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REVISTA BRASILEIRA DE GESTÃO E DESENVOLVIMENTO REGIONAL
V.22, N°4, Edição Especial 2026 | Taubaté/SP - Brasil | ISSN 1809-239x

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Received: 03/24/2026
Accepted: 09/29/2026

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ABSTRACT

This article aimed to correlate the gender, racial, and generational profile of the social structure and the Board of Directors of agricultural cooperatives to assess the role of cooperativism in promoting diversity. To this end, we considered cooperatives from Bahia, Mato Grosso do Sul, Minas Gerais, Pará, and Rio Grande do Sul, with data collected through a questionnaire sent between July and August 2023, resulting in 120 cases that formed a database. This database and its variables were subjected to Multiple Factor Analysis (MFA). The research resulted in the development of 4 (four) functional types of agricultural cooperatives in relation to the proposed objective. The typology revealed significant percentages of the Black population in the social structure of cooperatives and in management positions in Types 1 and 2, which are mostly made up of family farming cooperatives in Bahia, Pará, and Minas Gerais. However, it also demonstrated that gender and generational diversity are major challenges for cooperativism, especially in Types 3 and 4, which have a proportional predominance of cooperatives from Rio Grande do Sul and Mato Grosso do Sul.

Keywords: Intersectionality; Rural Women; Family Farming; SDGs.

RESUMO

Este artigo objetivou correlacionar o perfil de gênero, racial e geracional do quadro social e do Conselho de Administração das cooperativas agropecuárias, com o intuito de dimensionar a atuação do cooperativismo na promoção da diversidade. Para tanto, colocamos em perspectiva cooperativas da Bahia, Mato Grosso do Sul, Minas Gerais, Pará e Rio Grande do Sul, com dados coletados por meio de formulário enviado entre julho e agosto de 2023, o que resultou em 120 casos, os quais se constituíram um banco de dados. Este banco e suas variáveis foram submetidos a Análise Fatorial Múltipla (AFM). O resultado da pesquisa resultou na elaboração de 4 (quatro) Tipos funcionais de cooperativas agropecuárias no que se refere ao objetivo proposto. A tipologia revelou percentuais significativos da população negra no quadro social das cooperativas e nos cargos diretivos nos Tipos 1 e 2, constituídos majoritariamente pelas cooperativas da agricultura familiar da Bahia, Pará e Minas Gerais, mas também demonstrou que a diversidade de gênero e de geração são grandes desafios para o cooperativismo, principalmente nos Tipos 3 e 4 que têm predominância proporcional das cooperativas do Rio Grande do Sul e Mato Grosso do Sul.

Palavras-chave: Interseccionalidade; Mulheres Rurais; Agricultura Familiar; ODS

INTRODUCTION

The debate on diversity in organizations has gained momentum starting in the 1990s, due to international pacts to combat all forms of inequalities. However, its relevance is propagated by the demands of feminist and Black movements, in addition to the demands pointed out by the United Nations (ONU) 2030 agenda. The UN established the Sustainable Development Goals (SDG) that advocate for a world without extreme poverty and the inclusion of various historically vulnerable segments. Some of these goals stand out, such as the reduction in inequalities (SDG 10), gender equity (SDG 05) and, more recently, proposed by the Brazilian government in 2023, SDG 18, which deals with ethnic-racial equality.

The 2017 Agricultural Census, conducted by the Instituto Brasileiro de Geografia e Estatística (IBGE) [Brazilian Institute of Geography and Statistics], presents an overview of rural cooperativism that suggests the still incipient presence of women cooperative members. The Census identified agricultural establishments that were linked to cooperatives, whether they were family farms or not. Of the 579,438 agricultural establishments associated with cooperatives in Brazil, only 9% are managed by women. In the distribution per region, the regions with the largest number of cooperative properties are the South, with 313,763, and the Southeast, with 165,630, but only 8% of these have women as the main producers. The Northeast, North and Central-West regions present 16%, 14% and 10%, respectively, managed by women.

The Yearbooks of the Organização das Cooperativas Brasileiras (OCB) [Organization of Brazilian Cooperatives] reveal the predominance of men in all branches of cooperativism, with the exception of labor cooperatives, and production of goods and services. And in the seven branches in which cooperatives are classified, the position of president expresses male domination, including in agriculture and livestock, with the participation of 18.3% of women presiding, against 81.7% of men (OCB, 2024). These data challenge the field of cooperativism regarding gender equity since the inequalities in participation, especially in positions of greater power, continue to be a major challenge for all cooperative branches.

As regards the participation of Black and youth populations, the OCB and the União das Cooperativas da Agricultura Familiar e Economia Solidária (Unicafes) [Union of Family Farming and Solidarity Economy Cooperatives] have not presented data that allow us to infer whether there is racial and generational diversity in cooperativism, even though cooperatives are presented as a strategy to reduce historical inequalities that persist in Brazilian society. Furthermore, the heterogeneity of cooperative practices in the national context must be considered, since regional development in Brazil has not been uniform, and the same has occurred in the process of implementing cooperatives in the regions. Therefore, it is worth highlighting, as Pires (2018) pointed out, the importance of agrarian cooperativism in the performance of the Brazilian trade balance, mainly in the revitalization of rural areas marked by economic lethargy.

The analysis of data from the IBGE Agricultural Census and the OCB Yearbooks prompted us to ask the following questions: is there diversity in the social structure and management positions of agricultural cooperatives? What is the racial, generational, and gender representation in the cooperative's structure, especially in management positions? What are the reasons for gender underrepresentation? What mechanisms are being considered to reverse this trend? With this problem in mind, the main objective of this article is to correlate the gender, racial and generational profile of the social structure and the board of directors of agricultural cooperatives, to assess the role of cooperativism in promoting diversity.

More specifically, this study is intended to i) examine the profile of cooperative members as well as board members to infer the potential of agricultural cooperatives to contribute to the Sustainable Development Goals regarding gender equity and ethnic-racial equality; ii) generate evidence that can support actions, projects, programs and policies that seek to strengthen vulnerable groups, especially rural women, by encouraging membership in cooperatives as a mechanism of socio-productive inclusion and addressing relations of subordination.

To achieve the outlined objectives, we conducted a stratified representative sampling of rural cooperatives in the states of Bahia, Mato Grosso do Sul, Minas Gerais, Pará and Rio Grande do Sul. Data was collected from 120 cooperatives, using a Google Forms questionnaire, sent to the indicated cooperatives, mostly by OCB and Unicafes, between July and August 2023. The variables from the questions addressed in the data collection were subjected to multiple factorial analysis (MFA). This statistical method was chosen aiming to define the existence of common factors regarding the incidence of racial, age, and gender profiles in the social structure and boards of agricultural cooperatives.

In addition to this introduction, the article is structured in four other sections. The following section discusses the potential of agricultural cooperatives as a mechanism for overcoming inequalities and the arduous path to be followed to ensure gender equity. The third section presents the methodology adopted, focusing on the Multiple Factorial Analysis (MFA), method employed to verify the existence of common factors among the cooperatives studied. The fourth section presents the typology developed from the MFA, which measures diversity in the 4 (four) formulated types that characterize agricultural cooperatives in the researched sample. Finally, the fifth section is concluded pointed to the need for more actions promoting greater diversity in cooperatives, with repercussions on the protagonism of rural women.

INTERSECTIONAL APPROACH TO COOPERATIVISM: AN INSTRUMENT FOR TACKLING INEQUALITIES

Brazilian cooperativism presents a diversity of practices expressed by the complexity of cooperative organizations, their scales of activities, management principles, and socioeconomic dimensions, which encompass the context where they are inserted. According to Pires (2018), there are large cooperative enterprises, committed to professional management and the use of modern technologies to obtain gains of scale and efficiency, mainly through mergers and acquisitions. But, according to Anjos et al. (2022), in the agricultural sector, small family farming cooperatives predominate, created as a mechanism for overcoming poverty and a strategy to expand marketing channels.

Stocco and Kobayashi (2016, p. 3) explain that cooperatives contribute to “the strengthening of family farmers who often could not sustain production levels on their own and, thus can offer their products in markets other than conventional ones such as fairs and supermarkets [...]”. Although the 2017 Agricultural Census showed that cooperatives are not the most widely used associative format

by family farmers in the national scenario, Anjos et al. (2019) infer that this modality in the Northeast region, along with associations, has been implemented as a strategy of the government and organized civil society to reduce persistent inequalities. For those authors, the actions of social movements and the public power in the field have enabled the organization of several cooperatives to make collective production and marketing viable, as well as facilitating the purchase of inputs.

It is precisely the cooperative model of family farming that most closely aligns with some of the Sustainable Development Goals (SDG) mainly those that advocate the eradication of poverty, inequality reduction, zero hunger, and sustainable agriculture. The term 'family farming' refers to a set of segments that have in common the use of predominantly family labor in activities typical of rural areas. This term is defined within the scope of Law nº 11,326/2006, regulated by Decree nº 9,064/2017, which ensures a set of public policies for various rural workers who are now classified as family farmers, even though they may have specific characteristics such as *quilombolas*, settlers, artisanal fishermen, etc. The Census demonstrated that family farming cooperatives predominate in the agricultural sector and that they face greater obstacles to overcome persistent poverty, mainly in the North and Northeast regions of the country, when compared to other agricultural cooperatives.

The importance of cooperatives, however, is not limited to the economic dimension, due to their nature as a society of people governed by the basic principles of the cooperative movement, the experiences provided go beyond financial results. According to Pires (2018), there is a sense of social transformation that would empower farmers. Likewise, Salvaro et al. (2014, p. 397) emphasize the possibility of breaking with various forms of inequalities and prejudice when a woman, for example, rises within a cooperative or in another instance.

The participation of women in cooperatives, according to Salvaro et al. (2014), promotes ruptures with established roles for women and men and, at the same time, exposes gender inequalities and ways of overcoming them through the dilution of historically built hierarchies. The hierarchies portrayed are not limited to gender attribution, they involve many others, such as the 'place' of the Black population, the capacity of rural youth to participate in and preside over collective organizations, the competence of female farmers to successfully manage their economic enterprises, etc.

Research guided by the intersectional approach reveals the profound inequalities that characterize the relationships between men and women, Black and non-Black people. Although they have achieved several gains in addressing gender inequalities, in the last three decades, the situation of socioeconomic vulnerability of women is still more prominent than that of men, especially for rural, indigenous and Black women (Velloso; Anjos, 2022).

Davis (2016) discusses the various attributes that are used as mechanisms of oppression against women to show that gender, race and class interact in a scenario of adversity that has persisted since colonial times. That author highlights that the struggle of Black women farmers transcends centuries because they did not achieve the emancipation decreed by the abolition of slavery in the 19th century. For Black women, that author argues, agricultural practice was a continuation of the forced labor experienced in slavery because discrimination and prejudice were not altered with the institution of free labor.

Reflecting on ways of overcoming inequalities in Latin American reality involves questioning the power structures that promote the "bases of discrimination related to intersections between race, gender and class" (Collins; Bilge, 2021, p. 75). This perspective imposes the need to consider the intersecting oppressions that affect the lives of Black women and, more rigorously, the lives of rural Black women. These women's trajectories are permeated by racial, gender and class experiences; therefore, they cannot be analyzed in separate groups, in categories of gender or race discrimination. Both need to be expanded so that we can address the intersectional issues that they face (Crenshaw, 2002).

From the same perspective, Brazilian feminists such as González (1982), Bairros (1995), Ribeiro (2006), Carneiro (2009), among other theorists of Black feminist thought, have contributed through incisive interventions on the place of Black women in societies structured on gender and racial inequalities, such as Brazil. As González (1982) reminds us, racism and patriarchy intersect in a dynamic of interaction and mutual dependence.

Cooperatives, therefore, play a role that goes beyond that of an economic enterprise, since it provides improvements in life conditions, especially for segments facing subordination relations, such as rural women, requiring further studies to verify whether historically established relationships are discontinued in a modality based on a democratic and equitable philosophy.

Critical studies that address the pursuit of equality highlight the importance o women and all the contributions they make to agriculture, even though their work is made invisible and minimally recognized due to inequality in gender relations (Herrera et al., 2024). According to Hora, Nobre and Butto (2021), as a result of the struggle of feminist movements, rural women managed to denounce the situation of subordination in which they were inserted, even though they have not achieved the same status as men when it comes to productive work, nor have they altered the sexual division of labor in the domestic sphere.

Cintrão and Siliprandi (2011) understand that the productive organization of women contributes to confronting the relations of domination that still prevail in rural areas and promotes the strengthening of economic autonomy. Rural women's movements have demanded policies to support production and marketing and have encouraged the formation of productive groups of women as a way of opposing this reality. Inquiring about gender diversity in agricultural cooperativism makes these women and other vulnerable segments visible, such as the Black population and rural youth.

Examining diversity in social structures results in analyses that challenge rural cooperatives regarding the major hurdles to be overcome to achieve gender equity, as proposed in the SDG. This equality cannot be limited to increasing the number of women cooperative members, but must also ensure their participation in decision-making bodies of cooperatives, since it is undeniable that women continue to be at disadvantage in rural areas (Anjos; Conceição, 2023).

Munanga (2022) points out that it is not possible to discuss diversity without relating it to the recognition of differences, because by ignoring 'the different' in various societies, hierarchical relationships are forged that result in perverse consequences for social coexistence. "The consequences of all this engender inequalities and are characterized as a violation of human rights, especially the right to be both equal and different" (Munanga, 2022, p. 117). For that author, racist oppression does not allow for the self-determination of the oppressed and, in this context, it is possible to question cooperativism, especially rural cooperativism, since it is a possibility of economic and social promotion of vulnerable segments that suffer the violation of their rights daily.

The gap regarding diversity in agricultural cooperativism is reduced by the research that originated this article. The results demonstrate the significant presence of the Black population that is made invisible, because the OCB surveys do not include the racial profile of cooperative members. On the other hand, they reveal that there is still a long way to go to increase the participation of women and inclusion of young people in rural cooperatives.

METHODOLOGY ADOPTED: APPLICATION OF MULTIPLE FACTORIAL ANALYSIS TO THE STUDY OF DIVERSITY IN COOPERATIVES

The social framework and board of directors of agricultural cooperatives have a defined representation in terms of race, gender and generation. However, surveys have shown that the cooperativism field lacks analyses that intersect attributes that characterize cooperative members due to the absence of racial and age profiles. Therefore, we opted for the agricultural sector for three reasons, as follows: i) for presenting the highest number of cooperatives in the OCB mapping; ii) for including family farming cooperatives that are its affiliates, a segment characterized by the situation of socioeconomic vulnerability and; iii) the 2017 Agricultural Census revealed that most of the rural establishments linked to cooperatives are family farms (71%).

Thus, this article is based on exploratory research. Aiming at national coverage, five states were selected, one in each region. Furthermore, access to representative entities of Brazilian cooperativism was considered in the process of mobilizing cooperatives to respond to the data collection tool. Therefore, we selected agricultural cooperatives in the states of Bahia, Mato Grosso do Sul, Minas Gerais, Pará and Rio Grande do Sul.

The sampling plan was based on the proportional stratified sampling (Bolfarine; Bussab, 2005) and according to the variables of interest for the study, previously established through a literature review. Such variables correspond to the gender representation, racial and age profile, and regional component (large administrative regions of the country). The model for estimating power and sample size was chosen according to the definitions found in Pedrotti (2018), using the R software package version 4.4.1, “pwr” and “samplingbook”.

The data collection was carried out using a questionnaire tested and validated according to the definitions found in Foddy (2003), through the theoretical and epistemic framework considered in the theoretical background presented. The tool used for the data collection was a closed questionnaire sent to the cooperatives, containing the determinants and variables previously defined in the tool validation phase, in the form of multiple choice or closed answers, always admitting defined quantitative or qualitative values. The first page of the questionnaire contained the Free and Informed Consent form (TCLE), informing the objectives of the research and requesting agreement to participate or not in the research. The instrument application occurred between July and August 2023, when it was sent electronically to 507 cooperatives in the states covered by the research, and obtained a return of 120 respondents.

According to McPeake et al. (2014), the technique of collecting data through electronic tools presents some limitations, such as ensuring the reliability of the answers in relation to respondents' understanding and having an adequate return rate for the questionnaires sent. However, the strategy adopted to mitigate such drawbacks in this study comes from procedures summarized in other studies carried out by the same authors, which include: i) increasing the number of questionnaires sent out to achieve a return rate close to 20% (in this research, it was around 24% as a sampling criterion); ii) making the questionnaire as fast, direct and intelligible as possible, keeping an open "question-and-answer" channel with respondents, which was quite frequent in this study; iii) using primary data from cooperatives available in their systems and from representative agencies to verify the internal consistency of answers, whenever possible; iv) establishing a routine of reminders with the sectors in charge of responses, which increased the return of questionnaires.

Even with all these precautions, there is vast literature (Vasconcellos-Guedes et al., 2007; Faleiros et al., 2016; Vieira et al., 2010; Shannon & Bradshaw, 2002) describing the limitations of these data collection methods. However, the potential of the electronic data collection tool in terms of cost, number of respondents, and ease of access to people and/or organizations outweighs the difficulties, amply justifying its use.

The variables extracted from the data collection tools were able to address the problems proposed in the research questions and their implications, represented by the following questions: i) What is the racial, generational, and gender representation in the cooperative structure, especially in management positions? ii) What are the reasons for gender underrepresentation? iii) What mechanisms are being

considered to reverse this trend?

To facilitate the understanding of the use of statistics to treat and analyze the data contained in the variables of the tool applied to the cooperatives investigated, a mathematical model was used. The type of statistical model chosen to process the data was Multiple Factorial Analysis (MFA) which consists in verifying the existence of common factors between the cooperatives under study. Within MFA there are clusters, where values are assigned to the observations (cooperatives) and they were organized into homogeneous groups, called clusters. Finally, the homogeneous groups created in the clusters form the typology, defined as the explanation of the groups formed by the variables of the clusters, which, in this case, are the groupings of the typified cooperatives.

For data modeling, R software 2.15.0 and the Factor Miner package (Escofier; Pagès, 2008) were used in all analysis, as it is the most suitable and powerful computational resource for this task. In addition, it is open-source software that does not restrict its use to commercial matters. Thus, we manipulated the database containing the variables included in the data collection questionnaire and their interrelationships, which describe what is called "multivariate problems" (Abdi; Valentin, 2007).

Chart 1 shows the variables referring to the cooperatives, organized by MFA groups, which are variables aggregated by themes.

Chart 1 | MFA thematic groups for quantitative variables

MFA Thematic Groups	Description
Economic diversity	Number of economic activities
	Diversity of categories of products (n)
Social minorities' representation	Black representation in the Admininstration Board (CAD)
	Indigenous's representation
	Percentage of women in the cooperative
	Black's and Mixed Race/Pardo's representation in the social framework
	Indigenous's representation in the social framework
	Traditional communities' representation in the social framework
Quantitative age profile	Age profile in the president position
	Age profile in the vice-president position
	Age profile in the Financial Board
	Age profile in the Administrative Board
	Age profile in the Commercial Board
	Elderly (> 60 years) in the Administrative Board
	Youth (< 30 years) in the Administrative Board
	Age coefficient representing CAD

Source: Elaborated by the author from the research data collection questionnaire (2023).

Chart 2 presents qualitative variables, referring to the cooperatives, organized by MFA groups, which are thematic groups of variables.

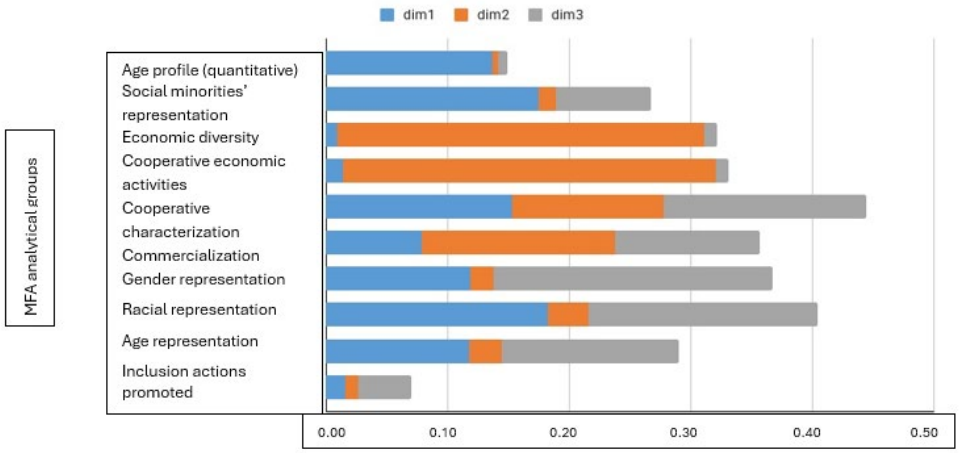
Chart 2 | MFA thematic groups for qualitative variables

MFA thematic groups	Description
Cooperative characterization	State (BA, PA, MG, MS, RS)
	respondent's position in the cooperative
	Family or non-family farming
	Filiation to representative systems (OCB, Unicoopas)
	Monthly revenue of the cooperative by ranges (categories)
Cooperative economic activities	Production and commercialization
	Collective purchase
	Product refinement and processing
	Work cooperative
	Other categories of activities
Commercialization	Governmental sales (PNAE, PAA, calls)
	Cooperative sales point
	Supermarkets and specialized stores
	Open markets and thematic fairs
	Direct delivery to the final consumer
	Product Exports
	Sales under the cooperative's tax ID (CNPJ) to other states and municipalities
Gender representation (CAD)	Sex of the CAD president
	Sex of the CAD vice-president
	Sex of the financial director
	Sex of the administrative director
	Sex of the commercial director
	Women with minor children in CAD
Racial representation (CAD)	Racial profile in the president position
	Racial profile in the vice-president position
	Racial profile in the financial director position
	Racial profile in the administrative director position
	Racial profile in the commercial director position
Age representation	Are there young members in the cooperative?
	Predominant age group in the cooperative Social Framework
	Predominant female age group in the cooperative SF
	Predominant male age group in the cooperative SF
Inclusion actions promoted	Is there a program of inclusion of gender, race and ethnic group in the cooperative?
	What kind of action? Program? Project? etc.
	What's the action duration (short, long)
	Is the action explained in detail?

Source: Elaborated by the author from the research data collection questionnaire (2023).

Tables 1 and 2 show the variables extracted from the data collection tool, as previously described. Figure 1 below shows the relative explanatory contribution of each variable, that is, its explained variance. The explained variance is a measure of how important a given variable is in explaining the differences between cooperatives, specifically within the thematic group observed.

Figure 1 | Relative contribution of the explanatory variance of the MFA thematic groups



Source: Elaborated by the author from the research data collection questionnaire (2023).

In other words, the more a group contributes to the variance, the more the variables within it explain the differences between cooperatives, both general (MFA group) and specific (original) characteristics. We consider these variables based on the formation of clusters that might be called point clouds that represent the proximity of the objects analyzed, their similarity, in relation to the variables studied. The clusters also demonstrate the amount of association between the objects and the variables, explaining how much each group of objects is (more or less) influenced by another variable, which ultimately represents its determinations.

From the clusters, we materialize the explanation of groups, through a typology (types 1, 2, 3 and 4) based on racial, gender, and generational profiles that can support public agencies that implement policies to encourage rural female leadership, cooperative representative entities, and cooperatives in the formulation and/or improvement of actions seeking to promote more diversity, mainly among the segments in greater vulnerability. The typological study highlights the constitutive traits of a given population, aiming to create subsets with statistical metrics of similarity/differences (quantitative factorial methods), characterizing each type developed by the variables that explain its diversity (Mingoti, 2005). The characterization of each type developed is outlined in the next section.

THE TYPES ELABORATED THAT MEASURED DIVERSITY IN THE RURAL COOPERATIVES

The proposal to investigate whether there is diversity in rural cooperatives through a quantitative study is based on the principle that the membership, as well as Boards of Directors express a composition of gender, race and generation. After the development of MFA clusters, with the variables selected from 120 cooperatives, we identified those presenting the greatest weight in discriminating subgroups from the original set. From these variables, the formation of clusters inherent in the MFA routine was carried out aiming to obtain in this study the presence of 4 (four) functional types (Types: 1, 2, 3 and 4).

The 120 cooperatives studied have a total membership of 64,396 individuals, the majority of which are men 50,537 (78.5%), with only 13,859 (21.5%) women. Although they are predominantly identified as belonging to the family farming category (90.8% of the total investigated), male domination persists despite the struggles waged by rural women in this segment. The investigated group is predominantly composed of cooperatives affiliated with the OCB, which in absolute numbers represents 51 cooperatives, followed by the 40 represented by the Unicafes; 10 cooperatives are affiliated with both systems, and, finally, 19 are not associated with any representative entity. The distribution of the 120 cooperatives by type and state, after MFA is shown in Table 1.

Table 1 | Distribution of cooperatives by type and federal unit

FU	Types				Total
	1	2	3	4	
BA	21	6	4	5	36
MG	8	2	4	3	17
MS	0	1	3	1	5
PA	14	14	3	3	34
RS	2	0	14	12	28
Total	45	23	28	24	120

Source: Cooperativism and Diversity Database (Anjos; Ramos, 2025).

Distribution by state was one of the variables that promoted the distinction between types and influenced the dimensioning of diversity captured by the typology. The fact that Type 1 is predominantly composed of cooperatives from Bahia and Pará, and Type 4 is dominated by cooperatives from Rio Grande do Sul, for example, has repercussions in the racial diversity found. For this reason, we undertook a characterization of each type elaborated by the MFA.

Type 1 comprises 45 cooperatives distributed mostly in Bahia, with 21; followed by Pará, with 14; then Minas Gerais, with 8; and 2 in Rio Grande do Sul. Cooperatives from the North-Northeast region, identified with family farming, predominate in this type, with 35% affiliated with OCB and 44% affiliated with the Unicoopas system. This system joins the following institutions: Unicafes, the Central de Cooperativas Solidárias e Empreendimentos Solidários (Unisol) [Center of Solidarity Cooperatives and Solidarity Enterprises], the Confederação das Cooperativas de Reforma Agrária do Brasil (Concrab) [Confederation of Agrarian Reform Cooperatives of Brazil], and the União de Cooperativas de Catadores e Catadoras de Material Recicláveis – (Unicatadores) [Union of Cooperatives of Recyclable Material Collectors]. It presents the highest representation of women in its social framework (44%) among the types developed, and 30% of its social framework is made up of young people. This is the type with the second highest percentage of women in the president position, at 40%. There is a large representation of Black and Mixed-race people in all positions on the Board of Directors (president and vice-president, commercial, administrative and financial directors) showing an average of 72.9%, and it has one indigenous representative.

Type 2 consists of 23 cooperatives, with the vast majority from Pará, totaling 14; Bahia appears with 6; Minas Gerais has 2, and Mato Grosso do Sul, with 1. It is worth noting that cooperatives from Rio Grande do Sul are not included in this type. Most are family farming cooperatives, but there is a presence of non-family cooperatives. Of the total, 48% are affiliated with OCB and 35% are not linked to any representative entity. They have 35% women in their social structure, with 13% young people. The presidency is held by women in 44% of the cooperatives, the highest percentage of women who preside over the institution, and shows a wide predominance of the Black population in the president position (82.6%) and a 70.4% average participation in all positions.

Type 3 consists of 28 cooperatives, with half of them, that is, 14 located in Rio Grande do Sul; next, Bahia and Minas Gerais, with 4 in each state, followed by Pará and Mato Grosso do Sul, with 3 each one. All cooperatives are identified as family farming cooperatives. Affiliation with Unicoopas predominates for 57% of the cooperatives. Only 32% of the members are women, and 3% are young individuals. There is female leadership in 21% of the cooperatives, with a large predominance of White representation in the position of president. Furthermore, regarding the presence of the Black population in leadership positions, the highest percentage of participation refers to the president position, with 21.4%.

Type 4 includes 24 cooperatives, also predominantly located in Rio Grande do Sul (12); Bahia (5); Minas Gerais and Pará (3 each), and Mato Grosso do Sul (1). This group has 37% of non-family cooperatives; the highest percentage among the types. The representative entity is OCB for 71% of the cooperatives, without any affiliations with Unicoopas. The membership consists of only 19% women and 2% young individuals. The presidency is held by women in only 8% of the cooperatives, with vast predominance of White representation in the position of president. Finally, the participation of the Black population in leadership positions is minimal and appears only in the president position, with only 8.4%.

To facilitate the understanding of the data, we created Chart 3 to summarize the characteristics of each type identified in the clusters.

Chart 3 | Characterization of the functional types developed

Type	Nº of cooperatives	Predominance in States	Category (Family and non-family farming)	Affiliation with representative entity (OCB, UNICOOPAS or both)	Presence of women in the membership (gender)	Presence of young people in the membership (generation)	Presence of women in presidency	Presence of Black and Mixed-race people in the cooperative Board of Directors
Type 1	45	BA (47%) PA (31%)	Family Farming (98%)	OCB: 35% UNICOOPAS: 44%	44%	30%	40%	President: 55.6% Average in other positions: 72.9%
Type 2	23	PA (61%)	Family farming (96%)	OCB: 48% UNICOOPAS: 17%	35%	13%	44%	President: 82.6% Average in other positions: 70.4%
Type 3	28	RS (50%)	Family farming (100%)	OCB: 25% UNICOOPAS: 57%	32%	3%	21%	President: 21.4% Average in other positions: 14.3%
Type 4	24	RS (50%)	Non-family farming (37%)	OCB: 71% Both: 17%	19%	2%	8%	President: 8.4% Average in other positions: none

Source: Cooperativism and Diversity Database (Anjos; Ramos, 2025).

The description of the types developed by MFA demonstrates some similarities. The minority presence of women and young individuals in the membership and in the president position, for example, but also distinctions if we consider diversity in the sense of representation of attributes that characterize them, that is, the racial, gender and generational composition in agricultural cooperatives.

Types 1 and 2 were seen to present greater diversity in terms of gender, race and generation, in both the membership and president position. Although women are not the majority in the most powerful position, they preside over at least 40% of the cooperatives classified in these types. It is worth mentioning the large presence of cooperatives from the North and Northeast, highlighting the participation of Black and Mixed-race individuals, including in the racial representation of those who occupy presidency. Another factor worth highlighting is the presence of 11 Black women president in cooperatives in Bahia.

While the analyses allow us to see, to some extent, gender diversity in Types 1 and 2, the description of Types 3 and 4 reveals the supremacy of male and White domination in the membership and the president position. These types are predominant in cooperatives in Rio Grande do Sul, which certainly contributes to the broad participation of men, both as members and leaders. The representation of other racial groups is not very expressive, in addition to the White populations, as is the presence of young individuals. The lack of diversity is more noticeable in Type 4, with the almost non-existence of rural youth; the presence of 81% of male cooperative members and 92% in the position of president. It should be noted that this subset has the highest percentage of non-family farming, an indication that could explain the very reduced presence of women as cooperative members.

According to Velloso and Anjos (2022), motherhood is an obstacle to women having more effective participation in public spaces, including in decision-making positions in rural organizations. Therefore, it is relevant to note that in the social structure of 86% of the cooperatives and 103 in absolute numbers, there are female members with children under 18 years old. Although they are socially responsible for reproductive and care work, female family farmers, above all, have significant participation in community associations (Anjos; Conceição, 2023) and are gradually expanding their participation in cooperatives.

The presence of women in the membership structure is shown in different proportions when we break down the 13,859 (21.5%) female members per state. Bahia appears with 32.6% participation and Pará with 32.1%, and this federal unit presents the highest proportion of female cooperative members; followed by Mato Grosso do Sul (25.9%) and Minas Gerais (20.2%). Although the state of Rio Grande do Sul has more than half of the members who made up the investigated base, in absolute numbers, it has the lowest proportion of women in its membership, only 18.1%.

In a society stratified by the racism faced by the Black population, observing the rise of Black men and, mainly, Black women shows that inclusion in cooperatives has contributed to the anti-racist struggle and social mobility of women rural Black women who have historically been more excluded from positions of power. This data suggests that cooperativism is, to some extent, a mechanism of inclusion of the Black population, especially in family farming cooperatives. They also include, albeit in very small percentages, indigenous people who were identified in the research presiding over two cooperatives, one in Bahia and another in Pará.

Another element that distinguishes the types is the financial size. Table 2 shows the monthly revenue of cooperatives based on the typology developed.

Table 2 | Monthly revenue x number of cooperatives per Types developed

Types	Up to 5	From 5.001 to 10 thousand	From 10.001 to 30thousand	From 50.001 to 100 thousand	From 100.001 to 200 th	200.001 to 500 thousand	From 500.001 tp 1 million	Over 1 million	Total
1		5	12	3	4	6	9	5	45
2	5	4	2	6	2		1	0	23
3			3	9	3	8	3	1	28
4		2	1				3	1	24
Total	5	11	18	18	9	14	16	7	120

Source: Cooperativism and Diversity Database (Anjos; Ramos, 2025).

Table 2 reveals that cooperatives with the highest revenue belong to Type 4, precisely the one that expresses the least diversity in the attributes investigated. Of the 24 included in this type, 71% had revenue of more than 1 million in the month prior to the survey. Cooperatives belonging to Type 1 and 2, which present more diversity, 53% and 83%, respectively, have revenue of up to 100 thousand per month.

It is also noteworthy that Type 2, which presents the highest percentage of women in the president position (44%), has predominantly dominant economic performance in the smaller ranges, up to 100 thousand. This reflection on the economic aspects justifies the struggle of rural women to be protagonists in their establishments. For Cintrão and Siliprandi (2011), women's productive organization contributes to confronting relations of domination that still prevail in rural spaces and promotes the strengthening of their economic autonomy.

The financial variable suggests that there is a correlation between a more significant presence of women, Black and young population in cooperatives with lower monthly revenue. Is it true that the more diversity there is, the smaller the financial size of the cooperative is? The analyses carried out in this study point to a correlation in the aspects investigated. The finding that cooperatives headed by Black women are those with the smallest financial size, while those with the highest revenue have White men as presidents, also reveals the intertwin of class, race and gender issues in those cooperative organizations. These considerations continue to be explored in greater depth as the research continues, since the debate on diversity also expresses the unequal relationships faced by historically vulnerable groups (Munanga, 2022).

Although we found a significant presence of the Black population as members of agricultural cooperatives, the reduced participation of women, young individuals, and indigenous peoples challenges the narrative of the inclusive character of this business model. To increase the presence of groups characterized by socioeconomic vulnerability, cooperatives will have to invest more in development programs and projects. Among those who participated in this study, only 43.3% reported that they develop actions aimed at women, youth, the Black population and Traditional Peoples and Communities. However, the actions implemented, such as courses, workshops, lectures, etc., are not continuous. The one-off activities are not enabling, for example, women and young people who are already members of cooperatives to reach leadership positions.

Making women who preside over cooperatives more visible helps to highlight the struggle and achievements of female farmers. When we disaggregate the data on women who preside over cooperatives per state, regardless of the division by types, we observed that Minas Gerais has, proportionally, more significant participation, with 41%. This percentage stands out because

in the total membership of cooperatives in that state, women make up 20.2%, yet they are the ones who preside the most. Bahia has the second highest percentage, with 30.5% cooperatives having women presidents, followed by Pará, with 26.5%, Mato Grosso do Sul, with 20% and, finally, Rio Grande do Sul, with the lowest participation of women presidents, at only 17.8%.

Other aspects confirm ruptures with the disadvantages faced by rural women presiding over cooperatives. Of the 33 women presidents, 24 (72.7%) of them were mothers with children under 18 years old. Reconciling reproductive and care work with the exercise of the leadership position, mainly because all cooperatives with women president are from family farming, reveals the achievements of these farmers. Furthermore, in 12 (36.4%) of them, the women are in the 31 to 40 age range; and 10 (30.3%) between 41 and 50 years old. This age profile is younger than that observed in the cooperatives presided over by men. Among the 85 cooperatives with male presidents, 27 (31.8%) are between 41 and 50 years old; 22 (25.9%) are in the 51- 60-year-old group, and 16 (18.9%) are over 60 years old.

Although we found 33 cooperatives that contribute to the empowerment of rural women by elevating them to the position of president of the Board of Directors, we identified 36 (30%) that, in the opposite direction, appear to be resistant to gender equity. In those 36 cooperatives, there are no women in any management position. The research inquired about various board positions, as in addition to the presidency, we considered the profiles of vice-president, and financial, commercial and administrative directors. The finding that 30% of the cooperatives investigated have no women in management positions demonstrates the arduous path the cooperative movement will have to travel to overcome the culture of patriarchy and to create more equitable conditions for women to advance in these cooperatives where male dominance persists and which do not align with gender diversity.

CONCLUSION

Inquiring about diversity in agricultural cooperativism is relevant to reveal the potential of cooperatives as instruments of development with a more inclusive character. For this reason, we sought to correlate gender, race and generational profiles in rural cooperatives aiming at measuring diversity promotion in those organizations. The statistical analysis of data from 120 cooperatives and its interpretation demonstrated that there is diversity in varying proportions among different cooperatives, when considering the attributes used as parameters. The profile of the membership and the position of president of the Board of Directors showed that gender and generation diversity are still great challenges for cooperativism, mainly in Types 3 and 4, which proportionally predominate in cooperatives in Rio Grande do Sul and Mato Grosso do Sul.

The intertwining of gender, race, generation and class contributed to demonstrate that, despite the democratic and egalitarian assumptions defended by the cooperative movement, cooperatives have objectively not overcome the patriarchal culture, and most still present the predominance of men and do not create a space of protagonism for youth. In another Direction, the study revealed the expressive presence of the Black population in the membership and in Board of Directors, especially in Pará, Bahia and Minas Gerais.

The typology developed on diversity in agricultural cooperatives demonstrated that variables linked to gender, race and generation representation are quite discriminatory, therefore explanatory of real cases (cooperatives), and that specific actions and policies of these cooperatives are intrinsically linked to those variables, either as a causal factor or as an unfolding consequence. We identified significant percentages of the Black population in the membership of cooperatives in Bahia, Pará and Minas Gerais. It is also in these types that women appear in greater proportion in the president position, and most cooperatives are identified as family farming cooperatives. However, even among these types, young individuals do not have a significant presence, which raises questions for cooperatives about the inclusion of young people in their social structure and the problem of succession in management positions.

The intersectional analysis of gender, race and class contributed to demonstrate that even though cooperatives hold a discourse of organization based on democratic and egalitarian assumption, they present distinct economic performance when we cross-reference the variables gender, race and revenue. Women, especially Black women, are found predominantly in Types 1 and 2, the groups which much lower economic revenue when compared to Type 4, for example, which is predominantly composed of White men from Rio Grande do Sul.

The persistence of observed gender inequality must lead to changes in the cooperative education programs and the practice of their principles, as it is not enough to create women's committees and develop only one-off actions. What needs to be created are continuing programs that can result in more women members with potential to reach positions of greater power, such as the presidency and the boards of directors.

Finally, we expect that the methodology used to measure gender, generational and, above all, racial diversity, can be replicated in other studies and surveys carried out by cooperative representative entities. The research demonstrated that it is possible to see the presence of the Black population in cooperatives, as well as the participation of traditional peoples and communities, including indigenous peoples. The adoption of methodologies that give visibility to those who are socially invisible will demonstrate the potential of cooperativism to be the mechanisms so often touted in the SDG narratives, that is, an instrument for reducing inequalities and achieving gender equity. However, if there is no mobilization in relation to the latter objective, agricultural cooperatives will continue to be spaces of male power.

ACKNOWLEGMENTS:

We are thankful to CNPq/SESCOOP, call nº 11/2022, for the research funding.

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