

Sustainability and Diversity in the Production Systems of Rural Settlements in Brazil

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Objectives

In Brazil, starting from the last decades of last century, through the politics of Agrarian Reform, in response to a great progress of the social movements in the field, about 500 thousand families were established in rural settlements. In spite of this, the country continues with high indexes of concentration of land property. However, those establishments, considered as "social spaces in construction", have allowed the social scientists to study and to reflect on countless subjects.

This work, resultant from a research in one of these nuclei of settlements - the farm São Bento, in the municipal district of Mirante do Paranapanema, area west of the state of São Paulo - it had as a main objective to study the different production systems there existent, through a typology. In the settlements the possibilities of combination of the resources addressed to production are many, because the activities in many of that small landholder can only be addressed to agriculture or to cattle production and, in the case of a larger diversity, to both cattle and agriculture. As a result of that multiple production systems are found. Consequently, the sustainability of the systems and the maintenance of the family reproduction are noticed under different situations. It is observed although, that other factors contribute to the income diversity found, the sources for obtaining income are not necessarily agricultural, and they are, for example, retirements or pensions, jobs out of the settlement and government aids.

Methodology

Data sheets, having closed questions, were used to collect the data. Direct interviews of 54 small landholders (30% of the total) were randomly applied. In this questionnaire 23 socioeconomic and technological variables were selected for characterization and tipification of the production systems. On this group of variables, two multivariate statistical methods (Principal Components Analysis and Ascending Hierarchical Classification) were applied.

They allowed evidencing the likeness (or differences) among the individuals (small landholders) and bonds among the variables, as well as building the classes (types) of small landholders with the maximum of internal likeness and maximum differences between classes.

Results

Four typological groups were identified as being representative of the diversity of the production systems of the settlements. They are: Small Milks Producers; Families with Low Production Dynamics; Medium Milk Producers and Diversified Producers.

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The "Small Milks Producers" are the majority group, with 30 individuals (55% of the sample). Their cattle income corresponds to more than 70% of the total family monetary income, and for 1/3 of them it is the only source of income. They have a good technological level with average annual production of 721 liters/ha-year. The average annual gross income of these families is R\$ 6.065,00 (US\$ 1.743). Incomes coming from non agricultural activities, such as retirements or pensions, are insignificant for this group, either for the number of families (less than 20%) or for the contribution to the family total income (around 20%).

In the "Families with Low Production Dynamics" (13 in the total) it stands out the importance of the retirements and/or pensions for the income composition (70% of the families), representing from 33% to 100% of the total income and average annual income of R\$ 6.817,00 (US\$ 1959). It was observed, also, that a significant part of the incomes originate from non agricultural activities (46% of the families), varying from 16% to 64% of the total family income. The complementation to these comes, fundamentally, from rudimentary milk production (average 500 liters/ha-year).

The group of "Medium Milk Producers" includes 3 individuals and they present significant milk production (average higher than 2.500 liters/ha-year), high values of grass capacity (average of 6,27 head/ha); bovine flock of medium size (60 to 150 heads) and average annual income of R\$ 16.886,00 (US\$ 4.852).

The forth and last group, the one of the " Diversified Producers" (8 families), is characterized by the importance of the agricultural income in the composition of the family total gross income (between 62% and 100%). All lots have agriculture, taking between 40% to 78% of the area. Everybody produces cassava, with low technological level. Half of the families produce corn, with average technological levels. More than half of the group (62%) leases lands or takes it in partnership, incrementing the productive area between 7% and 122%. The average gross income of the families in 2003 was R\$ 15.116,00 (US\$ 4.344). For 25% of the families (25%) the income coming from cattle production is important (about 50% of the total income). All the lots had grass, and 50% of them have grass in 65% to 83% of the total area. Over half of the families (60%) have a small milk cattle herd (between 15 and 30 heads), whose annual medium production is of 900 liters/ha and the grass capacity is quite low (0,87 head/ha).

Should be pointed out that the small landholder requires special attention for the effective success of a rural settlement. The State Government maintains, through the Fundação Instituto de Terras do Estado de São Paulo (ITESP), a technical attendance and rural extension team for this purpose. It is expected that the present work contributes to guide the activities of the team in the search for the sustainable development of the rural settlements.