

# Measuring the Labour Force in Brazilian Rural Areas: Problems and Possibilities of IBGE's Statistics

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The aim of this work is to make a follow up of the statistics in Brazilian Geography and Statistics Institute, IBGE, that have a greater potential of use to elaborate labour force indicators in rural areas. Important methods, concepts and variables used on two sources of data – PNAD ( National Household Sample Survey ) and Census of Agriculture - are explored and discussed.

The distinction between urban and rural areas represents, more and more, a conceptual and operative problem to statistics production. However the permanence of this dichotomy not appropriated to deal with the complexity of territories in actuality has been justified because of the existence of governmental social and economic policies that are based on these two inadequate concepts.

The next Brazilian Census of Agriculture, that will occur in 2006 (with 2005 as the year of reference), brings important innovation towards to the qualification and quantification of labour force in farms, the measure unit adopted. Nevertheless, IBGE's agricultural surveys of smaller periodicity (LSPA – the monthly agricultural production survey, for example) that show differences in juncture still didn't incorporate the universe of labour. This is a urgent demand that is presented to the institution.

In the Conference introduction text are mentioned “new paradigms that are changing the focus of agricultural statistics”. The main change is related to the enlargement of the focus, nowadays restricted to production, to a view that includes the great complexity of what is called “rural sustainable development”.

Concerning the economic activities, it's a question of adoption an intersectoral perspective, considering that rural is not only agricultural. However, it can't be missed that a perspective called intersectoral assume and explicitly recognise the existence of different sectors. So, even in the complexity, besides the deep level of interconnections, the different economic sectors keep on existing.

The discussion about the validity of the term rural to designate a specific dimension of the reality deserves a vast questioning that is not expected to be exhausted in this paper. Urban and rural don't have the status of scientific concepts anymore. Continuously it's need to rebuild the theoretical constructions, as well as to rethink the political strategies to development. In fact, one thing can't be dissociated from other.

The interaction between the advances in theory and the political action sphere occurs in a very intense and particular in the national institutes of statistics.

The aim of this work is to make a follow up of the statistics in Brazilian Geography and Statistics Institute, IBGE, that have a greater potential of use to elaborate labour force indicators in rural areas. Important methods, concepts and topics covered on two sources of data – the Census of Agriculture and NHSS ( National Household Sample Survey )- are explored and discussed. At last, it's indicated the future possibility of the

information on labour to be investigated and provided by other surveys of agricultural production.

## The Census of Agriculture

For the next Census of Agriculture, foreseen for the year of 2006 (2005 as year of reference), the statistical unit will be the farm (agricultural holding), defined as been the unit under one management, independently of the size, juridical form (individual farmer, limited company etc), situation (urban or rural), or the objective of the production (own-consumption or trade), restoring this way the concept adopted on the Census of 1985.<sup>1</sup>

The periodicity determined by law is 5 years, but the last Census of Agriculture was carried out in 1995/96. The high cost of the operation and the dependency in its undertaking on the politic decision and statement of the Union Budget justify the delay. Because of the enlargement of this period as it happens today, the use of agricultural censuses as source of information to the thematic of labour force is too restricted, specially due to the acceleration of transformation that concerns agriculture on the present. More and more, agricultural sector is as dynamic as the other economic activities considered "urban" (industry, commerce and service).

In the last Census, the information of employment concerned just the date of reference, 31/12/95. Data refer to economically active population in agriculture, paid or unpaid, following to the categories: the responsible for the production and unpaid family workers, regular employee, casual employee, employee share croppers, other status. Of the total, it was quantified the number of residents in the farm. Only the numbers of casual employee was informed according to the months of the year. The casual agricultural workers with intermediaries were not counted.

The next Census brings improvements in labour force data, as in other items. And there will be certain important changes in concepts to better reflect employment patterns in rural area and to better conform to international standards and policy demands. Once more, there will be no definition of work of any kind (number of hours, payment etc), since it will be counted the contingent of people that had some agricultural activities, as well those who worked in non-agricultural activities that supported the agricultural ones in the farms.

Concerning the work made by intermediaries it will be investigated the number of days contracted in the year of reference, but not the number of workers employed.

By the first time it will be investigated the *plural activity*, that is the performing, in the year of reference, of some non-agricultural work by the responsible for the production

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<sup>1</sup> In the Census of Agriculture of 1995-1996 the units where the production was restricted to subsistence were not included. In relation to the Census de 1985, there were a reduction of almost 1.000.000 farms. Since many farms (unit of agricultural exploitations) may have a temporary existence during the year, the reduction mentioned above can be also related to the change in the date of reference and the month of data collecting.

(farmer) or a member of his family<sup>2</sup> living in the farm in the date of reference. The *plural activity* includes yet the performing by some of these people of another agricultural work, when it's done in another farm.

The population engaged in agricultural activities during the year will be classified according to the occupation in three categories based on intervals of worked days in the farm (less than 60 days, from 60 up to 180, and 180 and more). To the casual agricultural workers without intermediaries the days paid for services will be informed.

In terms of gender and age, only the occupied people on the reference date will be investigated, to the different categories<sup>3</sup>.

As an economic research, the question of the situation (urban or rural) is not relevant in the Census of Agriculture. Data are not presented with this distinction, yet it's possible to do that if it's of interest using the original data (*microdata*). This way, the Census give us a portrait of the universe related to the agricultural activities and not of the "rural world". It's considered a hit, not a miss.

## The NHSS (PNAD)

The National Household Sample survey presents, by its side, data of population commonly divided in urban and rural according to the situation (or localisation) of sectoral territorial division.

The first point to be discussed is the meaning of these terms. The IBGE adopts the administrative limits that the municipalities defines to their urban areas and the residual is taken as rural, or what is out of the imaginary line called "urban perimeter". Therefore, the rural area is always being reduced faces the expansion of the urban perimeter that brings to the municipality the control of the territorial taxes. The limits are arbitrary, having no heuristic value, what is, they are not an effect or consequence of an analytic process of knowledge about the spatial reality. This way, both can exist areas with characteristics usually related to rural under the classification of rural as the opposite.

.Even it's possible to verify some coherence in data that characterise and distinguish urban and rural population, such differentiation has no conceptual control. For that reason is very precarious its use in public policy making. Also in terms of international comparison the urban-rural distinction creates many difficulties, since there is no concept to be conformed.

The IBGE adopts since 1991 an additional system of classification to the sectors situation, using criteria to better characterise the urban and rural areas. Basically, are

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<sup>2</sup> To the finality of the Census of Agriculture are considered members of the family: spouse, son, daughter, father, mother, father (mother) in law, grandfather(mother), son(daughter) in law, minor under guard, brother, sister, grandchildren, uncle, aunt, nephew, cousin, brother(sister) in law.

<sup>3</sup> Farmer, regular workers, casual workers, employee share croppers, and other conditions. And to each category, the unpaid family workers.

considered aspects of demographic concentration, immediate vicinity of consolidated urbanised area and the existence of certain services. Thus, the urban situation were divided in 3 categories and the rural in 5. To the present discussion is relevant to detail the situation “urban not urbanised” – an urban area administratively defined, but with rural aspect – and the situation “rural agglomeration of urban extension” – an urbanised area external of the administrative urban boundary near or contiguous to an effective urban area.

Few researchers or statistics users take this “extra” classification into account to analyse the statistics. To select the sample to the NHSS this more detailed classification of sectors situation is not considered as well. So, to use the survey data in this level of spatial detail there is the problem of low degree of confidence of the results.

Another issue regarding the urban rural separation concerns the temporal evolution analysing. It’s impossible to determinate which part of the “rural exodus” is in fact due to people who didn’t move, but had their household situation changed from one census to the next. Just before a census operation the Institute updates the cartographic basis. During the period between censuses there is no changing in the classification of sectors situation, despite any action of the municipality or even the emancipation of any new city. It ends up by causing some leaps in the series of Brazilian urban population according to NHSS data (table 1)

Table 1. Percentage of urban population in Brazil using NHSS data -1981/2002.

1981	1983	1984	1985	1986	1987	1988	1989	1990	1992	1993	1995	1996	1997	1998	1999	2001	2002
71,2	71,9	72,4	72,6	72,8	73,2	73,6	74,3	74,1									
									78,0	78,3	79,0	79,4	79,6	79,6	79,7		
																83,9	84,1

SOURCE - IBGE, National Household Sample Survey.

OBS: Censuses occurred in 1991 and 2000

NOTE - Excluding the population of rural area of the States of Rondônia, Acre, Amazonas, Roraima, Pará and Amapá.

The national geographic coverage of the survey is not complete yet, as the rural area of 6 units of the Federation is not included. It represents a vast area with only 2,1% of country's population, what makes its inclusion in sampling very onerous and expansive. But to the assessment of agricultural labour force the area significance is much greater because it represents almost 10% of workers in agriculture according to the Census.

This is not the only problem in using the NHSS data to evaluate labour force in rural areas. The sample size and design are coherent with the population distribution in urban and rural situation. Once Brazilian population are highly concentrated in the areas considered urban (82%) the sample has the same distribution. As the sample is rare in rural areas it causes some problems to the appropriate characterisation of the great diversity of activities developed in these areas. There are basically two kind of problems: the levels of data aggregates both spatial and qualitative. To the last case, it means that some important work characterisation can't be done (for example, to relate the work to a specific crop as soybean, corn or sugarcane) without facing the low degree of confidence of data.

To measure agricultural labour force, IBGE considers since 1992<sup>4</sup> employment persons aged 10 years and over who work in agriculture at least 1 hour during the reference week, paid or unpaid.

The urban rural dichotomy can't be not applied to labour, as the situation (localisation) of the place of work is not informed. Thus, there is no conceptual meaning in the expressions "rural work" and "urban work". The nature of work in the statistic data also refers to the sector of activity of the enterprise: agricultural work and no-agricultural work (farm and no-farm). To NHSS a cook that works in agricultural enterprise is an agricultural work.

A specific problem to measure agricultural labour force is the seasonal work. To this, on NHSS there are questions about the activities in the last 365 days.

Differently of the Census of Agriculture, the NHSS covers the casual agricultural workers with intermediaries. Sadly, there isn't how to identify this group in the total of the agricultural workers enumerated in the survey.

The plural activity can't be evaluated with NHSS data in the same terms comparing to the Census. The concept is about the activities developed during the year of reference by the members of the family that live in the farm on the reference date. The idea of the concept is to evidence additional income brought to the farm. The NHSS identifies principal and secondary works on the week of reference, being possible to identify the cases of agricultural-agricultural and the agricultural-no agricultural.

The definition of the principal work is given by the major time of permanency during the reference period. As additional criteria to definition, are considered in order of priority: the paid work over the unpaid; the major number of hours spent weekly; and, at last, the major income.

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<sup>4</sup> Before that, this value was 15 hours

As, in general, the income in agriculture is fewer than in other activities, the adoption of the criterion of time must super-estimate the agricultural employment comparing to the adoption of the income.

### Other possibilities

The assumption that changes in agriculture are slower than in other economic sectors has been used to justify the different treatment given in the field of statistics production. At the same time and contradictorily the agriculture is getting more distinction in the means of communication and in the governmental publicity exactly because of the recent adjust of the sector to the new circumstances of global trades challenges.

The information used to show this adapting of the sector and its recent transformation are restricted to variables of production and productivity, specially of the main commodities.

The IBGE has surveys of agricultural production juncture, but in no one of them the labour is considered. The difficulties in creating and update a farm register render the design of sample surveys almost impossible.

Considering the dynamics of demand and supply for statistics, the absence of a large and significant set of agricultural statistics in Brazil reveals a poor balance. By one hand, the lack of labour in agriculture statistics reveals the doubt and indecision in the conception, design and implementation of public policy to the sector. It's today particularly demonstrated for the existence of two ministries to agriculture with very agendas. It seems to be not clear to government (that has a great weight on the demand side) the efficacy of investments in the sector to create jobs and increase workers income.

Some researches developed out of IBGE estimate the labour force demand in agriculture using some variables of IBGE surveys as crop areas and their spatialisation. Despite being mathematics proceedings the valuations have a great component of subjectivity in the definition of factors and coefficients.

The most important observation of agricultural production in IBGE is the Systematic Survey of Agricultural Production – SSAP – a subjective survey based on monthly reunions with people involved direct or indirectly with crops<sup>5</sup> who informs about conditions that affect the crop growth. Continually questioned face “more modern” methods and technologies that are believed to assess more accurately variables of planted areas, the SSAP are demonstrating, year after year, its validity when its data are confirmed with the harvest numbers are verified.

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<sup>5</sup> farmers, agricultural assistance personal, officials of credit area, farm implement dealers etc.

The follow-up of labour force use in agriculture could be tried as a supplement of this survey. As a great relevant particularity, the SSAP allows the data obtaining individualised to the main crops since the local (municipal) scale. It's unthinkable to cogitate on the expansion of NHSS or the development of any other sample survey (even with the best register) with the same possibility of data detail.

In the moment that the territorial development, and specifically in the local scale, have been increasingly valued in the sociopolitics dimension, together with the importance of variables of work and income, the thematic enlargement of the agricultural production surveys is presented as an imperative to IBGE.