CENTRALIZING THE DECISION OF FAMILY FARMERS IN THE REGION OF MOSSORÓ – RN: A COMPARATIVE ANALYSIS BETWEEN COOPERATED/ASSOCIATED AND NON-COOPERATED/ASSOCIATED

Eulita de Souza Morais¹
Elisabete Stradiotto Siqueira²
Liana Holanda Nepomuceno Nobre³
Valdemar Siqueira Filho⁴

ABSTRACT

Purpose: Comparative analysis of the decision-making process of family farmers who participate and do not participate in associations and cooperatives in the region of Mossoró – RN.

Theoretical framework: Family farming is a productive organization that coexists with the capitalist structure of production and has unique features, since the owner is also a worker, manages the means of production and does not primarily aim at financial profit, since production is intended to support the family and the property. The decision-making process escapes economic logic, as it also considers social, environmental, ethical and cultural aspects. Cooperatives and associations represent an alternative to the problems imposed by the market.

Method/design/approach: This is a quantitative-descriptive research. A total of 137 family farmers from the region of Mossoró – RN participated in the study. The questionnaire was organized with 5 questions about the centralization of decision-making used by family farmers in the region.

Results and conclusion: The decision-making of farmers in the management of their properties does not differ in terms of participation or non-participation in associations and cooperatives.

Research implications: Although associations and cooperatives present multiple responses to the problems arising from globalization, a significant portion of farmers do not participate in them, and this factor should be deepened to understand the non-participation of farmers in associations and cooperatives and their non-influence in the decision-making of those.

Originality/value: Studies of this nature lead to rethinking and improving the practices of decision-making, marketing and integration of subjects within the scope of family farming.

Keywords: Family Farming, Decision, Associations, Cooperatives, Social Management.

¹ Universidade Federal Rural do Semiárido (UFERSA), Mossoró, Rio Grande do Norte, Brasil. E-mail: eulit_@hotmail.com Orcid: https://orcid.org/0000-0002-2741-7645
² Universidade Federal Rural do Semiárido (UFERSA), Mossoró, Rio Grande do Norte, Brasil. E-mail: betebop@ufersa.edu.br Orcid: https://orcid.org/0000-0002-9957-1393
³ Universidade Federal Rural do Semiárido (UFERSA), Mossoró, Rio Grande do Norte, Brasil. E-mail: liananobre@ufersa.edu.br Orcid: https://orcid.org/0000-0001-6756-9179
⁴ Universidade Federal Rural do Semiárido (UFERSA), Mossoró, Rio Grande do Norte, Brasil. E-mail: dema@ufersa.edu.br Orcid: https://orcid.org/0000-0001-5228-4461
RESUMO

Objetivo: Análise comparativa do processo de tomada de decisão dos agricultores familiares que participam e não participam de associações e cooperativas da região de Mossoró – RN.

Referencial teórico: A agricultura familiar é uma organização produtiva que convive com a estrutura capitalista de produção e tem contornos singulares, pois o proprietário é também trabalhador, gerencia os meios de produção e não visa prioritariamente o lucro financeiro, já que a produção é destinada ao sustento da família e da propriedade. O processo de tomada de decisão escapa à lógica econômica, uma vez que também considera aspectos sociais, ambientais, éticos e culturais. As cooperativas e associações representam uma alternativa para os problemas impostos pelo mercado.

Método: Trata-se de uma pesquisa quantitativa-descritiva. Participaram do estudo 137 agricultores familiares da região de Mossoró – RN. O questionário foi organizado com 5 questões sobre a centralização da tomada de decisão utilizada pelos agricultores familiares da região.

Resultados e conclusão: A tomada de decisão dos agricultores na gestão de suas propriedades não difere quanto à participação ou não participação em associações e cooperativas.

Implicações da pesquisa: Embora as associações e cooperativas apresentem múltiplas respostas aos problemas adventos da globalização, uma parcela significante dos agricultores delas não participa, devendo esse fator ser aprofundado para entender a não participação dos agricultores em associações e cooperativas e a não influência destas na tomada de decisão daqueles.

Originalidade/valor: Estudos desta natureza levam a repensar e melhorar as práticas de tomadas de decisão, comercialização e integração dos sujeitos no âmbito da agricultura familiar.

Palavras-chave: Agricultura Familiar, Decisão, Associativismo, Cooperativismo, Gestão Social.

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1 INTRODUCTION

Decision-making in family farming does not follow a rational economic logic that seeks to maximize profit. Other elements are intrinsically linked to this environment, which are of a non-economic nature, and which directly influence the decision-making process of family farmers, such as the social, environmental, ethical, cultural and ideological aspects that overlap with the economic aspect of farmers influencing decision-making in the management of property. Thus, Caporal and Costabeber (2001, p. 96), state that ‘it must be recognized that, among farmers and their families, there is knowledge, a body of empirical knowledge which, although not scientific in nature, is as important as scientific knowledge’.

The decision represents the process by which an alternative behavior or strategy is selected and carried out at a given time, assuming that individuals are able to express their basic and rational preferences when facing situations of simple decisions. And that decisions are not always easy to make. To solve more complex problems, humans need more knowledge, as it is known that their cognitive capacity is limited and restricted. (Simon, 1970, p. 278).
The author also points out that decision-making comprises four main stages: a) intelligence: it is the initial stage, in which the identification of a given situation and the search for information occurs, with the objective of finding problems and opportunities; b) conception: there are analyzes and the creation of solutions based on the available alternatives; c) choice: step of action, in which the selection of a given alternative takes place in order to achieve the best possible result; and d) revision, is the last stage, in which past decisions are reviewed.

Therefore, the task of deciding in a globalized logic of marketing becomes a challenge for family farmers, in view of the fact that they do not have all the necessary information for an assertive decision making and their values are not limited by the logic of profit. In view of this, in the opinion of Schneider (1999, p. 13), ‘cooperatives are a response to the problems posed by the market and globalization’. On the one hand, such organizations generate jobs and interact with the consumer market like any other organization; on the other, they are set up in a space of collective decisions and represent a counterweight to the concentration of wealth.

Thus, based on the principle of integration, cooperatives seek the concentration of forces, making the incomprehensible in comprehensible and giving meaning to more assertive decision-making, avoiding the total exclusion of family farmers, collaborating for the generation of income and social inclusion.

Therefore, this study aims to make a comparative analysis of the decision-making process of family farmers participating and those not participating in associations and cooperatives of the region of Mossoró - RN. The relevance of the research lies in the fact of rethinking and improving the practices of decision making, marketing and the integration of the subjects in the ambit of family farming.

Using descriptive and quantitative research, based on theoretical foundations, the research was carried out through literature review and field research in the context of agribusiness with emphasis on family farming. This article, in addition to the Introduction, is organized and divided into six sections: Section 2, Theoretical basis; Section 3, Objectives; Section 4, Methodology; Section 5, Analyzes; Section 6, Results.

2 THEORETICAL BASIS

This section discusses the decision-making process in family agriculture and its importance in the organization and structuring of the agrarian space in Brazil.

2.1 Decision-making in Family Farming

For Lima, Basso and Neumann (2005, p. 224) "many decisions are made taking into account the perception that the agents (family) have of their situation and of the purposes assigned to their production units". This also highlights the fact that farmers decide on production processes in accordance with rationality objectives and/or criteria, which are normally aimed at reducing or rationalizing family and production costs; minimizing technological, bioclimatic and market risks; ensuring food security for the family; ensuring the employment of the family workforce and investing primarily in the improvement and extension of working and production conditions.

Contini, Araújo and Garrido (1984, p. 8) emphasize ‘the importance of the decision-making process for the farmer, in particular for determining the aggregate volume of agricultural production since, regardless of the causes, the decision not to plant a given product may cause internal disturbances and jeopardize marketing’.

While uncertainty is a constant element in the world of their business for farmers, it should be noted that taking decisions under risky conditions can fail or frustrate an expectation. These conditions are the dilemma about the continued risk of the consequences of decisions involving managers (Melo, 2003).
Therefore, the decision-making factor is limited in relation to cognitive capacity, and the decision-making process is also limited by this ability. Therefore, the individual, due to the limitation in his knowledge and the aspects of values and concepts of purpose that influence him in decision making, has limited rationality (Simon, 1970).

Still for Simon (1970), there are two types of decision-making, programmed and unprogrammed. However, in Anthony's work (1965 as quoted in Oliveira, 2007) three different types of decisions are presented: strategic, tactical and operational. It is worth highlighting that these are the most used in studies on decision making, and that they are not independent categories, but a continuum that serves for the classification of these.

The style of the decision maker, according to Rathmann (2007),

[... ] is decisive for the intuitive formulation of its decision-making process. [...] Aspects such as age, working time, managerial experience, educational level, living in other countries or regions and the type of decisions made (operational, tactical and strategic) have a positive correlation with the decision-making style. (p. 30)

In a decision-making process, many factors can influence it, especially the external and the non-controllable. According to Freitas, Becker, Kladis and Hoppen (1997), among the variables that exist, the ones that most interfere in the decision-making process are: the objectives of the organization, the criteria of rationality and efficiency, the information (lack or excess, situation of uncertainty, complexity and content), reasoning, values, beliefs, resources, among others.

The existence of a problem consists in the main element of the decision-making which is itself part of the administrative act (Contini et al., 1984). In agriculture, problems such as when and where to plant guide agricultural output. In this way, the information is indispensable for the resolution of such questions, but it is necessary that a priori of any attitude the farmer is aware of the consequences of his actions.

Another aspect of decision-making are shared decisions that are more related to technical advisors and family members, while delegated decisions are related to farm work and family members performing the work (Solano, León, Pérez, & Herrero, 2001).

According to Solano, León, Pérez and Herrero (2003) the most widely used source of information is that of family members and technical assistance, and any kind of variation in information can affect the decision-making process. The factors that affect the predominance of some sources of information are the age and the level of dedication to agricultural activities, which diminishes as the educational level grows. Young people tend to have a higher level of education, therefore they devote less time to agriculture because of other economic and social activities (Solano et al., 2003). Thus, Santos Filho (2012) states that the educational level of farmers is a relevant factor that implies in the organization of work and decision making.

Solano et al. (2003) again argue that farmers who own farms large and far from urban centers have a higher level of dedication to agriculture regardless of educational level, they own a group of trusted people formed by family members, farmers and employees. Solano et al. (2001) state that the dedication of farmers to agricultural activities is an important variable in the decision-making process.

Solano et al. (2001) working with dairy farmers in Costa Rica concludes that the level of dedication to agricultural activities, level of education and production area are factors that most influence the decision making. That is, corroborating with the authors, variables such as the educational level, implies relevant importance in the decision-making process of the farmers.

Focusing on the risks to which agricultural activity is exposed, Kimura (1998) quantifies in four types: production; operational; financial and market. Production risks refer to the fact
that agricultural production is dependent on biological processes and the environment, being directly influenced by climatic factors, soil characteristics, pests and diseases.

For Astley and Fombrun (1983) and Astley (1984) the idea of collaboration is an alternative for business. The authors have transformed the concepts of competition into cooperation, highlighting the concept of collective strategies as "activity of joint policy formation and implementation of actions by members of interorganizational collectivity" (p. 887), which comes to the meeting of social management. It is important to remember that decision-making on strategies is always collective, can be called heterarchical and based on common interest, that is, the group seeks what interests the collective (and thus comes to individual interest) through intersubjective dialog (Tenorio, Cancido, Sausen, & Villela, 2013).

Using concepts of authors who discuss financial management, Roy (1994) proposes that during decision-making objectives should be clearly defined, as communication between all involved should be fluid and well understood, and that within the decision aspects of reality should also be considered, as they give meaning, value and order to the facts.

The purpose of decision support is not to discover or approach the best possible decision, but to develop a set of conditions and meanings on which decisions will be based considering what is most appropriate, seeking to develop a network of concepts, models, procedures and results forming a coherent and structured body of knowledge (Roy, 1996).

Reflecting on the limitations of the actual applicability of decision-making support, Roy (1996) emphasizes the importance of looking at the dubious boundary of what is or is not achievable, as well as the possibility of not having a single person actually fit to make a decision, but rather a set of people making those decisions together. The preferences of these decision-making groups are not always well defined, and there are uncertainties about them, or even conflicts and contradictions.

Keeney (1998) believes that this focus is a limited way of thinking about situations that need immediate decisions. The alternatives are significant only because they are means to achieve values; in this way, the focus should then focus on values, after all, these are fundamental to organizational logic, and only later focus on the alternatives to achieve them, synthesizing what the author calls "value-focused thinking".

According to the author, values are precisely all that is really important, and so they should guide the decisions to be made. For Keeney (1998), values are more fundamental notions than alternatives in decision making, and yet, that alternatives are nothing more than the means to achieve these more fundamental values. In other words, one must focus on what is really important, articulating and understanding the values to select meaningful decisions that make it possible to create better alternatives than those already identified, and to evaluate them more carefully.

In other words, it is not a question of deciding between the possible alternatives, but of actually achieving what is intended, even if we have to create mechanisms that bring it closer to that. Thinking focused on the value of Keeney (1998) is concerned with achieving what is considered as a fundamental value, using interests to guide strategic thinking. These values would be principles used to assess the current and potential consequences of action and non-action, the alternatives proposed and the decisions.

Thus, Keeney (1998) proposes that the thinking focused on value should guide the decision-making situations, thus inciting the search for new alternatives as a creative and productive exercise, thus understanding that during the implementation of any alternative are used their valuable resources, and that before being used, one must understand what values it wants to achieve, what consequences of such an act, and create alternatives that allow to achieve them.

Thus, decision-making in social management brings a perspective of interdependence between the actors in the sense of the discussion proposed by Cancido (2011), that is, interdependence based on solidarity (mutual responsibility between actors), with sustainability...
as its horizon, not only in the environmental sense, but in the broad sense of the term (Tenório et al., 2013).

Another important focus for decision-making is participatory governance. For Gaudin (2007), governance is the result of a contract negotiated between parties and that a priori should be considered as a limited process given the asymmetries of the actors involved and their capabilities. For Les Galés (2006, p. 25), "Governance is a process of coordinations of actors, social groups, institutions or corporate networks to achieve objectives discussed and defined collectively" The installation of a governance should be derived from a broad negotiation and discussion process in order to institutionalize the negotiation process between the participants of the group (Tenório et al., 2013).

Over the last four decades, Brazilian agriculture has undergone structural transformations, which have resulted in a new insertion of agriculture in the Brazilian socio-economic scenario.

Gasson's (1973) analyzes with farmers in the UK concluded that the decision-making process of the farm producer is complex and almost always marked by multiple goals, with some that are not economic in nature but influenced by personal goals, goals, family behavior, attitudes and family needs that influence farmers' decision-making.

Machado (1999), working with farmers of irrigated crops in Spain, found as influencing factors in their decision-making process the access and quality of the information made available and the capacity for processing the information (transforming it into something useful). The study also highlighted the importance of the interrelations and interactions of producers with society, as being essential attributes for the decision-making process of the family farmer. Rodriguez Ocaña (1996) states that the decisions of farmers are the result of an interaction between the elements that make up the productive system of the family unit.

Lipton (1982) studying Indian farmers found that they emphasize the importance of aspects other than the economic aspects considered in farmers' decision-making and the fact that they seek tolerable solutions regarding profitability, safety and status for survival, approaching the rationality discussed by Simon (1970) and the aspects addressed by Gasson (1973).

The authors argue that understanding the logic of farmers' decisions is based on an understanding of the whole system to which they belong, and it is necessary to understand the sociological, socio-economic and environmental aspects that make up the farm. Regardless of the production format and size of the property, farmers need to make decisions on a daily basis. These are of a routine, repetitive nature that can be taken in a relatively simple way, in environments that demonstrate low uncertainty, because almost all the variables are known beforehand, that is, decisions in which the policyholder, in this case family farmers, are already familiar.

However, these and other studies were highlighted by Souza (2012), where the author found that it is not only the economic aspect the decisive factor. Much of the decision-making
process is linked to other non-economic factors and they play a key role in the farmer's decision-making. Issues such as social pressures to reduce environmental impact, improvements in the health of the producer and his family by reducing the use of pesticides, philosophy/lifestyle, favorable opinion of the family to this type of productive process, information about technologies and market configurations, among other factors, which are fundamental aspects in this production process.

Thus, Family Agriculture was selected as a field of study considering its economic and social importance, being responsible for the generation of jobs, temporary jobs and is important food producer. Hoffmann (2014) shows that, in 2006, family farming, as defined in the law, produced 33% of rice in husk, 69.6% of beans (considered all types), 83% of cassava, 45.6% of corn in grain, 14% of soybeans, 21% of wheat and 38% of coffee in grain, just to mention a few products. On the other hand, it is composed of individual producers, cooperatives and associations facing significant difficulties in the management process (Batalha, Buainain, & Souza Filho, 2005).

2.2 Brazilian Family Agriculture

Brazil has a total of 5,073,324 farming establishments, which occupy a total area of 351.289 million ha, or about 41% of the total area of the country. Compared to the previous survey, carried out in 2006, there was an increase of 5.8% in the occupied area, despite the reduction of 102,312 rural units, of these properties 77% were classified as family agriculture (Brazilian Institute of Geography and Statistics [IBGE], 2017).

In extension of area, in 2017, family farming occupied 80.9 million hectares, which represents 23% of the total area of Brazilian farming establishments. According to the census, 15.1 million people were occupied in farming establishments in 2017, a reduction of 1.4 million compared to the 2006 survey. In family farming, the occupied population fell by 2.166 million. In the other establishments, the supply of labor grew and the occupied population rose another 702,900 in the period analyzed (2006 to 2017). According to the census, family farmers have a significant participation in the production of food that goes to the table of Brazilians. In permanent crops, the segment accounts for 48% of the value of coffee and banana production; in temporary crops, they are responsible for 80% of the value of cassava production, 69% of pineapple and 42% of beans production (IBGE, 2017).

Faced with this reality, the importance of family agriculture in the organization and structuring of the agrarian space in Brazil is notorious, even if this has not had an appreciation in terms of public policies and in the actions of the National State in a continuous manner.

The Family Farming Act (Law 11.326/2006) considers family farmers and rural family entrepreneurs to be those who carry out activities in rural areas, while meeting the following requirements (IBGE, 2017):

a) It does not, in any way, hold an area larger than 4 tax modules;
b) predominantly uses family labor in the economic activities of the establishment or enterprise;
c) has a minimum percentage of the family income arising from the economic activities of the establishment or enterprise, in the form defined by the Executive Branch; and
d) Run the establishment or business with the family.

For the Ministry of Agriculture, Livestock and Supply (2022) family farming and agricultural and livestock production carried out by small producers, employing generally family-related labor, which have blood or marriage ties. Having the following characteristics:

a) Work and management closely related;
b) Direction of the production process provided directly by the owners;
c) Emphasis on resource durability and quality of life;
d) Complementary paid employment;

e) Immediate decisions, appropriate to the high level of unpredictability of the production process;

Sproesser, Lima Filho, Vilanova and Campeão (2004) point out that family farming is directly related to the country's development, since it contributes to economic growth, as has been seen in the developed countries, it has the capacity to organize certain regions socially, as it is an alternative in the construction of spaces for the rural man.

Family farmers are the ones who generate the most jobs in the rural environment, they strengthen local development, because they distribute income better, they are responsible for a significant portion of national production, they respect the environment. For the maintenance and development of rural property, besides the necessary managerial skill, the farmer/rural administrator needs to distinguish the family activity from the property, starting with a newer concept of rural enterprise, in which the two separate, allowing the evaluation of the performance of each activity in the rural enterprise (Lourenzani, 2008).

In this sense, the hypothesis that guides this study is:

**H1:** The decision-making process in family farming differs between the groups 'farmers participating in associations and cooperatives' and 'farmers not participating in associations and cooperatives'.

Such an understanding of the identification of the decision-making process can contribute to the process of fixing man in the countryside, reducing social and economic asymmetries, since making rural property more attractive minimizes the seduction of urban centers.

3 OBJECTIVE

This study aims to make a comparative analysis of the decision-making process of family farmers participating and those not participating in associations and cooperatives of the region of Mossoró - RN.

4 METHODOLOGY

The design of the research was theoretical-empirical. Thus, based on theoretical foundations, the research was carried out by means of literature review and field research in the context of agribusiness with an emphasis on family farming.

The field research was carried out to obtain information about a given population, here the subjects linked to family farming of the region of Mossoró - RN. According to Andrade (2001), field research is based on the facts that reflect the daily decisions of the researched, being directly collected at the location of the phenomena studied. 137 subjects from localities in the region of Mossoró - RN participated in the survey.

The assertions of the Qualitative Indicators Scale for Social Management form, in the construct of Decision, and guided by the concept: The decision-making authority is shared among the participants of the action (action that can occur in any kind of social system - public, private or non-governmental organizations) (Tenorio, 2005), were organized on a Likert scale, ranging from 1 to 5, being assigned 1 for "totally disagree" and 5 for "totally agree". The assertions were as follows:

1. Decisions about what to produce are made by the primary owner.
2. Decisions about buying animals or seedlings are decided by the family.
3. Decisions about equipment purchases are made by the primary owner.
4. All decisions are made by the primary owner, but the family is always consulted.
5. When the opinion of the family is different from that held by the principal owner, it is the decision of the principal owner that prevails.
The software IBM SPSS Statistics was used for the analysis of quantitative data in version 24.0. In the first stage, the aim was to analyze the profile of farmers, by means of the number of respondents in Microsoft Office Excel charts. Next, the questions involving the decision-making related to the ownership and its production were analyzed, in the latter was used the T-Test for independent samples to analyze and compare the averages obtained between the groups.

4.1 Population and Place of Study and Approach

137 family farmers from the state of Rio Grande do Norte took part in the research, with over 2 years of activity in the field. The concept used to characterize farmers was that proposed by the National Institute for Colonization and Agrarian Reform [Incra] and the United Nations Food and Agriculture Fund [FAO] (1996, p. (4)
(a) the management of the productive unit and the investments made in it are made by individuals who maintain links of blood or marriage;
(b) most of the work is also provided by family members;
(c) the ownership of the means of production (although not always of the land) belongs to the family and it is within them that their transmission takes place in the event of the death or retirement of those responsible for the productive unit.

The approach of the subjects was done through a survey carried out of the communities (settlements), which had the profile of the target population, being delimited the places where the questionnaire was applied. The difficulties encountered through the application of the questionnaire were to the distrust of the subjects in answering the narrated questionnaire, the non-interpretation of some questions, mainly those that were inverted, thus leaving many questionnaires with empty answers.

For Hair, Black, Babin and Anderson (2019), lack of data is often a problem in the social sciences, when data is obtained through research, which is the case with measuring scales. There are several procedures when facing the data shortage problem: listwise, pairwise, replace with mean and impute a response. That is, the elimination of variables or the substitution by the mean value of their responses. Also according to the author, Hair et al. (2019), the sample average is controversial and should be avoided as it reduces variability in the data. In most cases, it is best if possible to use some method to estimate an accurate response to the missing data or to encode it as missing so that it can be considered in the analysis.

In this sense, due to the sufficient size of the sample, the viable solution adopted was the non-inclusion of the subjects with missing answers in the spreadsheet with the statements of analyzes, as Hair et al. says. (2019). Therefore, the substitution of missing data was avoided, because this procedure diminishes the variability of the data and reduces the possibility of finding relationships in the data.

5 REVIEWS

The following analyzes are presented, with the characterization of the sample, the participation of family farming in associations and cooperatives, and the process of centralizing the decision of family farmers.

5.1 Sample Characterization

The profile of respondents is in Figure 1 below:
Centralizing the Decision of Family Farmers in the Region of Mossoró - RN: a Comparative Analysis Between Cooperated/Associated and Non-Cooperated/Associated

Figure 1. Profile of respondents
Source: Research questionnaire - management and culture (2019).

The majority of the farmers interviewed are male, representing approximately 62.4% of the universe surveyed. Ninety-two of the respondent farmers have been on the property for more than ten years, and access to land was in most cases through land reform (40.14%).

5.2 Participation in Associations and Cooperatives

According to Abrantes (2004), the cooperative movement in Brazil began in 1847, at which time Jean Maurice Faivre, the French physician and follower of Charles Fourier, along with other Europeans, founded in the backlands of Paraná the colony Tereza Cristina, established on cooperative bases, which had a short life, characterizing itself as a formative element of the flourishing Brazilian cooperativism. In Minas Gerais, agricultural cooperatives were created from 1907 onwards, with the objective of eliminating intermediaries from agricultural production, which until then had been controlled by foreigners. They were also arising in the South of Brazil, mainly in the communities of German and Italian origin, who already knew the European cooperative system. Today, agricultural cooperativism is present throughout the national territory, actively participating in exports, forming the economically strongest segment of Brazilian cooperativism.

Rios (1998 as quoted in Cavalcanti, 2006) informs that "Cooperativism is a structured economic doctrine for the generation of wealth through free associativism among people who spontaneously agree to create a cooperative, united by the same ideals and having the same goals" (p. 12). Cooperativism, then, would be an alternative to the exploitation of economic activity that aims at satisfying the common needs of its members or cooperates in a joint manner and not with exclusivity for this or that member.
Family farming associations that have been formed in all Brazilian states are constituted as social or social economy organizations that, as Pimenta, Saraiva and Corrêa state (2006, p. 84), "are those who carry out economic activities characterized by the democratic and autonomous management of organizations and by the primacy of people over profit. These activities would be carried out by cooperative societies, mutual organizations and associations'.

Such solidarity-based or social economy associations, in the case of those focused on family farming, have as their principle cooperative or mutual cooperation. Benecke (1980), in explaining the matter, states that "cooperative cooperation occurs when a group of legally independent individuals jointly take charge of an enterprise with the intention of using the economic services provided by it" (p. 82).

As for rural associations, Sperry, Carvalho and Mercoiret (2003) state that after the creation of associations formed by small farmers, crops of this type presented themselves as far greater possibilities than those of assistance fund. The exploitation of the collective form of work emerged as a source of income and technological experimentation to make sustainable some of the collective production activities of these associations. These are demonstrated to be relevant to the improvement of the solidarity economy.

Figure 2 presents the respondents in groups, regarding participation in associations and cooperatives:

![Figure 2. Participation in associations and cooperatives](source: Research questionnaire - management and culture (2019)).

Most of the farmers interviewed participate in associations and cooperatives, with 62 respondents, and have a share of 38 respondents, who do not participate in associations and cooperatives. Only 2 respondents did not answer this question and the questionnaires were excluded from the sample.

5.3 Centralization of Decision

In family farming it is observed that the business is complex due to the interaction of the needs of the family (lifestyle) with the requirements of the activity (commercial objectives). In the case of employer farming, the complexity is more evident in terms of the commercial objectives (Jansen, 2002). In this sense, the operations that occur within a rural property in family farming are usually influenced by agents inserted within them.

In this sense, we note the importance of decision-making as a basic point of administrative activity and organizational management. According to Freitas et al. (1997, p. 51), "decision-making is crucial for organizations. This activity happens all the time, at all levels, and directly influences the organization's performance."
Regarding the objective of this study, the results of hypothesis testing are set out in Table 1 - Participates in association and cooperatives and in Table 2 - Does not participate in association and cooperatives. In all of the tested assertions, the higher the average obtained in a group, the higher the degree of centralization of the decision around the primary owner.

### Table 1 - Participates in associations and cooperatives

<table>
<thead>
<tr>
<th>Assertive</th>
<th>N</th>
<th>Medium</th>
<th>Sig. (2-Tailed)</th>
<th>Sig. (2-Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Decisions on what to produce are made by the main owner</td>
<td>82</td>
<td>3.91</td>
<td>0.596</td>
<td>0.563</td>
</tr>
<tr>
<td>2. Decisions on the purchase of animals or seedlings shall be taken by the main owner</td>
<td>82</td>
<td>3.70</td>
<td>0.243</td>
<td>0.141</td>
</tr>
<tr>
<td>3. Decisions on equipment purchase are made by the main owner.</td>
<td>82</td>
<td>3.91</td>
<td>0.846</td>
<td>0.929</td>
</tr>
<tr>
<td>4. Where the opinion of the family is different from that of the principal owner, it is the decision of the principal</td>
<td>82</td>
<td>3.44</td>
<td>0.352</td>
<td>0.429</td>
</tr>
</tbody>
</table>

**Source:** Research questionnaire - management and culture (2019).

### Table 2 - Does not participate in associations and cooperatives

<table>
<thead>
<tr>
<th>Assertive</th>
<th>N</th>
<th>Medium</th>
<th>Sig. (2-Tailed)</th>
<th>Sig. (2-Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Decisions on what to produce are made by the main owner</td>
<td>49</td>
<td>4.06</td>
<td>0.596</td>
<td>0.566</td>
</tr>
<tr>
<td>2. Decisions on the purchase of animals or seedlings shall be taken by the main owner</td>
<td>49</td>
<td>4.10</td>
<td>0.243</td>
<td>0.141</td>
</tr>
<tr>
<td>3. Decisions on equipment purchase are made by the main owner.</td>
<td>49</td>
<td>3.94</td>
<td>0.846</td>
<td>0.929</td>
</tr>
<tr>
<td>4. Where the opinion of the family is different from that of the principal owner, it is the decision of the principal</td>
<td>49</td>
<td>3.67</td>
<td>0.352</td>
<td>0.423</td>
</tr>
</tbody>
</table>

**Source:** Research questionnaire - management and culture (2019).

As regards the influence on decision-making, in relation to farmers participating or not participating in associations and cooperatives, the analysis shows that the averages of Group 1 (participating in associations and/or cooperatives), and Group 2 (not participating in associations and/or cooperatives), do not show statistically significant differences. In the analyzes of the T-test of variance equality, it was observed that the significance of the tests (sig.) were all greater than (>0.05), indicating that there is a homogeneity of the variances of the studied variables. Looking at the decision-making issues, it can be seen that:

a) On the assertion "Decisions about what to produce are made by the principal owner", the group 1 average (3.91) was slightly lower than the group 2 average (4.06). The absence of the statistical difference between the groups (sig.>0.05) suggests that all farmers who agree that decisions about what to produce are made by the main owner.

b) The respondents' response to the assertions "Decisions about buying animals or seedlings are made by the main owner" and "Decisions about purchasing equipment are made by the main owner" are similar to the previous question: the average obtained for farmers participating in cooperatives and/or group 1 associations (3.70) and (3.91), is lower than the average for group 2 (4.10) and (3.94), which does not participate, which could suggest that this decision is not so centralized in group 1. However, the significance of the test indicates that these averages are not statistically different, which indicates that decisions about buying animals or seedlings are made by the primary owner in both groups.

c) Finally, when there is a "difference of opinion between the principal owner and his/her family members about a decision", the data indicate that, regardless of participation in community groups, decisions are always centralized on the owner.
6 RESULTS

It can be concluded that, even if associations and cooperatives present multiple responses to the problems that are the advents of globalization, which generate jobs and mainly became a counterweight to the concentration of wealth, a significant portion of 42 farmers out of a sample of 137 respondents, do not participate in associations and cooperatives. And of the 69 participating farmers, they are not influenced by such participation in decision-making in the management of their properties.

Using the multiple objectives that permeate the decision-making, in the context of family agriculture, such as personal objectives, family behavior, family attitudes and needs and mainly the perception of such agents (family), it is observed at the end of the analyzes that the profile of rural farmers of the region of Mossoró - RN, presents a system of centralizing and authoritarian authority in their decision-making. Which comes to meet with Social Management, where according to Tenorio et al. (2013):

It should be remembered that decision-making on strategies is always collective, can be called heterarchical and based on the common interest, that is, the group seeks what interests the collective (and thus comes to the individual interest) through intersubjective dialog (p. 78).

According to Tenorio et al. (2013, p.79), "social adjective qualifying the noun management will be understood as the privileged space of social relations in which everyone has the right to speak, without any kind of coercion". For the author, without these conditions, collective decision-making could not be considered as such, and communicative action would not be present in this type of management, being a decision not guided by Social Management.

Future work can be developed from this perspective, with regard to analyzing which factors lead farmers in this region not to participate in associations and cooperatives, and to those who participate why they do not use cooperative and associated practices in their decision-making. Such studies will lead to rethinking and improving the practices of decision-making, marketing and integration of the subjects in the field of family farming.

REFERENCES


Centralizing the Decision of Family Farmers in the Region of Mossoró – RN: a Comparative Analysis Between Cooperated/Associated and Non-Cooperated/Associated


