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RURAL AND SUSTAINABLE DEVELOPMENT: CONTRIBUTION FROM SOCIAL WORK TO THE LIVESTOCK SECTOR IN THE MUNICIPALITIES OF CIRCASIA AND FILANDIA OF THE DEPARTMENT OF QUINDÍO, COLOMBIA

Carol Daniela Jimenez Avila; University of Quindio, Colombia

Abstract: Social Work contributes significantly to making visible the need for the livestock sector to assume processes of associativity and integrate the family in the different links of the productive chain as a point of social balance. This manuscript addresses the importance of promoting associativity and competitiveness scenarios, considering the need to implement agricultural technological tools that generate added value to dairy production and favor participation in local, national and international economies. The research involved: the Approach and characterization of the producers of two associations, the Association of Milk Producers of Circasia (hereinafter APROLACIR); Association of Agricultural Producers of Filandia (hereinafter ASOPROAGRO); Design of the technological application. In this sense, the R + D + I process (Research + Development + Technological Innovation) made it possible to consolidate direct participation with the population and the activities involved in the production chain.

Keywords: Associativity, Competitiveness, Participatory Diagnosis, Social intervention, Technological tool.

✉ cdjimeneza@uqvirtual.edu.co

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INTRODUCTION

The Department of Quindío is located in the central mountain range of Colombia, it is made up of twelve municipalities, including Circasia and Filandia. The natural environment, the historical knowledge and the economic influence of the Department place it in the so-called "Coffee Cultural Landscape" - Paisaje Cultural Cafetero PCC, in Spanish - where the use of soils destined for livestock and agriculture predominates.

> At present, Colombian livestock participates with about 3.6% of the National GDP, an appreciable percentage for an individual activity and especially rural. Within the agricultural sector, its importance is indisputable, with a 27% share of agricultural GDP and 64% of livestock GDP. (Cuenca, N. et al., 2008, p. 2)

Taking into account that milk production is one of the sectors that contributes to the departmental economy, from the Social Work Program in alliance with the Faculty of Agroindustrial Sciences of the University of Quindío, developed the research project entitled *Strengthening of associativity and competitiveness of the livestock sector in the Department of Quindío.*

The project aimed to support the producers of two livestock associations, one from the Municipality of Circasia, APROLACIR and one from the Municipality of Filandia ASOPROAGRO.

In order to contribute to the local economy and business development of the livestock sector, a sustainable technological tool was designed and is in the process of being implemented; distinguishing research as a pilot national plan that contributes to social appropriation and regional development.

This article proposes a conceptual path on rural and sustainable development, addressing concepts about the peasant economy, the importance of associativity, competitiveness, the configuration of social processes and the impact of family dynamics in rural territories.

Development has been considered synonymous with progress, consumption, enrichment and purely economic variables. Over time, it has evolved until it is considered a complex phenomenon that integrates environmental, cultural, political and social dimensions. Rural development understood from Trivelli, Escobal and Revesz (2009)

> It seeks to directly increase the quantity and quality of assets (physical and intangible) of people and institutions to achieve impacts on income generation, as well as human capacities and empowerment through training, support to organizations, technical assistance, contracts between institutions, donations or credit and other instruments (p.17).

Meanwhile, the concept of sustainable development presented by (Angulo, 2010, p.5), affirms that “such development would be sustainable if it links economic decisions with social and ecological well-being, that is, link quality of life with quality environment".

In this context, rural and sustainable development considers it necessary to incorporate science, technology and agricultural innovation, contributing to four of the seventeen Sustainable Development Goals -ODS- in the 2030 agenda: **1** end of poverty; **2** industry, innovation and infrastructure; **3** reduction of inequalities; **4** responsible production and consumption.

Talking about rural development in Colombia has meant putting into practice strategies that emphasize two actions, improving the quality and productivity of food and meeting the basic needs of the most remote rural areas of the country.

For its part, the Secretary of Agriculture, Rural Development and Environment of the Department of Quindío (SoARDE, 2013) aims to "implement public policies on environmental matters, which encourage the progress of quality of life, the promotion of associativity and the increase in agricultural productivity ”(p.1).

In view of the foregoing, rural and sustainable development for the livestock

sector entails the implementation of technology, guaranteeing environments conducive to innovation as a central activity and promoting social networks that facilitate communication between all participants in the production chain, achieving better administration of the cattle herd and commercial alliances that benefit the final product.

Taking into account that rural development has been mediated by the modernization of systems in livestock production, APROLACIR and ASOPROAGRO currently have a collection center respectively for the transformation of dairy products, benefiting forty small, medium and large producers united to produce, market and contribute to the local and peasant economy.

The implementation of good farming practices, in addition to ensuring that the milk and meat produced do not contain residues that affect the health of the people who consume or process these foods or that their production does not affect the environment, seeks to increase efficiency and productivity. of the farms, the rational and efficient use of the existing physical, economic and human resources, and the greater well-being of the workers. The implementation of the BPG requires the commitment of all the people involved in the production process in the livestock company. (Palomino, 2018, p.1)

In the year 2021, the peasant economy continues in transition towards the division of labor, the application of science and technology, however, the population of the rural sector faces difficult conditions to survive on a daily basis. Hence, income diversification arises for livestock families (Pachón, 2007) "such as small-scale egg and banana production and coffee for own consumption".

The farmer usually deduces that his activity is not profitable in any of the links of the dairy chain, factors such as the purchase of inputs, disadvantages in the acquisition of machinery and road conditions influence.

Indeed, it is necessary to consider alternatives that provide a solution to this type of problem; associativity aims to be one of the exits, to enter competitive markets where the end consumer is more demanding every day.

As supported by the United Nations Food and Agriculture Organization (2017), "Associativity is the main weapon of the Latin American peasantry to be able to live and not just survive. This is a tool that must be supported by the States, but respecting the cultural and economic contexts of the territories "(p.35). Associativity is important, insofar as it allows guaranteeing profitability and generating higher rates of productivity in the livestock sector.

Associativity is an opportunity for social participation and teamwork, which coordinates and implements processes, activities and functions necessary for dairy production. Similarly, competitiveness is seen as the ability to make decisions that generate added value and produce good results.

The only solid way to achieve this is based on increasing productivity; It consists of the ability to sustain and expand participation in local, national and international markets, simultaneously increasing the population's standard of living. (Porter, 1990).

It is necessary to affirm then that Social Work as a profession / discipline contributes to investigative work, understanding the territory as that place of enunciation where the population -the producers of the livestock associations- remain in constant interaction and transformation with nature, thus developing a sense belonging to the environment that surrounds them.

> The territory is a social construction, a spatial unit, made up of a particular social fabric that is sustained by a certain base of material resources. This is articulated by certain forms of production, consumption and exchange and coordinated by institutions and by the forms of organization that operate in it, through practices, strategies and perceptions. (Romero, 2012, p.19)

Hence, socially, livestock associations establish collective interests, consolidate associativity processes, prioritize organizational administrative improvement, collaborative work, leadership and social appropriation, all of them interrelated capacities, willing to enhance creative discernment, essential to follow new ideas that reactivate competitiveness.

> In most countries, cattle ranching has traditionally been seen as an agricultural subsector, mostly occupied by large producers, large areas of land, and with a high number of animals. However, in contrast, a large number of livestock farms are in the hands of small producers. (FAO, 2014, p. 165)

In the project, the Social Work area promoted the importance of integrating family members to the different links in the production chain, in order to advance towards generational linking processes, highlighting the importance of exchanging knowledge and experiences . At the abstract level, past experiences, successful or not, make up a historical memory marking future aspirations of farmers, which, together with values, ideals and motivations constitute the ideology on which their social actions are based (López, 2006) .

METHODS

Location

The research was carried out in the villages of Barcelona alta, El silencio, La concha, La siria, Llanadas and Villa lisia in the municipality of Circasia and the villages El vergel, El gusto and La palmera in the municipality of Filandia in the Department of Quindío. The municipality of Circasia is located at the approximate coordinates 04 ° 37 '1 "N, 75 ° 37' 59" W. The municipality of Filandia is located at the approximate coordinates 04 ° 40 ′ 34 ″ N, 75 ° 39 ′ 23 ″ W. The maximum temperature is 26 ° C and the minimum 16 ° C for both territories.

Type of study

The main objective of the research was to strengthen the associativity and competitiveness in the APROLACIR and ASOPROAGRO associations through technological support and academic training for livestock producers. Based on the proposed objective, was defined a Mixed Methods Research.

From the qualitative approach, the participatory territorial diagnosis was applied, which allowed us to have a direct approach with the population.

From the quantitative approach, a semi-structured interview was carried out, elaborated from five constructs(Image 1); allowing information to be obtained to design and create a sustainable technological tool that allows improving the quality of dairy production.

Population and statistic analysis

40 producers who are part of both livestock associations were characterized. Being 30 from APROLACIR and 10 from ASOPROAGRO. The processing of the information obtained thanks to the semi-structured surveys and the presentation of the results was carried out using the Statgraphics 19 software.

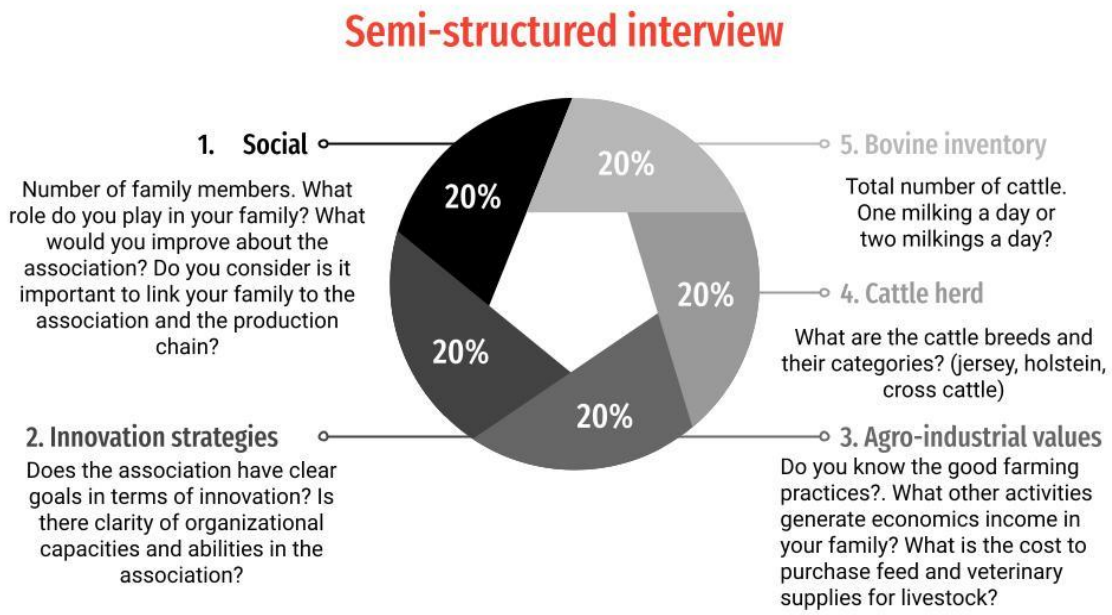

Figure 1. Socio-productive characterization of livestock families (Semi-structured survey by five constructs)

RESULT AND DISCUSSION

Territorial Participative Diagnosis

Constitutes a significant methodological tool for research and intervention processes in Social Sciences and particularly in Social Work. It allows a direct approach with those realities of the communities that are gestated in daily life, in turn, it creates a close link with the feelings, knowledge and needs between the population groups with whom we work. In addition to this, it is a fundamental strategy for planning regional and sustainable development, as a social construct it allows generating spaces for consultation and citizen participation, reasons that expose the importance of privileging this type of methodologies in field work with associations. (Pagaza, 2001)

The purpose of the territorial diagnosis was to strengthen and reinforce the importance of associativity and competitiveness in APROLACIR and ASOPROAGRO. Although the interview established the central source of information to create the technological tool, this would not have been possible without the achievement of the participatory territorial diagnosis that directly and indirectly linked the associates and their families. This investigative technique was carried out through three methodological stages.

First stage: Initial observation. The objectives and logistics of the research carried out by the University of Quindío were socialized in the first field trips, subsequently the areas of interaction between the associations and the producer population were recognized, through the direct approach to the farms (Figure 3). The social actors, that is, the producers, were the starting point of this intervention, since they are the ones who increase, decrease, accept and change the interactions with the territory traditionally defined. ***Second stage:*** Dialogue with the actors. The lack of organization directly affects both associations to the extent that there is an absence of communication, moderately acceptable commitment on the part of the producers, and no continuity of the board of directors. ***Third stage:*** Search for

consensus. Immersion in the field made it easier for APROLACIR and ASOPROAGRO associates to consider organizing and associating under the cooperative model, allowing them to carry out effective activities that lead to economic reactivation and improvement of competitiveness.

Figure 2. Field trips.

A. Information on the purpose of the investigation
B. Visit to the premises
C. Socio-productive characterization
D. Implementation of technological tool

Socio-productive Characterization

The research managed to compile five direct constructs through the semi-structured survey. (Figure 3) shows how the social construct allowed observing the family dynamics in both associations, the results showed that 50% of the respondents are part of a nuclear family composed of four members, 30% have three members in their family and 20% of the families are made up of the married couple.

60% play the role of father-provider, 20% mother-provider, reflecting the change in the role of women and their actions in the production chain and the remaining 20% play the role of child-provider, evidencing a change generational future significant for the livestock sector.

50% of the producers would improve the board of directors of the associations, making it a more organized one, with greater commitment and continuity, 30% consider it important to improve and expand the technology of the producing plant and 20% believe that greater participation is necessary on the part of all the members of the associations. 100% consider it important that the members of their families join the association, taking into account that teamwork would benefit everyone and therefore improve the family economy.

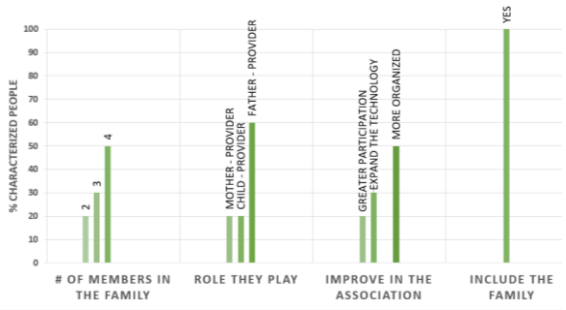

Figure 3. Social construct

50% of those surveyed stated in the second construct, on innovation strategies, that the associations are not clear about the articulation of technological models to R + D + I processes (Research + Development + Technological innovation), example, permanent monitoring to activities, employability of decision-making tools, action plans, objectives and indicators, sales for new products, percentage or amount of cost savings. In the associations, 100% consider not having clarity of the capacities and organizational skills, which generate competitive advantages and added value to their products.

The third construct on agro-industrial values (Figure 4) showed that 70% know the good farming practices production, 80% have other activities that generate income such as small-scale production of eggs and bananas, sale of milk, derived products, sale of live cattle. 60%

spend between $ 200,000COP and $ 480,000COP in the purchase of supplies for livestock feeding and 80% spend approximately $ 100,000COP in purchase of veterinary supplies.

Figure 4. Agro-industrial values construct

The fourth construct on the establishment of the cattle herd showed that the predominant breed of cattle is Jersey with 50%, followed by Holstein with 30% and crossed cattle with 20%, showing a low milk production index. Regarding cattle lots, 80% are caused by milking and 20% are caused by breeding. The fifth construct on bovine inventory showed that at a general level, producers have 40 to 76 head of cattle, all destined for dual purposes with two milkings a day from 5:00 a.m. to 7:00 a.m. and from 4:00 a.m. to 6:00 p.m. : 00 in the afternoon.

Technological Tool

It is made up of five sections: inventory of females, males, record of individual milk production, accounting record in the purchase of food and veterinary supplies and sale of livestock. Therefore, associations and producers will use the application in order to improve effectiveness and obtain greater demand in dairy production. It is a program of easy access and use, designed to be executed in telephones, computers and other technological devices. Producers can be constantly updating the information in the Excel software (2016) and they are automatically reflected in the mobile application (Figure 5).

GENERAL INFORMATION			
Farm Name			
Municipality			
Ubication			
CATEGORIES	AGE (MONTHS)		
	MINIMUM	MAXIMUM	DISCARD
JERSEY			
HOLSTEIN			
CROSSED CATTLE			
CAUSES OF DISCARD	CAUSES OF MORTALITY	LOT	
OLD AGE	DISEASE	MILKING	
DISEASE		CALF	
IMPRODUCTIVITY		BREEDING	
		FATTENING	

Figure 5. Technological tool created

CONCLUSION

Rural and sustainable development in the Department of Quindío and especially the municipalities of Circasia and Filandia, are currently facing changes that involve constant social and environmental commitments. The interdisciplinary and multidisciplinary work favored continuous learning processes in the development of the research. Social Work contributed in a significant way to make visible the need that the livestock sector presents to create participatory scenarios, assume teamwork, leadership and processes that affect associativity; at the same time, the importance of responsibly integrating the family into the production chain, which allows to reveal needs and promote generational splicing processes as a point of social equilibrium.

From the agricultural sector, the challenge of implementing agricultural technologies among producers is observed with concern, as it is well stated (Palomino, 2018, p.1) Good livestock practices "seek to increase the efficiency and productivity of farms, the rational use and efficient use of existing physical, economic and human resources, and the greater well-being of workers ".

The technological tool designed managed to have a great impact on the productivity of farmers and associations. Consequently, one of the commitments established is to generate permanent

support and pedagogical sessions that do not allow the mobile application to become an obsolete and / or empty program, thus promoting opportunities for participation in local, national and international economies.

GRATEFULNESS

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