliness and the quality of the work done by those members of the household who will participate in the market.

A periodic and well-planned series of household surveys permits the collection of timely data with which it is possible not only to evaluate the current levels of various demographic and socio-economic phenomena and the relationships between them but also to study the trends in time of these relationships as well as the changes which occur in them.

### (a) Characteristics of household surveys

The use of sampling techniques makes available an instrument which greatly facilitates the acquisition of statistical information, since as only a sample of the population under study is taken, not so many inputs are needed to collect the information. Conducting sample surveys makes it possible to reduce costs or, at the same cost, to increase the amount of information obtained.

The resources required for a sample survey will be determined by the amount and complexity of the subject matter it is wished to cover, the level of accuracy desired, the degree of aggregation of the geographical area for which estimates will be obtained and the frequency with which findings are needed. As regards the approach to the field operations, the requirements will vary depending on whether the fieldwork is continuous or momentary and will also depend on whether the sampling design calls for the use of rotating panels and groups or whether independent samples will be used in each survey.

The organization and resources required to conduct sample surveys differ greatly from those used for censuses. In the first place, there is now a tendency to ensure the permanency of a survey through a medium-term programme. This means that, whether it is carried out continuously or through a series of separate efforts, the survey is in a position to collect data on different subjects at different times of the year. This is very important for the measurement of rural

employment and income, since the seasonal nature of the work produces very marked fluctuations in the activities performed throughout the productive cycle.

In addition, the number of interviewers employed on the surveys amounts to only a small fraction of those usually employed on censuses. Consequently, there can be greater selectivity, more thorough training and stricter quality controls on all the work, so that there are bound to be better results. This also makes it easier to use more complex questionnaires in line with the requirements of more careful analysis. By conducting such surveys it would, for example, be possible to pinpoint more accurately the participation of women and minors in productive activities, the seasonal pattern of farm employment, the migration of workers, productive activities for home consumption, household income, survival strategies, etc.

(b) Investigation of agricultural employment and income among households.

Household surveys offer possibilities for obtaining data which cover the whole population, thereby making it possible to compare the findings for rural households with those for urban households. They also make it possible to collect information on the employment situation and on the characteristics of the employment and income of the population engaged in agricultural activities and to compare them with other economic sectors in such detail that the information can later be aggregated in the manner best suited for analyses designed to serve different goals and practices.

Moreover, these surveys are commonly designed with a view to obtaining multi-subject data, and this, in many cases, provides an opportunity for combining the information sought for the purposes of the analysis with other variables. For example, in the case of the study of rural employment, this information can be supplemented with data on income, education, migration and other data which may be relevant for their interpretation; it may also be extended to the study of the living conditions of the agrarian population, with information on demographic variables, living conditions, health, consumption, availability and actual use of public services, etc.

It is, however, important for there to be a balance between the available resources and capacities and the demands made on the surveys, since too many questions may

result in fatigue and rejection of the surveyors, less average diligence by the surveyors with regard to each question, greater complexity and delays in the data processing, etc., which will have a negative effect on all the findings.

There are only a few cases of household surveys designed especially for measuring the situation of the population in rural areas as regards its particular characteristics and living conditions. In most cases of survey programmes of national coverage, the same instruments are used to collect data in urban and rural areas, and the questionnaire designs, concepts and definitions are more in keeping with the situations which prevail in urban areas. Thus, it is possible to find household surveys which, in inquiring into employment in agricultural activities, use reference periods, criteria for defining work, job hunting, etc., which do not respond to the usual ways in which these labour markets are organized and operate.

As for the development of the survey programme, it will certainly pose problems of a methodological nature which can only be overcome by running tests and experiments, the results of which will make it possible to propose practical and effective solutions. Thus, as already pointed out in previous chapters, difficulties may arise in the definition of the work done in rural areas when the resulting production is not directed towards the market. This makes it necessary to study both productive and non-productive activities and to establish clear criteria which will make it possible to distinguish between the two. Similarly, the measurement of income presents special difficulties in these areas because of cultural and psychological resistance to the declaration of income, the importance of income in kind, and, in general, the complexity of the dimensions which must be taken into consideration in order to determine and estimate income accurately.

The development of an effective methodology for the measurement of the agricultural employment and income must necessarily give consideration to the variations characteristic of activity in this sector. Thus, the strong seasonal fluctuations in rural employment make it recommendable to take the measurements in periods of high and low activity. Although this meets the needs of the users of the data, from the point of view of the producer of the information it gives rise to some difficulties which are not easily resolved. The problems arise during peak periods of activity in particular. In those

cases where such activity is associated with migratory movements, it may happen that the dwellings chosen for the survey are uninhabited or that the active inhabitants are not at home and those who remain do not have all the information concerning the absent members at their finger tips. It may be argued that frequently whole family groups migrate, so that in theory they would be interviewed at other dwellings where they live in the peak activity period. However, it is not infrequent that in such migrations the households live in communities or communal dwellings and in such cases would not be recorded by household surveys owing to the fact that such surveys traditionally limit the scope of their operation to private dwellings, leaving out communal dwellings.

Moreover, in periods of peak activity, the intensity of their work may affect the attitude of those who are interviewed towards the survey, and they may prove reluctant to devote any time to answering questionnaires.

It may be advisable to try out the alternative approach of not conducting surves at peak periods of activity but instead carrying them out immediately following the end of that season, using a set of retrospective questions so that the situations which obtained in the peak period can be reconstructed and subsequently followed up in the slack period.

Any suggestion or recommendation in this respect calls for a period of testing and adaptaption to the specific conditions of each case, since although there may be many similarities between the forms of rural employment in the countries of the region, especially at the subregional level, there is always some peculiarity in each of them which makes it necessary to test and verify the adequacy of those suggestions or recommendations.

(c) Some conditioning factors for the holding of household surveys in rural areas

The holding of surveys of national coverage involves a large amount of resources -human, economic, technical, etc.,- which makes it necessary for there to be a suitable level of capacity in all these fields, and this can only be achieved through a process of training and experimentation and the maintenance of ongoing survey implementation activity.

In setting about the execution of a household survey programme in rural areas, thought must be given to a number of factors which have a negative impact on their conduct, so as to provide for solutions to those problems and overcome the drawbacks.

The design and selection of the sample to be used is governed by the kind of framework available. This means that basically care should be taken to ensure that the framework can be supplemented and brought up to date. In addition, it is important to have appropriate information concerning the stratification of the population to be surveyed, since this will result in more efficient and economic sampling design.

The availability of the framework also calls for possession of an up-to-date set of cartographic documents which meet the requirements of the field work. This factor is also very closely related to the criteria applied in defining urban and rural areas, as this may have an impact on the scope for supplementing the coverage of the areas it is intended to study.

The degree of dispersion or concentration of the population in rural areas poses problems of access and transport costs which in some cases are responsible for eliminating big territorial areas from the scope of the survey. The diversity of ethnic groups and the different languages and dialects used in many rural areas of Latin American countries makes it necessary to employ field personnel with suitable knowledge for each area and to prepare the corresponding field material in versions which will be understood by the population to be surveyed.

Seasonal weather changes constitute a factor to which special attention must be paid because of the numerous effects they have on the conduct of the surveys. Periods of rain, snow, etc., make it difficult to reach some areas, and this has an impact on the coverage of the survey. In addition, the seasonal nature of the production cycle causes persons, and sometimes whole households, to migrate, thus reducing the number of cases surveyed or causing distortions in some findings, such as those relating to household composition.

On the other hand, it may be said that the dissemination of household survey results among countries and the expansion of the respective programmes in order to achieve national coverage and stability and continuity in the surveys will allow the countries to receive a flow of regular information concerning households and people, so that it is possible to keep close track of the agricultural employment situation and of the economically active population.

Such surveys are also the most appropriate measurement

device for examining income at the national level, particularly in rural areas.

Although this method may have certain limitations in so far as providing information representative of small areas is concerned, due to the limitations inherent in the samples used, in those cases when such data are required and cannot be obtained from the census findings consideration can always be given to the possibility of increasing the size of the sample in the corresponding areas to obtain the desired data at a sufficiently high level of quality.

In view of the fact that these surveys operate with units of observation and analysis similar to those used in population censuses, the information they provide has similar characteristics in so far as its use is concerned and, like the information provided by censuses, it is more appropriate for the study and analysis of agricultural employment from the point of view of well-being and the availability of such labour and less appropriate for analysis from the point of view of utilization.

#### E. AGRICULTURAL SURVEYS

##### (a) Main objectives and characteristics

Agricultural surveys gather information from agricultural holdings and their basic aim is to acquire data concerning production; in some cases they also include questions concerning the area worked, yield, production costs, use of special technology, etc.

These surveys constitute the most appropriate instrument for obtaining information on the changes which occur in the agricultural sector. The information to be collected should relate to the structural, operational and economic aspects of agricultural holdings and broadly include:53/

- geographical features of the holdings and availability of irrigation facilities;
- distance from markets;
- types of farming and cultivation systems;
- size of holdings, scale of operations, degree of mechanization, fixed assets, working capital, etc.;
- operating costs and their breakdown;
- inputs—produced within the farm or within the agricultural sector, or bought from the non-agricultural sector;

- products and by-products, quantities sold and quantities consumed or used as inputs;
- income and its components, by factors of production;
- employment, number of people actively employed on farm and number subsisting from it;
- cost of production of principal assets.

(b) Possibilities for investigating employment and income

According to the FAO, "agro-economic surveys are probably the best source of data on agricultural activities and employment, since they permit the study and analysis of the interrelationships between the characteristics of the holding, the characteristics of the workers associated with it and the volume and level of productivity of the agricultural work undertaken."<sup>54/</sup>

The same FAO document gives as an example of these surveys one carried out in Kenya in which a total of 12 questionnaires were used during the survey period, which lasted a whole year, and in which some questionnaires were applied once whereas others were used repeatedly up to a maximum of 13 times. Some questionnaires were designed to obtain data on structural aspects which varied little or not at all during the period of the survey, while others were designed to collect a steady stream of information on a number of variables corresponding to the periods between the interviews.

The possibility of establishing a programme with these characteristics depends largely on the existence of national capacities which are so developed that the continuity and quality of the work can be guaranteed. This also calls for economic support and the presence of an appropriate infrastructure for data collection and processing.

The design of agricultural surveys is based on the censuses of agriculture, and the data they seek to obtain may be used to supplement these. Thus, it may be seen that the units of observation of the surveys are the agricultural holdings and this may, in some cases and in respect of certain analytical intentions, constitute a limitation which must be overcome by adding data from other sources. Actually, even if extreme precautions are taken to ensure high-quality work, the measurements obtained from these surveys refer to the number of jobs occupied or available in the various establishments which exist in the agricultural sector. When the people who work or, in the case of transitory or occasional workers, worked in the agricultural establishments

are calculated, each of them will be counted as many times as the number of holdings on which they worked during the reference period established for examining the work input of each agricultural production unit.

A similar situation is raised by the measurement of the agricultural inputs which will be used to estimate the gross income or profits of the agricultural holdings and which can also, for certain purposes, be taken as a "proxy" datum on the income of agricultural producers. However, income in kind, whose magnitude can be captured by agricultural surveys only with great difficulty, is known to be of considerable significance in this economic sector.

#### F. MEASUREMENT OF LIVING CONDITIONS AT THE LOCAL LEVEL

With all due respect to the substantial work done by the various statistical bureaus in the system of national accounts and in connection with the aggregated statistics for other sectors, it must be confessed that by and large the statistical systems are not geared to answer concrete questions concerning the evolution of or changes in the living conditions of the population over a period of time. In general, little is known concerning the distribution of social and economic goods in a society and the living conditions of the least privileged groups.

Some studies carried out by the United Nations Research Institute for Social Development (UNRISD) show that at the present stage of statistical activity in the majority of the developing world, no single source (whether censuses, surveys or administrative registers) is able to provide the socio-economic data required for such analyses. When all the sources are viewed together, it may be that a large volume of aggregated data are available in some countries, but only sporadically is it possible to find statistics on distribution, specially those providing indications as to the changes in conditions in specific areas and population groups.

A considerable amount of work is being done by national and international bodies to tackle this situation by improving the quality of censuses, promoting household survey programmes, and enhancing the co-ordination of administrative information. In addition, the installation of systematic maintaining mechanisms at the local level has been proposed as a suitable way of providing data on socio-economic change in addition to those obtained from other sources.

In this respect, it has recently begun to be felt that the macro approach is unsatisfactory for appraising development in terms of concepts and indicators at the national level and that this approach is far removed from actual local conditions.

An approach which takes these considerations into account is that in which it is assumed that by systematically examining the real progress made at the local level, not only can aspects of change (and the social aspects in particular) be detected and assessed more accurately, but also the nature of change, including the interrelationships between the economic and social factors, can be better observed and explained.

The idea is to select a representative sample of localities or areas of observation, for the periodic collection in each of them of a certain kind of information.

With this methodology, correlations and generalizations from macro studies may be examined in detail using micro studies, to establish whether they actually reflect real interrelationships or are due merely to the accidental juxtaposition of unrelated events.

Apart from considerations geographical distribution, it is necessary that the localities selected should appropriately represent the different types of socio economic conditions existing in the country, areas of poverty and wealth, agricultural and non-agricultural areas, and areas of net population loss or gain. In this way, as well as being able to obtain adequate representativity for macro studies and analyses, there is the additional advantage of micro studies -their detail, depth, awareness of local conditions, participation of the local population, etc.

The organization for the collection of the data and the sampling methodologies to be employed, the size of the samples, the rotation of areas of observation and the periodicity of data collection depend in each case on the existing capabilities, the resources available and the characteristics of each country.

Information concerning employment and income may be obtained from areas of observation which have been selected on the basis of different characteristics, so that use is made of areas with big industrial, commercial and agricultural enterprises in the modern sector of the economy and also areas with a subsistence economy made up, basically, of households whose inhabitants are engaged in multiple occupations and

have different sources of income, whose work is very seasonal or irregular, whose productivity is low, etc.

A small but carefully selected sample of workers and employers of various types may be regularly studied in connection with the employment situation and manpower requirements and income in money and in kind. Similarly, a sample may be taken of own-account workers and peasant for investigation. Data concerning migrations, etc., may also be requested through this method.

In rural areas, in particular, this approach to measurement at the local level calls for the selection of localities or areas with different production characteristics or different ethnic groups or dissimilar levels of development, thus making it possible to estimate, at the aggregate level, the employment and income situation, the living conditions, etc., of all rural areas. In addition, if data were available which could provide a more detailed knowledge of the conditions and problems of the areas selected, it would be possible to implement policies designed especially for dealing with those situations, and an instrument of evaluation which could be used in following up on the effects of the application of such policies would be available.

#### G. THE INTEGRATION OF DIFFERENT SOURCES

In describing the different sources of information on rural employment and income it has been observed that in each of them there are considerable restrictions which make it difficult to obtain such data. In addition, there is consensus that it is not possible to obtain all the information required from a single source but that there is a need to try to improve each source while at the same time attempting to develop mechanisms and methodologies for integrating data from different sources so as to be able to meet the many and varied needs for information in this field.

Action to integrate the different sources must be taken at two levels. At one of them, which might be considered to be the basic level, there is a need to establish certain common elements to make it easier to link up information. Data from different sources can be related more easily if the different surveys and investigations use the same sampling frames, compatible geographical divisions and similar concepts, and if they apply classifications which are either identical or allow for easy reclassification or adjustment for purposes of comparison.

The other level at which it is necessary to act to facilitate the integration of the sources is that of the inclusion in each measuring instrument of a set of variables having the explicit purpose of facilitating the relationship with other sources. For example, it would be possible for population censuses to collect data which could be used to identify the farm population and farm households. However, to do this it would be necessary to introduce some changes in the content of the census questionnaires which are usually used in the region. Censuses are, however, in general limited to collecting information concerning the occupations(s) followed over a short period of time very close to the date of the survey, which makes it impossible to identify those workers who are customarily engaged in farm labour but who happened during the period covered by the census to be engaged in the other activities or not to be working at all. Moreover, censuses enquire into secondary occupations only very infrequently. For the purpose of identifying the farm population and farm households it would be necessary to change this situation by including in the census questionnaires questions which would provide information on the usual occupations, whether these are main or secondary occupations.

At the same time, these censuses could provide a list of agricultural holdings, either by identifying all those person who declare that they are engaged in an agricultural activity on their own account, or by asking specific questions which make it possible to draw up a list as a supplementary activity to the data processing. Such a list may also be obtained, at a smaller marginal cost, as part of the pre-census activities involving cartographic updating and sectorization in the field.

In the case of agricultural censuses, the cartography and sectorization they involve should be compatible with that of the population censuses. As already noted, in order to expand their coverage the provision regarding minimum size of holding to be surveyed should be eliminated, with a view to achieving total coverage. FAO also suggests that the coverage of the farm population would be increased if agricultural censuses covered the producers, the participants in co-operative, collective and communal holdings, and the agriculture workers under permanent contract, together with the members of their respective households.<sup>55/</sup>

With the objective of coming closer to the truth in determining the economically active agricultural population,

data should be collected concerning the employment of occasional or seasonal workers and the time they work.

The basic target set for both types of census is that of achieving total coverage of all units, whether households or holdings. The different types of data which are collected from those units can be obtained through total enumeration, or by employing sampling techniques during or after the censuses, using household and establishment surveys in which precautions similar to those indicated for the censuses should be taken.

One way of integrating household surveys with agro-economic surveys is to use the information obtained by the household surveys concerning the population employed in the agricultural sector to get a sample of the holdings on which that population work, so that agro-economic surveys can be conducted in them.

For purposes of analysing the agricultural employment and income situation and for studying the characteristics of the economically active agricultural population, the most appropriate solution is to establish an integrated data base from different sources. The establishment of such a data base is no easy task, but nevertheless it is a good idea to make it a goal to be achieved and proceed with the design and execution of the various statistical measurements needed for its attainment. As already noted, there is need to employ compatible definitions and classifications in the different statistical processes. It is necessary to take as much advantage as possible of the information from administrative registers, not only because of the data they may provide but also through their use as a frame for the selection of samples of agricultural establishment.

Because of the need for keeping the system up to date, intense and continuous labour must be kept up on statistical cartography. In spite of the difficulties involved in setting up and maintaining a set of appropriate cartographic documents, this is an undertaking which is very beneficial in that these documents provide a foundation for the building of a frame of sampling units and a master sample from which the samples for household and establishment surveys, the results of which may refer to the same geographical areas, may be obtained.

The operation of a data base also poses requirements in respect of the capacity to process data for the establishment of sub-universe files, the aggregation of information from different sources, the use of special "packages", etc. Suitable technology already exists and is readily available for this purpose.

A N N E X

Table III.1

LIST OF POPULATION CENSUSES, AGRICULTURAL CENSUSES AND NATIONAL HOUSEHOLD  
SURVEYS REVIEWED FOR THIS PUBLICATION

Country	Population censuses	Agricultural censuses	National Household Survey
Argentina	30 November 1970	September 1969-March 1970	
Bolivia	29 November 1976		
Brazil	1 September 1970	November 1970	National Household Sample Survey November 1978
Colombia	24 October 1973	October 1970-July 1971	National Household Survey (Stage 6) September-October 1972
Costa Rica	14-19 May 1973	May 1973	Household Survey, March 1980
Cuba	6 September 1970		
Chile	22 April 1970	April-May 1976	National Employment Survey, October-December 1979
Ecuador	8 June 1974	September-October 1974	
El Salvador	28 June 1971	August-September 1971	October-December 1976
Guatemala	26 March 1973		
Haiti	31 August 1971	August 1974	
Honduras	6 March 1974		
Mexico	28 January 1970	February-March 1970	Continuous Employment Survey 1980
Nicaragua	20 April 1971		
Panama	10 May 1970	May 1971	Household Survey, August 1978
Paraguay	9 July 1972		
Peru	4 June 1972	September 1972	Regional Urban-Rural Manpower Survey, August-October 1973
Dominican Rep.	9-10 January 1970	September 1971	
Uruguay	21 May 1975	June-September 1970	Continuous Household Survey, 1980
Venezuela	2 November 1971	November-December 1971	Household Sample Survey, First half of 1979

Table III.2

## PERCENTAGES OF ECONOMICALLY ACTIVE AGRICULTURAL AND NON-AGRICULTURAL POPULATION BY AGE AND SEX. 13 COUNTRIES. CENSUSES AROUND 1970

Country	10-14 years			15 years and over		
	Total	Male	Female	Total	Male	Female
Brazil						
Agricultural	74.4	83.6	46.6	42.7	48.9	18.7
Non-agricultural	25.6	16.4	53.4	57.3	51.1	81.3
Costa Rica						
Agricultural	42.9	49.6	8.6	36.1	43.9	3.9
Non-agricultural	57.1	50.4	91.4	63.9	56.1	96.1
Cuba						
Agricultural	72.0	85.9	32.8	29.9	34.8	8.0
Non-agricultural	28.0	14.1	67.2	70.1	65.2	92.0
Ecuador						
Agricultural	58.7	68.9	21.3	45.7	52.5	11.8
Non-agricultural	41.3	31.1	78.7	54.3	47.5	88.2
El Salvador						
Agricultural	78.9	86.9	27.6	52.2	64.7	8.3
Non-agricultural	21.1	13.1	72.4	47.8	35.3	91.7
Guatemala						
Agricultural	78.1	85.9	24.8	56.7	63.9	5.8
Non-agricultural	21.9	14.1	75.2	44.3	36.1	94.2
Haiti						
Agricultural	69.6	81.6	57.4	73.7	83.3	62.1
Non-agricultural	30.4	18.4	42.6	26.3	16.7	37.9
Honduras						
Agricultural	85.0	90.5	21.5	59.0	69.2	6.7
Non-agricultural	15.0	9.5	78.5	41.0	30.8	93.3
Mexico <u>a/</u>						
Agricultural	54.8	67.9	20.5	39.0	45.6	10.4
Non-agricultural	45.2	32.1	79.5	61.0	54.4	89.6
Panama						
Agricultural	74.0	88.5	35.6	38.9	49.3	6.8
Non-agricultural	26.0	11.5	64.4	61.1	50.7	93.2
Paraguay <u>a/</u>						
Agricultural	67.9	79.1	31.3	50.2	60.5	12.7
Non-agricultural	32.1	20.9	68.7	49.8	39.5	87.3
Peru <u>b/</u>						
Agricultural	54.1	61.9	43.9	40.6	46.4	17.4
Non-agricultural	45.9	38.1	56.1	59.4	53.6	82.6
Uruguay <u>a/</u>						
Agricultural	21.3	28.3	4.4	15.7	20.5	3.2
Non-agricultural	78.7	71.7	95.6	84.3	79.5	96.8

a/ 12-14 years.b/ 6-14 years.

Table III.3

LATIN AMERICA: MINIMUM AGE FROM WHICH ECONOMIC CHARACTERISTICS  
WERE INVESTIGATED IN POPULATION CENSUSES AND  
NATIONAL HOUSEHOLD SURVEYS IN THE 1970s

Country	Population censuses	Household Surveys
Argentina	10 years and over	-
Bolivia	7 years and over	-
Brazil	10 years and over	10 years and over
Colombia	10 years and over	12 years and over
Costa Rica	12 years and over	12 years and over
Cuba	10 years and over	-
Chile	12 years and over	12 years and over
Dominican Republic	10 years and over	-
Ecuador	12 years and over	-
El Salvador	10 years and over	10 years and over
Guatemala	10 years and over	-
Haiti	5 years and over	-
Honduras	10 years and over	-
Mexico	12 years and over	12 years and over
Nicaragua	10 years and over	-
Panama	10 years and over	15 years and over
Paraguay	12 years and over	-
Peru	6 years and over	14 years and over
Uruguay	12 years and over	14 years and over
Venezuela	15 years and over	10 years and over
COTA 1970	Not over 15 years	-
COTA 1980	Not over 15 years	-

Table III.4

## LATIN AMERICA: DECLARATION PERIOD AND MINIMUM TIME OF EMPLOYMENT FOR DETERMINING ACTIVITY STATUS. POPULATION CENSUS 1970

Country	Criteria used in determining activity status (type)		Additional criteria concerning minimum time of employment required for inclusion in the category of:	
	Period of declaration	Minimum time employed	"Work"	Unpaid family worker
Argentina	Preceding week	Majority of week, i.e. 4 normal working days	Not specified	Not specified
Bolivia	Preceding week	Majority of week	Not specified	Not specified
Brazil	Time of the census	Not specified	Not specified	Not specified
Colombia	Preceding week	Not specified	1 hour	15 hours
Costa Rica	Preceding week	Not specified	1 hour	Not specified
Cuba	Preceding week	Not specified	1 day	1/3 normal working day
Chile	Preceding week	More than half of the week	1 day	1/3 normal working day
Dominican Republic	Preceding week	More than half of the week	Not specified	Not specified
Ecuador	Preceding week	More than half of the week	Not specified	Not specified
El Salvador	Preceding week	Not specified	Not specified	Not specified
Guatemala	Preceding week	Not specified	1 day	15 hours
Haiti	Preceding six months	More than half of time covered	Not specified	1/3 normal working day
Honduras	Preceding week	Not specified	1 day	15 hours
Mexico	Preceding week	Not specified	1 hour	15 hours
Nicaragua	Preceding week	More than half of the week	Not specified	1/3 normal working day
Panama	Preceding week	Not specified	Not specified	1/3 normal working day
Paraguay	Preceding week	More than half of the week	Not specified	2 days
Peru	Preceding week	Not specified	Not specified	15 hours
Uruguay	Preceding week	Not specified	Not specified	Not specified <sup>a/</sup>
Venezuela	Preceding week	More than half of the week	Not specified	15 hours

Source: Instructions manuals for census takers and census forms.

<sup>a/</sup> The person must live in the same household as the family in whose enterprise he works.

Table III.5  
PRACTICES FOLLOWED BY LATIN AMERICAN COUNTRIES IN THE AGRICULTURAL CENSUSES OF  
THE 1970 ROUND AS REGARDS THE PERSONNEL ENGAGED IN AGRICULTURE

Country	Reference period		Classification adopted	Minimum time worked for classification as temporary	Comments
	Determination of personnel employed	Classification of workers as temporary			
Argentina 1969-1970	Census day (9/69-3/70)		a) Producers and unpaid members of the families b) Wage earners i) Permanent ii) Temporary	monthly pay daily pay	Unpaid family workers were classified as employed personnel when they had worked at least one-third of a normal working day. As many producers were registered as there were persons responsible for the same holding.
Brazil 1970	1 day (31/12/1970)	Agricultural year (1970)	a) Producers and unpaid members of their families b) Wage earners i) Permanent ii) Temporary c) Sharecroppers d) Other workers (extra help, residents, etc.)	Continuity or long-term tasks Occasional or short-term tasks	The census also inquired into temporary personnel in 1970, asking for the maximum number of temporary employees in the peak months on each holding. The category "participants in co-operative, collective and communal holdings" was not included. Independent sharecroppers were included in the category "producer and members of producers household for purposes of the census" and referred to people under the administration of the establishment who received as remuneration part of the yield obtained from their work.
Chile 1975	Week prior to the date of the census	Agricultural year (1/5/75-30/4/76)	a) Permanent i) paid ii) unpaid b) Non-permanent i) paid ii) unpaid	Worked more than 6 months in the agricultural year Worked 6 months or less in the agricultural year.	In addition, individual producers and members of their households for census purposes are classified as permanent or non-permanent, working solely on the exploitation or also outside of it. The expression "independent producers" refers to small holders, tenant farmers and independent sharecroppers, whether they had settled on their land or are leasing it.
Costa Rica 1973		Agricultural year (1/1/72-30/4/73)			Only information on the producer was requested. The information on employed personnel shown in the census of agriculture was collected during the population census, which was co-ordinated with the census of agriculture.

(Continued)

(Continuation table III.5)

Country	Reference period		Classification adopted	Minimum time worked for classification as temporary	Comments
	Determination of personnel employed	Classification of workers as temporary			
Dominican Republic 1971	Preceding week		a) Producer and unpaid family members		A person was considered to have worked on a farm when he had done the equivalent of at least 2 days work during the reference week. Data were collected concerning the amount paid in money during August 1971 to agricultural and administrative personnel
Ecuador 1974	Week prior to date of census (Sept.-Oct 1974)	Agricultural year (1/1/74-31/12/74)	a) Producer and unpaid members of his household  b) Wage-earners i) Permanent  ii) Occasional	   Worked on the holding for 6 months prior to the census  Less than 6 months	Provides information on member of production co-operatives, communes and similar entities participating in the agricultural work done by such co-operatives and communes, but they are not viewed as a separate category. Unpaid family workers and wage earners are included only if they worked at least one day in the reference week.

(Continued)

(Continuation table III.5)

Country	Reference period		Classification adopted	Minimum time worked for classification as temporary	Comments
	Determination of personnel employed	Classification of workers as temporary			
El Salvador 1971	Agricultural year (1/5/70-30/4/71)	Agricultural year	a) Producer and unpaid family members working permanently on the holding b) Permanently employed wage earners	Engaged in agricultural labour at least half the agricultural year	Only covers permanent workers.
Honduras 1974	Agricultural year (1/5/73-30/4/74)		a) Permanent workers i) wage earners ii) non-wage earners		"Permanent workers" means people who have worked or begun to work uninterruptedly on the farm during the past agricultural year. No account is taken of temporary labourers, since basically jobs are measured rather than the labour force.
Mexico 1970	a) Week preceding the beginning of the census (25-31/1/1970) b) Harvest season i) winter cycle (1968-1969) ii) spring-summer cycle (1969)	Agricultural year	I. <u>First period</u> A. <u>Private sector</u> a) Producers and their families b) Wage-earners i) Permanent ii) Temporary  B. <u>Ejido sector</u> a) Ejido and commune workers and their families II. <u>Second period</u> Same as first period	At least half the working days in the agricultural year Less than half but more than a third of the working days	

(Continued)

(Conclusion table III-5)

Country	Reference period		Classification adopted	Minimum time worked for classification as temporary	Comments
	Determination of personnel employed	Classification of workers as temporary			
Panama 1971	Week preceding the census (9-15/5/71)	Agricultural year	a) Producer and paid family members i) Permanent ii) Temporary b) Wage-earners i) Permanent ii) Temporary c) Labour gangs and associatives	6 months or more Less than 6 months	Anyone who worked at least one day during the week preceding the census is considered to be a worker. The total number of man/days worked is investigated, and the findings are recorded for each of the groups of labourers and for the total staff employed. Data is also collected concerning the wages paid during the reference week.
Peru 1972	Day of the interview (May 1972)		a) Producer and unpaid members of his family b) Wage-earners i) Permanent ii) Temporary	6 months or more Less than 6 months	The census only publishes tables concerning the employed population and the number of agricultural units which have used only the labour of the producer and his family, together with those which in addition have employed permanent or temporary wage-earners.
Uruguay 1970			a) Producer and family members b) Other workers		Refers only to holdings measuring at least one hectare.
Venezuela	Day of the census (1/9-20/12/71)		a) Producer and family members b) Wage-earners c) Others (guests, gangs, casual labourers, etc.)		Based on COTA-70, although with variations in the definition of the age groups. Inquired as to how many labourers employed in the month of greatest activity and how many in the month of least activity. Also inquired concerning occupation, daily wage and extras (food and housing) paid at the time of the census to workers on the holding.

Table III.6

## LATIN AMERICA: DECLARATION PERIODS AND MINIMUM PERIODS OF EMPLOYMENT RELATING TO THE ACTIVITY STATUS OF THE POPULATION IN NATIONAL HOUSEHOLD SURVEYS

Countries	Criteria used in determining the activity status		Additional criteria concerning minimum periods of employment required for inclusion in the category	
	Declaration period <sup>a/</sup>	Minimum period of employment	"Labour" <sup>b/</sup>	Unpaid family worker <sup>b/</sup>
Brazil	Specific work and last 12 months	Not specified	Some work	15 hours or more
Colombia	Past week	Most of week	Some work	15 hours or more
Costa Rica	Past week	Not specified	One hour or more	One hour or more
Chile	Past week	Most of week	One hour or more	15 hours or more
El Salvador	Past week	Most of week	Some work	15 hours or more
Mexico	Past week	Most of week	One hour or more	15 hours or more
Panama	Past week	Not specified	Some work	15 hours or more
Peru	Past week	Not specified	Some work	Some work
Uruguay	Past week	Not specified	Some work	Some work
Venezuela	Past week	Not specified	Some work	15 hours or more

<sup>a/</sup> "Past week" means week preceding the interview.

<sup>b/</sup> "Some work" means that some work has been performed.

Table III.7

## LATIN AMERICA: DEFINITIONS OF UNPAID FAMILY WORKERS IN HOUSEHOLD SURVEYS

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Brazil	- An unpaid family worker is considered to be a person who, in the reference period, worked 15 hours or more without pay to help the person with whom he lived to carry on an economic activity as an own-account worker or employer, or in a religious or charitable institution.
Colombia	- Persons who, in the capacity of family helpers worked without remuneration in the enterprise of the respective head of family or of a relative.
Costa Rica	- Work in the business, workshop or farm of a relative, for which no wage or salary is received.
Chile	- In the material used as a source there is no definition of unpaid family worker.
El Salvador	- Works without receiving a monetary wage at tasks or occupations (other than household tasks or occupations) on an agricultural holding or in a family business.
Mexico	- Works without receiving pay on a ranch or in a workshop, business or other economic activity directed or owned by a member of his family.
Panama	- Works in a business or enterprise of a member of his own family.
Peru	- In the source material there is no definition of unpaid family workers.
Uruguay	- Person who works without receiving any pay in an enterprise or business whose owner may or may not be related to him. Includes apprentices.
Venezuela	- Persons who work without pay in an economic enterprise run by another member of the household or family, providing that work has not been sought during the reference period.

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Table V.1

RATES OF RURAL AND URBAN UNEMPLOYMENT TAKEN FROM SOME CENSUSES AND HOUSEHOLD SURVEYS OF LATIN AMERICAN COUNTRIES CARRIED OUT IN THE 1970s

Country	Year	Total	Rates of open unemployment <sup>a/</sup>		
			Urban	Rural	U/R
<u>Censuses</u>					
El Salvador	1971	11.8	13.4	10.6	1.3
Panamá	1970	10.0	13.19	6.27	2.1
Paraguay	1972	2.9	4.7	1.6	2.9
Perú	1972	5.6	7.8	2.2	3.6
Guatemala	1973	1.4	2.4	0.7	3.3
Chile	1970	4.7	3.8	0.9	4.22
<u>Surveys</u>					
Costa Rica	1978 <sup>b/</sup>	4.6	5.8	3.6	1.6
Colombia	1972 <sup>c/</sup>	8.6	10.0 <sup>d/</sup>	6.4 <sup>e/</sup>	1.6
Chile	1979 <sup>f/</sup>	13.6	14.5	9.6	1.5
Venezuela	1979 <sup>g/</sup>	5.2	5.5	4.1	1.3

Source: Censuses and household surveys.

<sup>a/</sup> Assignment of the unemployed to a branch of activity is based on the last job held; the rates of open unemployment do not take into account those unemployed persons whose last activity was agriculture but who at the time of the census (when it is actually conducted) were residing in an urban area; on the other hand, the figures include unemployed persons from the non-agricultural sector residing in rural areas (a much less common case).

<sup>b/</sup> Average March, July and November.

<sup>c/</sup> September-October.

<sup>d/</sup> Regional capitals only.

<sup>e/</sup> Refers to rest of country.

<sup>f/</sup> Fourth quarter.

<sup>g/</sup> First half-year.

Table V.2

## LATIN AMERICA: CHARACTERISTICS OF THE UNEMPLOYED COVERED BY HOUSEHOLD SURVEYS

Country	Length of search	Means employed in search	Part of full-time job hunting	Type of employment desired	Declaration period for job-hunting	Characteristics of last job					
						Date of last employment	Occupation	Branch of activity	Occupational category	Size of establishment	Reasons for leaving
Brazil	-	Yes	-	-	Week and last two months	Yes	Yes	Yes	Yes	-	-
Colombia	Yes	-	Yes	Yes	Week and open period	Yes	-	-	-	-	-
Costa Rica	Yes	Yes	-	-	Week	-	Yes	Yes	Yes	-	-
Chile	Yes	Yes	-	Yes	Last two months	Yes	Yes	Yes	Yes	-	Yes
El Salvador	Yes	Yes	Yes	Yes	Last two months	Yes	Yes	Yes	Yes	-	Yes
Mexico	Yes	Yes	Yes	Yes	Last two months	Yes	Yes	Yes	Yes	-	Yes
Panama	-	-	-	-	Week and last three months	Yes	Yes	Yes	Yes	Yes	-
Peru	Yes	Yes	-	Yes	Week	-	Yes	Yes	-	-	-
Uruguay	-	-	-	-	Week and last six months	-	Yes	Yes	Yes	-	Yes
Venezuela	-	Yes	Yes	Yes	Week and last two months	Yes	Yes	Yes	Yes	Yes	-

Table V.3

LATIN AMERICA: QUESTIONS ASKED IN THE HOUSEHOLD SURVEYS  
 CONCERNING REASONS FOR NOT HAVING  
 SOUGHT EMPLOYMENT

Country	Question
Brazil	-
Colombia	<p>Why did you not seek work?</p> <ol style="list-style-type: none"> <li>1. Not interested</li> <li>2. No time</li> <li>3. No work available</li> <li>4. Temporarily ill</li> <li>5. Bad time of year to be looking for work</li> <li>6. Other reasons</li> </ol>
Costa Rica	<p>Why did you not seek work last week?</p> <ol style="list-style-type: none"> <li>1. I didn't think I could find any</li> <li>2. I am assured of a job in the future</li> <li>3. I already looked and am waiting for a reply</li> <li>4. I have been looking but have stopped for the moment</li> <li>5. Others</li> </ol>
Chile	-
El Salvador	-
Mexico	<p>What are your reasons for not seeking work?</p> <ol style="list-style-type: none"> <li>1. I don't think there is any work in my field or in my area</li> <li>2. I couldn't find work</li> <li>3. Lack of schooling, skills or experience</li> <li>4. The employers consider me too young or too old</li> </ol>

(Table V.3 Continued)

Country	Question
	5. Other people haven't found any work
	6. I have no one to leave the children with
	7. Other family responsibilities
	8. I am in school
	9. I am seriously ill or disabled
	10. Others
Panama	Why did you not look for work last week?
	1. I do odd jobs
	2. I already looked and am now waiting for news
	3. It is impossible to find work
	4. Housewife only
	5. Student only
	6. Disabled
	7. Retired or pensioned off
	8. Receives help from family
	9. Other reasons
Peru	Why did you not look for work?
	1. Has looked, has asked friends, relatives, employees, etc.
	2. Is studying
	3. Engaged in household duties
	4. Health reasons
	5. Not hired because too old or too young
	6. No work available
	7. Influence or recommendation needed
	8. Other
Uruguay	Why did you not seek employment?
	1. Waiting for a reply
	2. New job will begin in next 30 days

(Table V.3 Conclusion)

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Country	Question
Venezuela	<hr/> <ol style="list-style-type: none"><li>3. Does not believe can obtain work</li><li>4. Does not wish to work</li><li>5. Other</li></ol> <p>For what reasons are you not now seeking work?</p> <ol style="list-style-type: none"><li>1. Believes no work available</li><li>1. Tired of looking</li><li>2. Does not know how to look</li><li>2. Can't find suitable work</li><li>3. Is waiting for a job or business opportunity</li><li>4. Bad time</li><li>5. Student</li><li>6. Looks after the house</li><li>7. Does not need to work</li><li>8. Is ill</li><li>9. Other reasons</li></ol> <hr/>

Table V.4

## LATIN AMERICA: CRITERIA USED IN INVESTIGATING INCOME IN POPULATION CENSUSES, CIRCA 1970

Country	Population investigation	Declaration period	Concept of income	Level of measurement	Level of detail of question	Level of detail of instructions
Brazil	All population of active age	a) Fixed incomes: previous month b) Variable incomes: average for last 12 months	Total personal income <sup>a/</sup>	Not specified	Total amount	- For each type of income - Exclusions specified <sup>a/</sup>
Colombia	Whole population of active age	Previous month	Total personal cash income	Gross	Total amount	- For each type of income - Exclusions specified
Costa Rica	Wage earners currently working	Hours, days, weeks or months depending on the kind of pay received	Wages and salaries <sup>a/</sup>	Gross	- Total amount - Reference period	- Items excluded and included specified
Mexico	Whole population of active age	Normal period (free choice) of previous year, or whole year	Total personal cash income	Gross	- Total amount - Reference period	Items excluded and included specified
Panama	Wage earners with jobs	Hours, days, weeks or months, depending on kind of payment received	Wages and salaries, <sup>a/</sup> commissions and pensions	Gross	- By components	Items excluded and included specified
Peru	Wage earners	a) Manual workers: previous week b) Non-manual workers: previous month (or normal pay period)	Wages or salaries <sup>a/</sup> (main occupation)	Not specified	Total amount	No instructions
Venezuela	Economically active population	Last month	Total personal cash income	Gross	By type of income	- For each type of income - For each category of pay - Items excluded and included specified

Source: ECLA, "Hacia los censos latinoamericanos de los años ochenta", in the Cuadernos de la CEPAL, No 37, Santiago, Chile, January, 1981.

<sup>a/</sup> No indication as to whether only pay in cash should be noted or whether wages in kind are also included.

Table V.5  
LATIN AMERICA: QUESTIONS IN HOUSEHOLD SURVEYS FOR MEASURING INCOME FROM WORK AND OTHER SOURCES

Country	Period of declaration	Main occupation	Other occupations	In kind	Other incomes
Brazil	October	- Rendimento mensal do trabalho Em Dinheiro <u>Do Benefícios</u> - Parte fixa <u>sim nao</u> - Parte varia-vel - Moradia - Refeições - Transporte - Roupas, etc. Outras	<u>Em Dinheiro</u> - Parte fixa - Parte varia-vel Em productos ou mercaderias	<u>Em Beneficio</u> <u>sim nao</u>	Si - Outros recibos alem dos declarados... - Aposentadoria - Pensao - Do acaco ou mesada - Aluguéis em geral - Outros
Colombia a/	Month	How much do you normally make from all your jobs (for manual and non manual workers) What were your net earnings in your main business or profession last month (for employers and persons working on own account)		- Do you receive food, housing, and/or clothing?	- Did you receive income other than that earned from your job last month? . Interest and dividends . Rents . Pensions . Monetary aid . Others
Costa Rica	<u>ad hoc</u>	What are your wages or remuneration in your main occupation?	- What is your income from other work?	-	-
Chile	Last two months	- What kind of income did you have in the past two months? <u>Wages and salaries</u> . Wages, salaries and other remuneration from non-agricultural activities . Wages, salaries and other remuneration from agricultural activities	<u>Own account</u> . Income earned as a professional, from work on own account or as entrepreneur in fishing, industry, trade or services . Income received as owner, landlord, etc., in agriculture or stock-raising	Yes	- <u>Rents, retirement, pensions etc.</u> . Rent from any property . Estimated rent for own house . Retirement, pensions, unemployment benefit, etc. . Interest and dividends, etc. . Other income
El Salvador	<u>ad hoc</u> but on the basis of the equivalent monthly income received	- What is the customary amount of your pay? or - How much gain do you realize from this activity? Indicate amount and form of payment - Do you receive a bonus or benefit in connection with this main occupation? - How much does this amount to? - When do you receive it?	Same as for main occupation	Yes	Do you have any other permanent income? - Retirement pension - Rent - Earnings on some investment - Earnings from some business trade, industry, or farm - Other

(Continued)

(Continuation of table V.5)

Country	Period of declaration	Main occupation	Other occupations	In kind	Other incomes
Mexico	Last week	- How much did you earn last week (or the last week you worked) in your main employment before deductions? (manual and non-manual workers)	- How much did you earn last week (or the last week in which you worked) in other jobs or businesses	Yes	-
	Last month	For employers and persons working on own account: - What were the total receipts or income from your work, profession or business last month (or the last month in which you worked)?			
	Last month	- How much did you earn last month (or the last month in which you worked) in your work, profession or business, after deducting the expenses you incurred in it?			
Panama	<u>ad hoc</u>	- What were your most recent wages or income?	-	-	-
		. Per hour ----- . Daily ----- . Weekly ----- . Monthly ----- . On commission -----			
Peru <u>B/</u>		- What were your basic daily pay/wages last week/last month from your main occupation?	- How much did you earn altogether last week (last month) from: . Your main job or occupation? . All other occupations?	-Last month did you receive as part of your payment for your work food, clothing, housing, medical attention, land for farming, etc.?	- Since (month of interview) last year have you received any money . For any extra work you did from time to time? . From State pensions or pensions from private companies? . From house rent, land rent, automobile rent, etc.? . Retirement payments?

(Continued)

(Conclusion of table V.5)

Country	Period of declaration	Main occupation	Other occupations	In kind	Other incomes
Peru		<ul style="list-style-type: none"><li>- What was your total income last week (last month) from the sale of goods (products) or from your work?</li><li>. Sale of goods (products)</li><li>. For your work</li><li>. Other income from main or secondary occupation</li></ul>			<ul style="list-style-type: none"><li>. From family members not living in this house?</li><li>. From profits on investments?</li><li>. As interest on savings in bank and/or credit co-operatives?</li><li>. From sale of land, houses, other goods, etc.?</li><li>. As a Christmas bonus in connection with your work?</li><li>. As a bonus for National Day in connection with your work?</li><li>. Profits from producer co-operatives?</li><li>. Other income?</li></ul>
Venezuela	Monthly or weekly	- Approximately what was the last monthly or weekly income you obtained from all your work, including tips and commissions but excluding per diem?		Yes	--

a/ Inactive persons are not questioned as to other income.

b/ The questions specifically related to agricultural income are annexed to this table.

Addendum to table V.5

Questions asked of agricultural workers in the surveys of  
Peru and Uruguay

Peru

- With regard to the products you have grown on this land since (month of interview) last year, could you tell me what they were?

Interviewer: list all the products and ask the following questions in connection with each of them:

- . What area of land was cultivated?
- . How many harvests have you had since.....of last year?
- . What has your total yield been since.....of last year?
- . What is the sale price of..... ? (How much do you receive for each.....?)

- In cultivating the land you farm, how much have you spent since..... (month of interview) of last year on:

- . Seed?
- . Fertilizer?
- . Insecticides?
- . Pay of workers?
- . Transport (freight)?
- . Other costs? (specify)

- If you have animals belonging to another person or belonging to you and another person, how much (or what) did you receive for tending these animals since..... (month of interview) of last year?

- With regard to the animals you raise (animals belonging to you), could you please tell me what they are?

Interviewer: list the animals and ask in respect of each of them:

- . How many.....have you had since.....(month of interview) of last year?

- . Have you sold any of your.....? How many? How much did you receive in all?
- . Did you slaughter any of your.....? How many? How much did you receive in all?
- . Did you sell any products from your.....? For how much?
- In raising all these animals, how much have you spent since.....(month of interview) last year on:
  - . Food (fodder)?
  - . Purchase of animals?
  - . Breeding of animals?
  - . Veterinary services?
  - . Payment of labourers?
  - . Other expenses?  
(specify)
- How much did you receive last month in respect of rent?
  - . From within the country?
  - . From abroad?
- How much did you receive last month in allowances, fellowships and alimony?
  - . From within the country?
  - . From abroad?
- How much have you received in the past 12 months in terms of other current income?
  - . From within the country?
  - . From abroad?
- How much do you think you would have to pay each month for renting the dwelling you occupy?

### Uruguay

- How much you make from your work in agricultural activities?
  - . In money (salaries, wages) last month?
  - . In kind (housing, food, clothing, etc.) last month?
- How much money did you make in salaries or wages from other non-agricultural work last month?
- How much money did you receive in the last 12 months for your work as a member of a production co-operative?
- What is the value of the products you received in the past 12 months for your work as a member of a production co-operative?
- How much did you receive from the sale of the commodities obtained from your establishment(s) (land)?

- a . In the past quarter (products harvested more than once a year and non-harvested products)
  - . In the past 12 months (products harvested once a year or less and livestock production)
- How much did you spend to produce the products you sold (rent, seeds, wages, fuel, machinery, taxes, etc.)?
  - . In the past three months (products harvested more than once a year)?
  - . In the past 12 months (products harvested once a year or less, livestock products and other)
- What is the value of the products you took from your establishment for your own use in the past 12 months?
- How much did you earn in the past 12 months in the form of profits from other non-agricultural establishments you own?
- How much money did you receive in the last 12 months from interest, dividends and the use of patents and copyrights?
  - . From within the country?
  - . From abroad?
- How much money did you receive last month in retirement benefits or pensions?
  - . From within the country?
  - . From abroad?

## BIBLIOGRAPHICAL NOTES AND REFERENCES

1/ The direct satisfaction of need through "leisure" activities, as well as the creative or emotional aspects of other activities (work, study, etc.) goes beyond the dimension of well-being and into that of utility.

2/ This simplified scheme does not take into account either the interdependence of different human activities or the complementary way which they satisfy needs.

3/ In this respect see, for example, N. Rao Maturu, "Nutrition and Labour Productivity", in International Labour Review, Vol.118, N°1, January-February 1979.

4/ This is particularly valid for the technologies most commonly used in agricultural production, such as improved seeds, fertilizers, pesticides, herbicides, tractors and, up to a certain limit of size, harvesting machines.

5/ See, A. Figueroa: Rural Labour Markets in Perú, (Lima, 1982; mimeograph, unpublished).

6/ In general, whether modernization increases or decreases total employment depends on the crops and/or livestock activity concerned and the degree of mechanization that is possible. If it is not possible to mechanize, particularly where harvesting activities are concerned, then total employment will increase. This is the case, for example, with coffee and fruits in general. The opposite is true of wheat and dairy farming.

7/ This phenomenon is particularly important in southern Brazil.

8/ United Nations, A System of National Accounts, Series F, N°2, Rev. 3, New York, 1970, paras. 6.19 to 6.24.

9/ Hawrylyshyn, O., "Towards a Definition of Non-market Activities", Review of Income and Wealth, March 1977.

10/ United Nations, "GDP as a Measure of Output: Problems and Possible Solutions", Statistical Commission and Economic Commission for Europe, Conference of European Statisticians, Working Party on National Accounts and Balances (25-28 February 1980). CES/WP.22/59/Add.1, December 1979, p.11.

11/ See, ILO, "An Alternative Approach for Collection and Presentation of Labour Force Data", Meeting of Experts on Household Surveys, Geneva, 6-10 April, 1981.

12/ In this connection, the provision of trading or transport services in conjunction with buying supplies for or selling products of own or household farms (1.07), or in the context of local fairs, might be listed separately under the category "Work" in the activity classification shown in table 3. Also, if the period analysed is a longer one, it would be advisable to seek a way to record the sale of labour outside the local market which takes place when some members of the household migrate temporarily.

13/ See section B, ILO, op.cit.

14/ Inter-American Statistical Institute (IASI) Programa del censo de América de 1980 (COTA 1980): bases para la formulación de las normas y metodologías correspondientes al censo de población (71246-11/476-20), 11 April, 1976.

15/ In these cases, the question regarding the main activity seems to have been conceived as a means of preventing the respondent from listing all the activities he has performed during the reference period, so as to concentrate on the one to which he has devoted the most time. This gives the respondent a uniformly applied criterion -that of main activity- which enables him to select that activity which was the most important of those he has carried out during the reference period.

16/ Since the observation unit is the farm, it is understood that a worker who is defined in the census as a temporary or occasional worker may in fact work full time throughout the year on different establishments.

17/ The cross of the three classifications is seldom included in the census publications of the region. Only one country did so during the 1970 round of censuses and that only at the one-digit level.

18/ This statement is valid for COTA 70. In ISCO Rev. 1968, farmers are broken down by type of product to the four-digit level.

19/ United Nations, International Standard Industrial Classification of All Economic Activities (ISIC, Rev. 1968), Series M, N°4, Rev. 2, New York, 1968.

20/ United Nations, Handbook of Population Census Methods, Vol.II, Series F, N°5, Rev.1, New York 1958, p.30.

21/ The notion of establishment refers to a generic unit which, ideally, operates in a single fixed geographical setting, has an independent legal identity and produces goods or services which are only minimally different from each other as regards their nature, the technology required for their production and the uses for which they are made. In practice, however, economic activities are carried out through any number of units which do not fit the ideal description just given. This is the case, for example, of many construction, communications and transport activities, which usually do not operate in fixed geographical settings, or of activities pertaining to the production and supply of gas and electricity, which, because of the wide area in which they operate, usually must work through subdivisions of the economic unit, taking into account the place where each subdivision operates. For a detailed description of how these different types of economic units should be treated, see part I of the International Standard Industrial Classification of All Economic Activities (United Nations, Series M, N°4, Rev. 2, New York 1968).

22/ Agricultural surveys and censuses concentrate their research on the activities included in group 111 of ISIC 1968.

23/ United Nations, op.cit., Series F, N°5, Rev.1, Vol. II, New York, 1958, p. 32.

24/ United Nations, "Principles and Recommendations for Population and Housing Censuses", Statistical Papers, Series M, N°67, New York, 1980, p. 96.

25/ Another factor which may lead to overestimation is the fact that individuals who act both as farmers (owners or tenants) in charge of one farm and as temporary workers on another may be listed twice.

26/ W. Saint, "The Wages of Modernization: A Review of the Literature on Temporary Labor Arrangements in Brazilian Agriculture", in Latin American Research Review, Vol. XVI, N°3,, 1981.

27/ This seems to be the strategy followed in the 1980 census of Brazil, in which temporary workers (volantes) were included as a separate category in the classification by employment status.

28/ The studies that have been made of labour practices in the agricultural sectors of some countries of the region show that most household-farms, including those which own a minimum amount of land, use hired labour at some time during the year; it is therefore advisable to set a significance limit, in keeping with the real situation in each country, to

determine what is to be considered as the purchase or sale of labour. In a study made in 1976 in the northern part of the Peruvian sierra, Deere found that even peasants who owned one-fourth hectare or less hired labour to meet 5% of their labour requirements. Deere, Carmen O., "The Division of Labour by Sex in Agriculture: A Peruvian Case Study", Economic Development and Cultural Change, Vol. 30, Nº4, p. 803.

29/ Patnaik, U., 1976, "Class Differentiation within the Peasantry", Economic and Political Weekly Review of Agriculture, September. Quoted in Howes, Mick, "Confessions of a Fieldworker—How I Stratified a Rural Population", Bulletin of the Institute of Development Studies, Sussex, 1981, Vol. 12, Nº4, p. 43.

30/ Howes, Mick, op.cit., p. 43.

31/ An enlarged preliminary version may be found in PREALC: Planificación del empleo, PREALC, Santiago, 1981.

32/ This measurement is based on the questionable assumption that there can be marginal productivity equal to zero.

33/ See, for example, O. Altimir: La dimensión de la pobreza en América Latina, ECLA, Santiago, 1978.

34/ ECLA, Hacia los censos latinoamericanos de los años ochenta, ECLA, Santiago, 1981; La medición del empleo y de los ingresos en áreas urbanas a través de encuestas de hogares, ECLA, Santiago, 1979.

35/ See I. Ahmed, "Unemployment and underemployment in Bangladesh Agriculture", in World Development (Elmsford, World Development Publishers Ltd.), November–December 1978.

36/ United Nations, "A System of National Accounts" in Studies in Methods, Series f, Nº2, Rev. 3, New York, 1970.

37/ United Nations, "Provisional guidelines on statistics of the distribution of income, consumption and accumulation of households" in Statistical Papers, Series M, Nº 61, New York, 1977.

38/ United Nations, ibid.

39/ United Nations, "A System of National Accounts", op.cit.

40/ It should be pointed out that the concept of household income used in the Guidelines includes for accounting the purposes the employers' contributions to social security and similar plans, which are deducted in the usual way, together with the employees' contributions, the result being the total disposable income of households. For purposes of measurement for analysing well-being, however, it is more suitable to use a concept of household income which represents

the amount actually received by the households, so that the employers' contributions to social security should therefore be excluded.

41/ ILO, International Recommendations on Labour Statistics, Geneva, 1976.

42/ In these respects the findings of the research conducted by Adolfo Figueroa and published in "La Economía Campesina de la Sierra del Perú" (Pontificia Universidad Católica del Perú; Fondo Editorial 1981) are particularly interesting.

43/ The daily pay of any auxiliary manpower which may have been employed in such operations would in any case already have been computed among the operating costs.

44/ United Nations, "Provisional guidelines on statistics of the distribution of income, consumption and accumulation of households", op. cit.

45/ For the ways in which imputed rents are estimated in national accounts, see Handbook on National Accounting, Part I (Provisional), para. 4.235 et seq., May 1975.

46/ FAO, Programme for the 1980 World Census of Agriculture, Rome, 1976

47/ Valdecir F. Lopes, "La familia en el Brasil, según el censo de población de 1960", in Notas de Población, Vol. IV, Nº 10, CELADE, April 1976.

48/ FAO, Programme for the 1980 World Census of Agriculture, op.cit., p. 10.

49/ FAO, op.cit.

50/ An exception to this rule is found in the census of Mexico, which provides that if the owner of the holding delegates managerial responsibilities to a manager, the manager is considered to be the producer.

51/ Strictly speaking, the full FAO recommendation refers both to the producer and to the unpaid members of his household, and at the same time it suggests that an examination be made of all the hours worked in non-agricultural jobs and in agricultural jobs away from the holding. FAO 80 modifies the criterion used for the preceding decade, however, and recommends that the question should only ask if the main activity was performed within or away from the holding, without inquiring on the sector.

52/ Some examples in this respect are the censuses in Costa Rica (1950, 1955 and 1963); Chile (1955); Nicaragua (1952); Panama (1952, 1961 and 1971); Peru (1972) and Uruguay (1976).

53/ D. Basu, "National farm surveys", published in FAO studies in agricultural economics and statistics, 1952-1957; FAO, Rome, 1978.

54/ FAO, Collecting statistics on agricultural population and employment, Rome, 1979, para. 187

55/ FAO, Collecting statistics on agricultural population and employment, op. cit., para. 249.

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