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Artículo científico

Socioeconomic characterization of 98 rural families in Norte de Santander

Caracterización Socioeconómica de 98 familias en Norte de Santander

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ABSTRACT

Introduction: Living conditions and the main activity from which the resources for their financial support come are vital to know the wellbeing of a rural family. This research aimed to characterize the social and economic status of 98 peasant families in the municipalities of Ábrego, Bochalema, Bucarasica, Los Patios, Pamplonita and Villa Caro in Norte de Santander.

Methods: A non-experimental quantitative research was carried Surveys were applied to inquire about the socioeconomic conditions of the families favored by an agroecological project.

Results: The data collected were: age, sex, years living on the farm, occupation, financial support, children raise, parent's role, living place, the material used to build it, public services, the roads quality and the living conditions that are shown in the graphics descriptions allow to evidence the agricultures' manner have to develop their family and community activities, their education, how they prepare their food, the transport means they use, and roads types. These aspects are important in individual development before the characterization.

Conclusions: This research has obtained relevant data about those aspects and the lacks that homes analyzed in the six rural municipalities have.

KEYWORDS: farmer; age; gender; means of transport

RESUMEN

Introducción: Las condiciones de vida y la actividad agrícola principal de donde se toman los recursos financieros para su sostenimiento son vitales para conocer el bienestar de una familia rural. Esta investigación tuvo objetivo caracterizar el estatus social y económico de 98 familias campesinas en los municipios de Ábrego, Bochalema, Bucarasica, Los Patios, Pamplonita y Villa Caro de Norte de Santander.

Métodos: Se realizó una investigación no experimental del tipo cuantitativa. Se aplicaron encuestas para indagar sobre las condiciones socioeconómica de las familias favorecidas por un proyecto agroecológico.

Resultados: De los beneficiarios se recogió: edad, sexo y años en la finca, así como de la familia, tipo de ocupación, sustento económico, crianza de los niños, tenencia de tierra, rol de los padres, la vivienda y los materiales con los que se construyeron, los servicios fundamentales, calidad de las vía, siendo un vistazo de las condiciones de vida, en relación a lo descrito en las gráficos datos que permiten evidenciar la manera en que los agricultores desarrollan sus actividades familiares, comunitarias, educación, forma elaborar alimentos, propiedad del terreno, servicios con los que cuenta, transporte que emplean y tipo de vías, aspectos importantes en el desempeño de un individuo antes no caracterizado.

Conclusiones: Con esta investigación se pudieron obtener datos relevantes sobre estos aspectos y las falencias que cuentan los hogares analizados en los seis municipios mencionados.

PALABRAS CLAVE: agricultor; edad; género; medios de transporte

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INTRODUCTION

Agriculture is one of the sectors that is pushing the economy out in developing countries such as Colombia. The high population rate and poorly access to basic needs could be one possible cause of the minimum conditions of comfort and safety in rural housing. In addition, the housing programs offered by the state are not accessible and are not designed to cover all farmers nationwide (Segrelles-Serrano, 2018).

The lower-income limits the acquisition of the inputs required for productive activities. The lack of access to transportation costs, coverage of products, and labor, housing improvement and limitations in access to basic health demands, public services,

transportation, and education are factors that deteriorate the quality of life of the Colombian farmer (De los Rios-Almeida, 2010). In Colombia's agricultural sector, another area of concern is the work environment. The labor and social conditions of the rural population are precarious, resulting in high vulnerability. However, the rural labor market is characterized by lower unemployment rates than in the cities. As a rule, the labor supply in the agricultural sector is supplied by the workers themselves, and the functioning of the rural labor market is geared to the different dynamics of rural households. In addition, there is now greater awareness of employment differences between men and women, poverty levels, use of time, domestic work, and other activities that determine levels of vulnerability and opportunity (CEPAL, 2016).

The rural economic sector had impact on rural economic and social life; modern farming techniques, production, productivity, and productive structure have all had a significant impact (De León y De León-Barrios, 2004).

Agricultural production, its agricultural development models, the inverse relationship between the size of the agricultural unit and productivity, conceptually explain the productive structure of the agricultural sector. This extends to the productive analysis, which connects the technical of the sector and economic characteristics with its social interactions. Production has been one of the most interesting topics inside the study of economic thought, especially since the development of industry and it has defined some of the most outstanding contributions in knowledge branches such as agricultural economics (Molano-Aponte, 2018).

Alternative agricultural practices have a less economic impact. However, they emphasize the rational environment use and the adequately manage of natural resources, follow organic agricultural production based on ancestral practices and oppose the use of pesticides and fertilizers of chemical synthesis or transgenic seeds. This agroecological approach recommends phytosanitary and production practices that depend on natural or biological controls to guarantee clean and responsible production. All alternative management factors and techniques have as their goal the production and consumption of food that is oriented toward human well-being and health (Lopera *et al*., 2011). Agro-ecology has an interdisciplinary approach based on sustainable agriculture. It recognizes the social and cultural contribution of traditional farmers and it is based on the contribution of pre-industrial traditional knowledge. In addition, it builds an agriculture that ensures environmental care, social justice and economic viability (García-Bartolomé, 2001).

Studies on social production in Colombia have suggested alternatives to favor the rural population protection, but this requires a characterization of this population that includes population dynamics and protection alternatives (Acosta *et al*., 2016).

The Ecosembrando project, «Implementation of polycultures for the recovery of productive potential in the department of Norte de Santander» proposes pilot tests based

on prototype models with crop association. Based on these antecedents, we propose to socially and economically characterize 98 farming families in the six municipalities of Norte de Santander in order to understand the socioeconomic dynamics of Colombian small farmers, their standard of living, and well-being.

METHODOLOGY

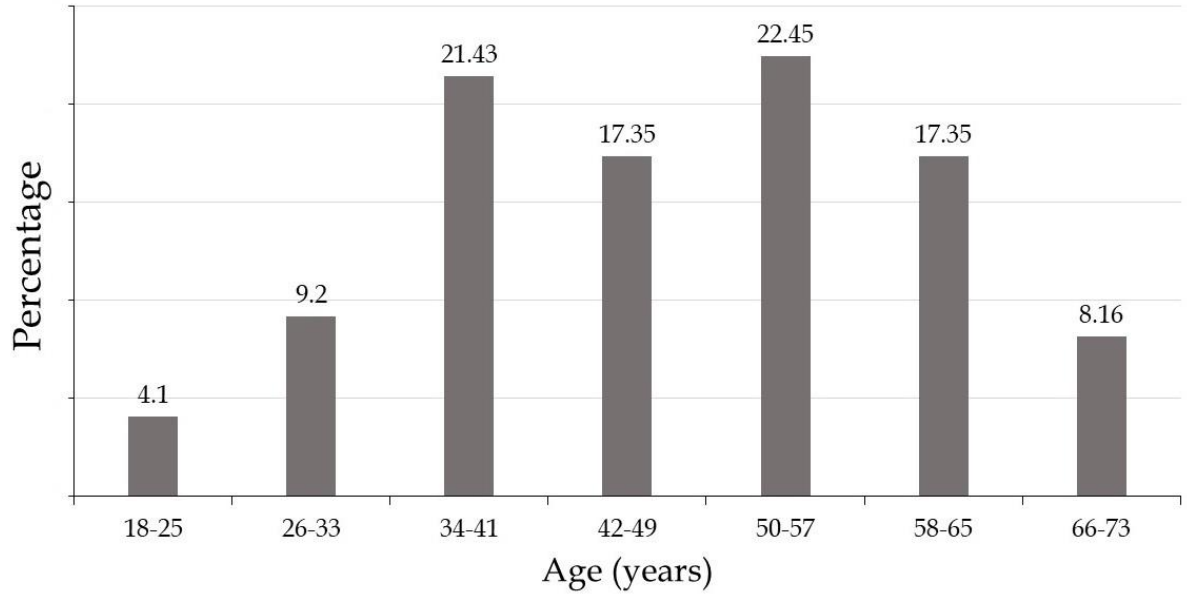
This research was carried out in 6 municipalities of Norte de Santander-Colombia (Abrego, Bucarasica, Bochalema, Pamplonita, Los Patios, Villa Caro). To carry out a social and economic characterization. To select the plots, individuals with an agricultural vocation were identified, with a minimum of one hectare available for the establishment of the Ecosembrando project's crop model. It was also ensured that the farmer was classified as a small farmer. Prior to the selection of beneficiaries, awareness-raising activities were carried out in each municipality with the support of the local authorities.

In the first part of the Ecosembrando project «Implementation of polycultures for the recovery of productive potential in the department of Norte de Santander». A non-experimental quantitative and transversal research was carried out in which a survey was elaborated and applied to inquire about the socioeconomic information of the 98 families benefited by the Ecosembrando agroecological project through the data collection on the following aspects:

1. Characteristics of the beneficiaries: Age, sex, education.
2. Family classification, number of children, family composition.
3. Services characterization and other social factors: health and the regime to which they belong, housing conditions (electricity, drinking water, construction aspects, food cooking), internet services, use of mobile telephony, property ownership, household appliances, access roads, number of animals, income-expenditure. Finally, descriptive statistical analyses were performed on the main variables with the support of statistical software. SPSS®.

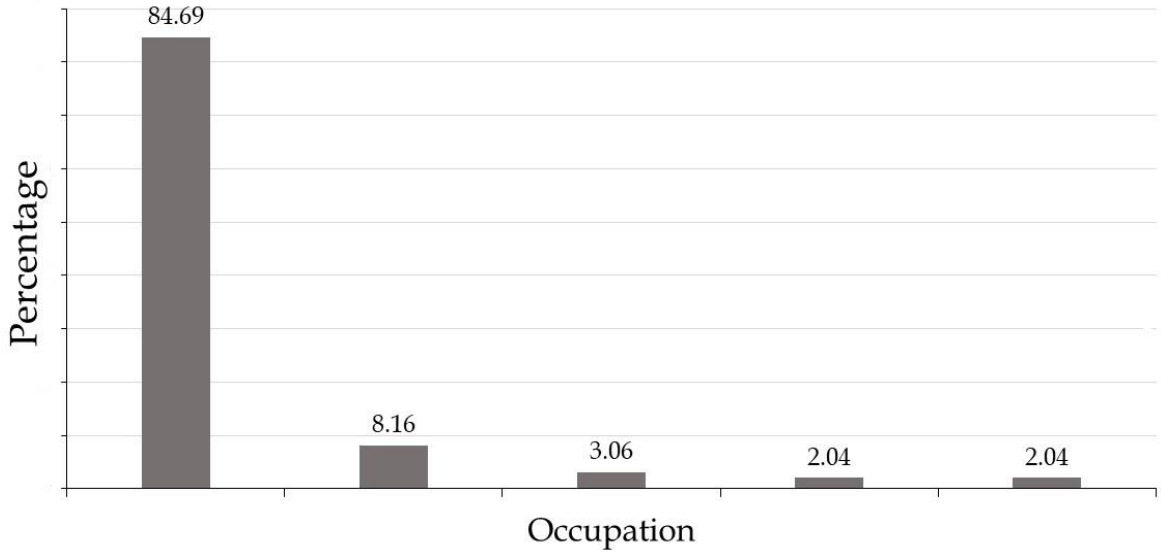
GRAPHICS AND CHARTS TABLES

The male gender predominated among the beneficiary farmers with 71.43%, compared to the female gender with 28.57%, demonstrating that majority of the rural population are men. The marital status of the beneficiaries shows that 39.80% are married, 29.59% are unmarried, 22.45% are single and 7.14% do not report their marital status (data not shown). The most frequent age range was between 34 and 57 years. Only 4.08% were under 25 years of age, indicating that the beneficiary population is predominantly older (Graphic 1).



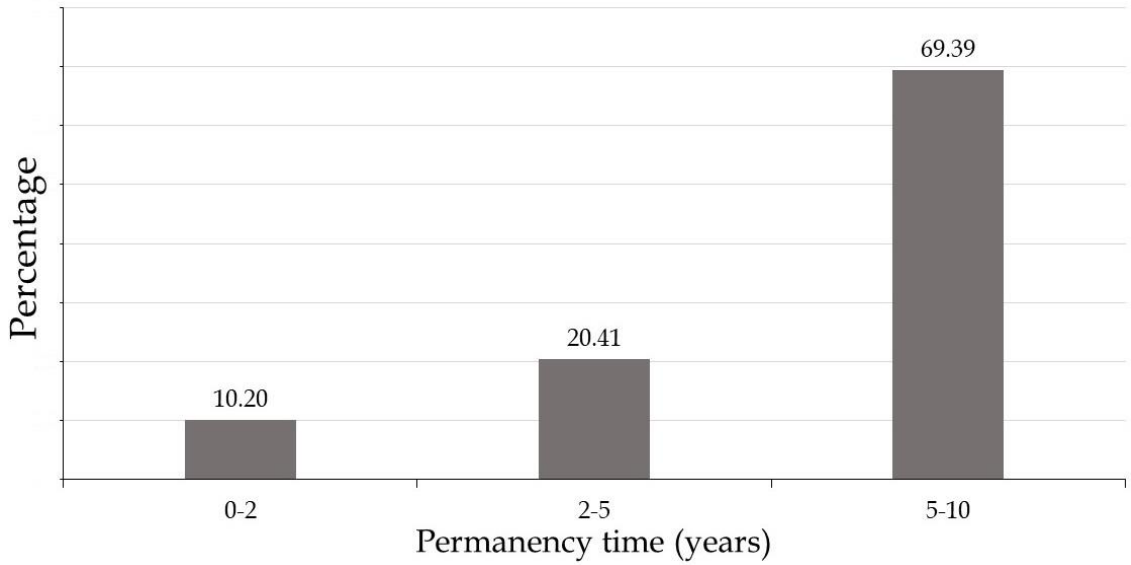
Graphic 1. Beneficiaries age range
Source: Authors

The predominant occupation among the respondents was a farmer (84.69%), followed by the housewife role represented with 8.16% and less than 3.06% as a shopkeeper, teacher, or student. The result highlights the dominance of owners with a farming vocation, with a reduced leadership of other landowner activities (Graphic 2).



Graphic 2. Beneficiaries' occupation
Source: Authors

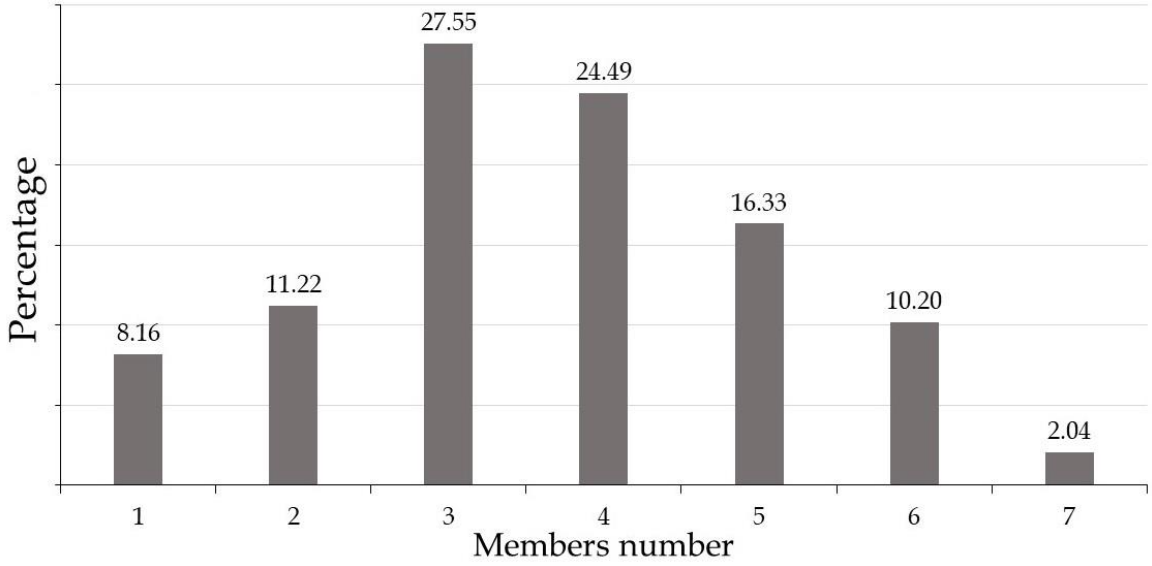
Farm representatives have been on the farm for more than 5 years (69.5%), only 16.33% for 2-5 years, and the rest for less than two years (Graphic 3).



Graphic 3. Time spent by beneficiary farmers on their farms
Source: Authors

The time spent in the area for more than 5 years by the project's farming families is in accordance with family traditions. Other publications have noted a sense of rootedness, cohesion, and bond with the Colombian rural property, the attachment to a specific geographic place where one lives daily, where strong affective, sensory, emotional, and cultural relationships are established (Rojas *et al*., 2021).

The highest percentages in the members' number of the family group showed that rural families are made up of 3 and 4 members and represent 52.04%. Families with 1, 2, 5 and 6 members have percentages between 8.16 and 16.33%. Finally, families with 7 members are underrepresented among the beneficiaries surveyed. This result differs from what was observed in other times when large families were the norm (Graphic 4).



Graphic 4. Household members number
Source: Authors

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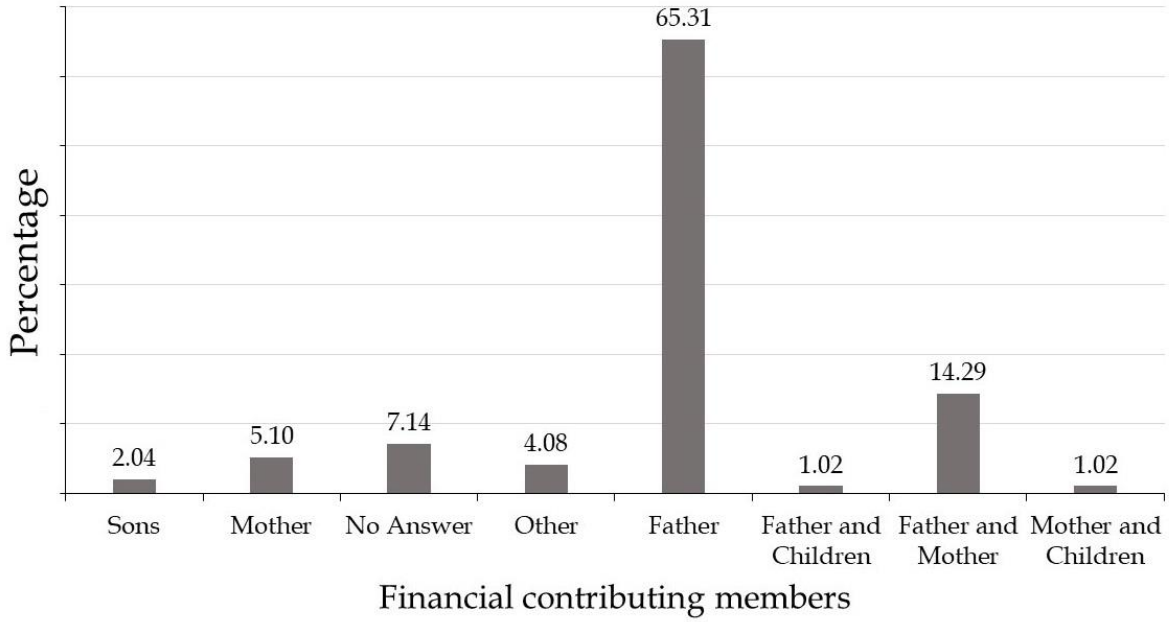
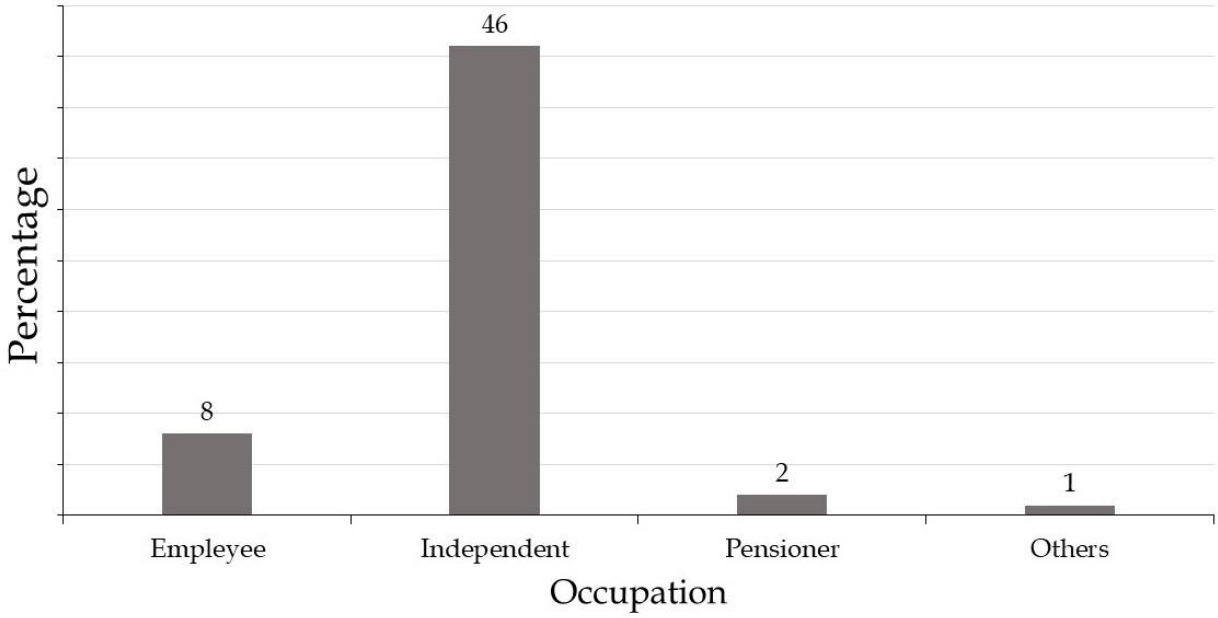
The economic support of the rural families included in the study is led by the father with 65.31%, while 14.29% is by the father and mother, and 5.10% is by the mother, indicating that the support role is carried out by the father, resulting in patriarchal families (Graphic 5).



Graphic 5. Family members who provide economic support
Source: Authors

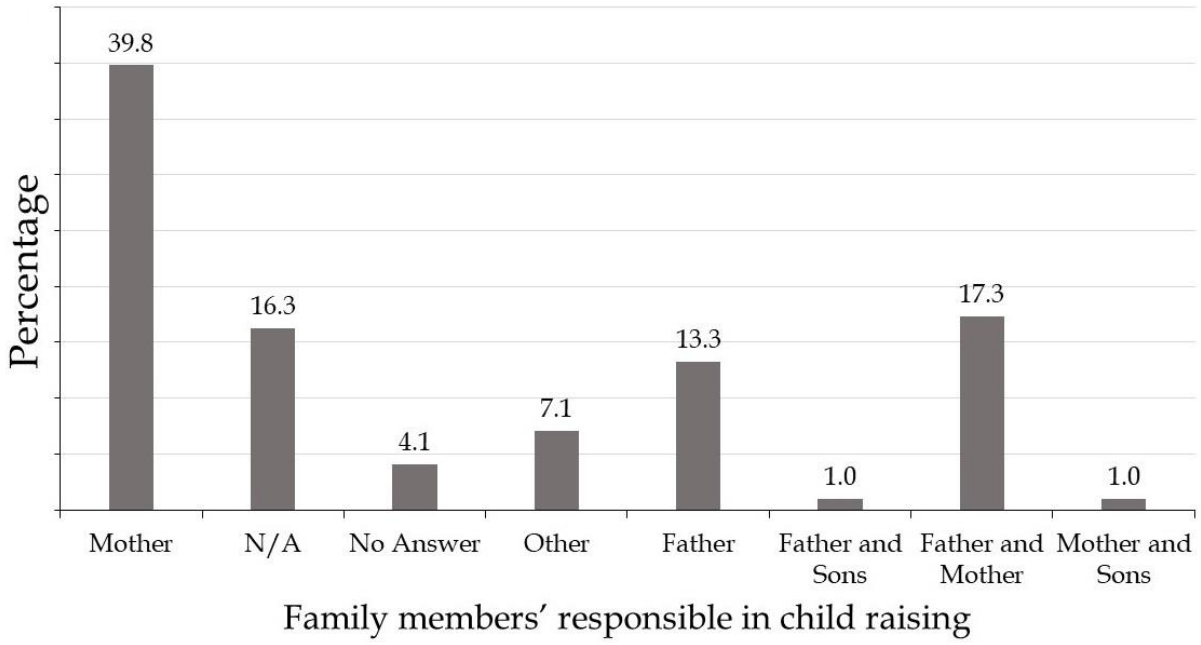
Most of the beneficiaries were self-employed (46%), to a lesser extent employee (8%) and pensioners (2%), which shows that they all have a support source and occupation (Graphic 6).



Graphic 6. Members' occupation of beneficiary families
Source: Authors

The results in relation to rural households and the various activities carried out (farming, gardening, masonry and crop sales) to generate income, both on and off the farm, are consistent with the findings of another research. In rural areas, members always take different advantages, capabilities and opportunities that the environment offers them (Cano *et al*., 2016), so activities as self-employed outweigh other occupations in rural families.

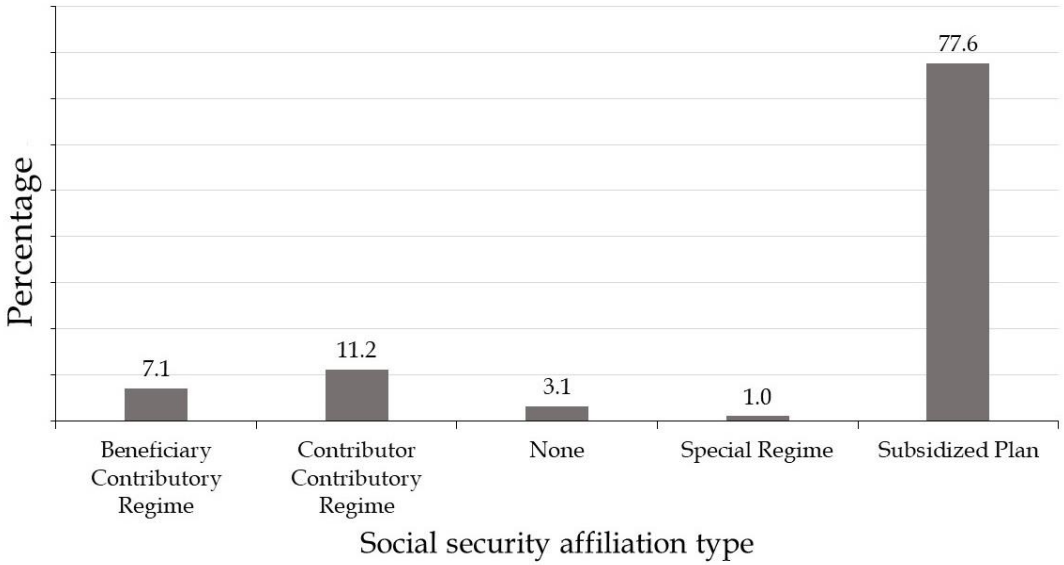
Child raising is carried out by the mother, with a representation of 38.78%, followed by the father with 16.33% and 15.31% father-mother, likewise 16.33% do not report who plays this role in their household. In contrast, 1.02% report that the role is played by siblings, sons-in-law and mother-son (Graphic 7).



Graphic 7. Family members' responsibility in child raising
Source: Authors

It is shown that in this Colombian region the mother plays the main role in primary education. In the family context, upbringing by the mother generates emotional security and accessible emotional ties capable of transmitting acceptance. In addition, in some cases, the mother's upbringing is accompanied by other family actors, who carry out practices with dynamic family processes under the peasant culture (Varela-Londoño, 2015).

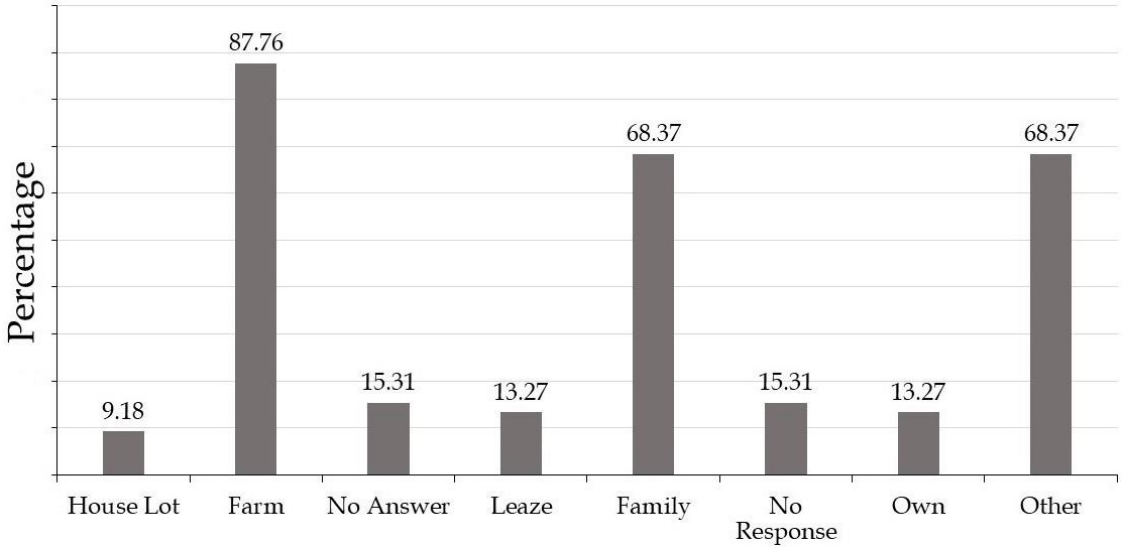
The majority of the beneficiary population is part of the subsidized health regime (77.55%), 18.36% belong to the contributory regime either as beneficiaries or contributors, the remaining 3.06% belong to a special regime and only 3.06% do not have access to a social security system. In general, it is considered that the population enjoys one of the fundamental rights to health care under the two Colombian models, Subsidized-Contributory (Graphic 8).



Graphic 8. Social security affiliation in 98 rural families in Norte de Santander
Source: Authors

It shows that the Colombian government policies allow access to health services in a subsidized manner. However, under the rurality condition, families living in areas far from urban centers continue to have low and difficult access, as well as low quality in the health services provision. These conditions expose the rural population to inadequate treatment in their affections, disturbing their physical integrity either by illness or by accidents derived from the development of rural work. (Rico y Beltrán, 2020).

Most of the beneficiaries live on a farm (87.76%), while 9.18% own a house on a lot, which indicates a purely rural population (Graphic 11). 68.37% of the dwellings of the farmers in the project are owned, 15.31% are rented and 13.27% are family dwellings, which reflects that the great majority of them have an exploitable, habitable property that will help them in their quality of life (Graphic 9).



Graphic 9. Type and property of rural dwellings of participating families
Source: Authors

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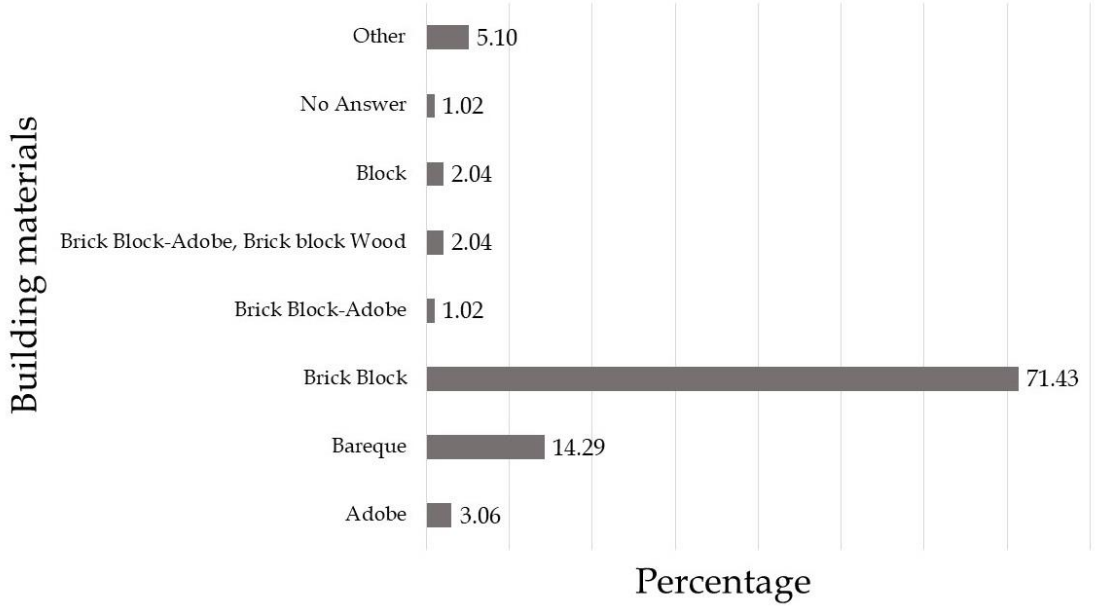
The predominant housing material of the beneficiaries was brick-block coast (71.43%), while 14.29% is a mixture of mud and interwoven reeds (Bareque) and the rest of other materials or did not answer the question. The results show that part of the population still keeps the type of housing of the conquest, highlighting the resources used are available in the region where the farmer lives. However, the farmer accesses the use of highly durable materials such as brick, which indicates that it involves a monetary effort that is converted into more durable housing over time (Graphic 10).

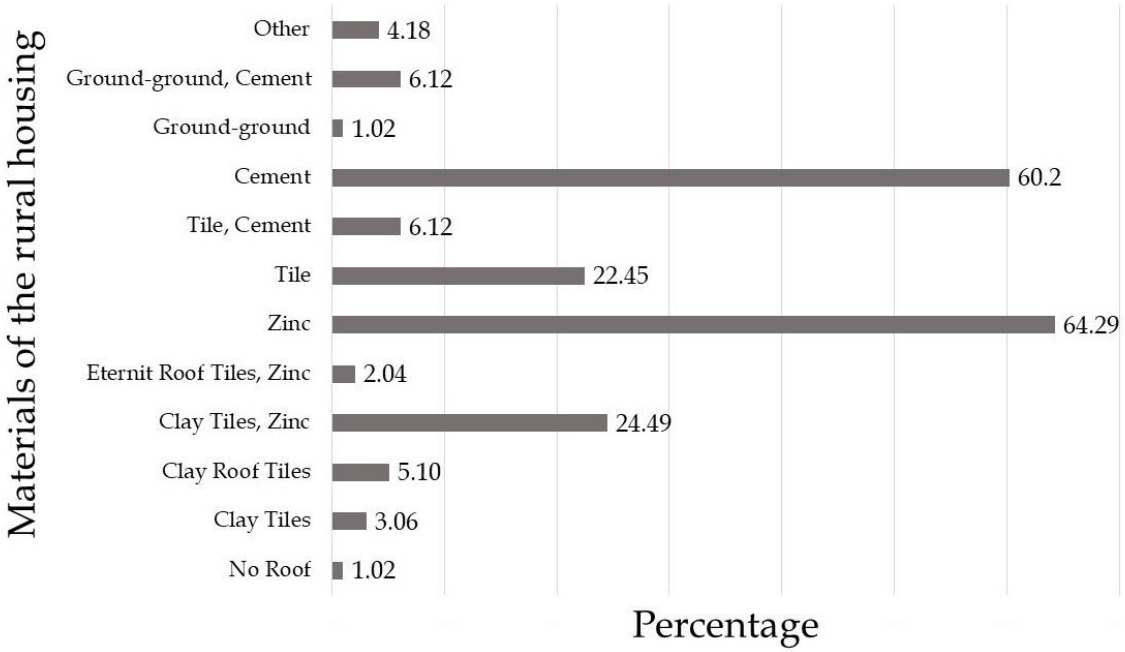


Graphic 10. Materials used in the construction of rural housing for families in the six municipalities of Norte de Santander
Source: Authors

Brick and block from industrial processes were easily and resoundingly inserted in rural areas, wooden houses and bareque have declined because of their lower comfort because they are associated with poverty and backwardness as other authors have pointed out (Bolaños, 2007; García-Bartolomé, 2001).

The predominant roofing material used in agricultural houses is metal zinc tiles (64.29%), while 24.49% use Eternit tiles or combinations of these or other materials. However, 1.02% have houses without roofs. Surveys show that the majority of farmers have a roof cover that protects them from adverse weather conditions. However, this also demonstrates the progressive cultural and economic acquisition observed in the cities. In addition to protecting and sheltering farmers, the roof on agricultural housing allows the house to maintain a durable condition over time and helps to protect household goods. The floor material is cement in 60.20 % of the dwellings, tile in 22.45 %, tile-cement in 6.12 %, earth in 6.12 % and earth-cement in 4.08 % of the farmers surveyed. The use of tile and cement determines the economic purchasing power of the producers relating to the

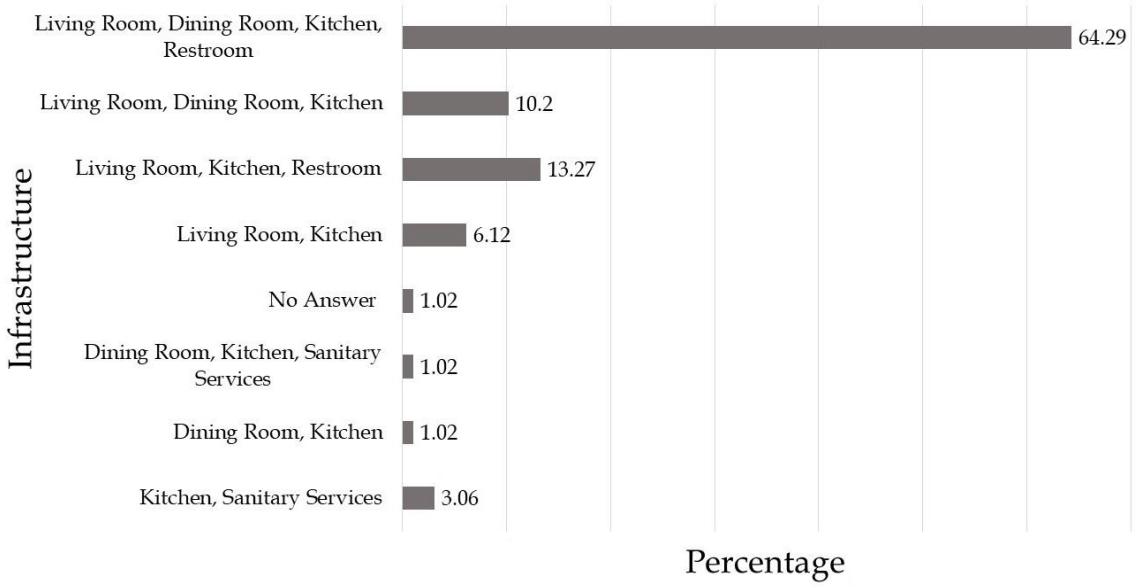
housing structure. The benefits of high durability materials in the home include improvements in cleaning processes and storage of agricultural inputs (Graphic 11).



Graphic 11. Floor and roof materials of family dwellings
Source: Authors

The thatched roof has lost its importance and it has been replaced by metallic tiles, as other authors have pointed out. (Reina-Miranda and Lopez-Motavita, 2020). Traditional housing with roofs made of materials found in the region as clay, straw or wood are not representative. The results coincide with trends in other regions of Colombia. It has been shown that over time, farmers have improved their houses with modern, technified, and environmentally friendly materials that allow them to store food, animals, and inputs. (Trujillo-Castellanos y Ortíz-Díaz, 2017). In terms of flooring materials in rural housing, the use of materials such as cement or tile stands out in the building process, even though the last one is used in a lower percentage, the result may be due to the urban influence on housing construction. The materials used in construction demonstrate that rural housing in the country has advanced even though low-cost materials continue to be used (Posso-Hernandéz, 2019). The use of materials commonly used in urban areas may be influenced by improvements in the rural economy.

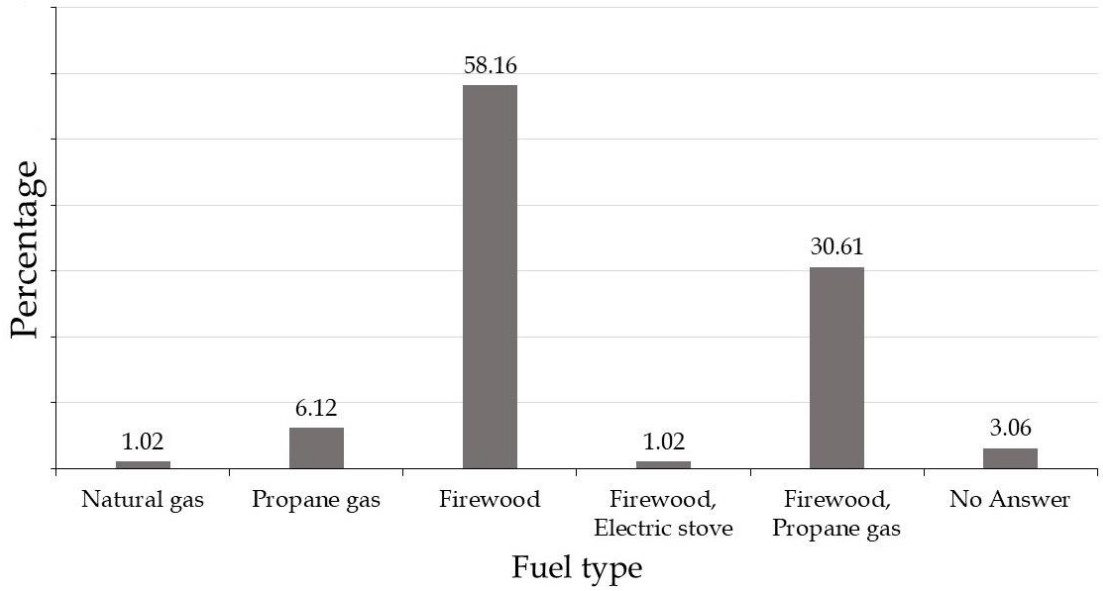
Beneficiaries' homes that have most of the areas in Colombian homes (living room, dining room, kitchen, toilets, represented the highest percentage of farms with 64.29 %. Farms with areas such as living room, kitchen and toilet have the second highest percentage with 13.27%, followed by farms with living room, dining room and kitchen (10.20%). The results show that most of the farmers' dwellings farmers have separate spaces in their homes, allowing them to carry out daily activities, as well as spaces for sharing (Graphic 12).



Graphic 12. Infrastructure in the families' homes.
Source: Authors

The home is maintained as the family space, it is the shelter of people from intruders and the outside world. In addition, the spaces that are delimited in rural areas are related to the social role that conditions their use (Orozco-Farfán y Rojas, 2006). The farm household organization space is affected by the way in which the farmer appreciates his space, especially the social interaction that exists in public and private areas.

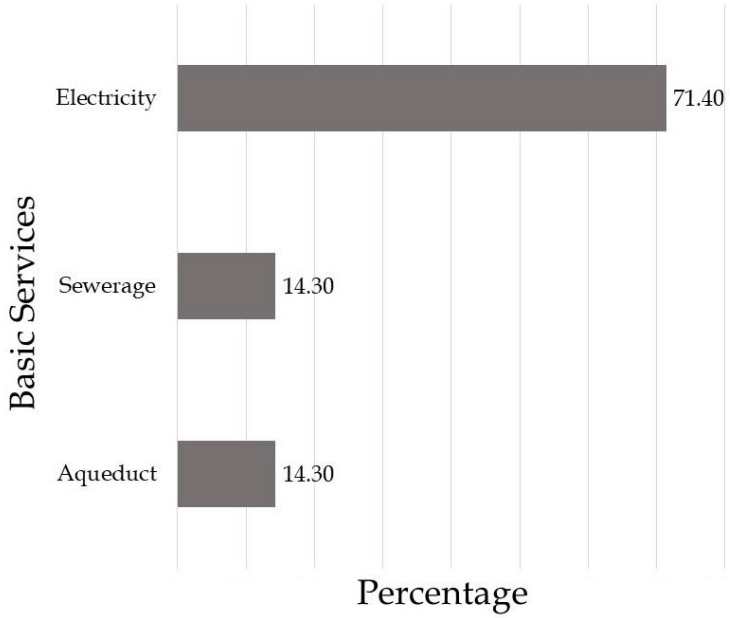
A total of 58.16% of the families use firewood for cooking, 30.61% use propane-wood gas, and 6.12% use propane gas; a very small number use natural gas or electric stoves, which shows that wood is the element most used as energy in the cooking of these households (Graphic 13).



Graphic 13. Types of fuels used for cooking food by families in six municipalities of Norte de Santander
Source: Authors

Food preparation in rural areas is an essential activity and is an indispensable support for agricultural work. The low use of propane gas or electricity may be due to the cost of propane gas and the difficulty of transporting it along the roads through which the population travels, and in the case of electricity, due to the lack of access to cooking elements for use with electricity. However, the use of firewood as the main fuel source coincides with research showing that firewood is mainly used as a cooking fuel in rural areas. (Orozco y Rojas, 2006). Although firewood is an important element in food preparation, farmers know the forest so well that impacts on the forest are generally low due to sustainable management. (Castellanos, 2011). Likewise, the quantity and type of fuels existing in a region play an important and determining role in their use to cook and the cooking technologies. (Sierra *et al*., 2014).

Of the beneficiaries, 71.4% have electricity service, and 14.3% each have sewerage and aqueduct service. The results indicate that the rural area has access to electricity, although the coverage of water and basic sanitation such as sewerage and aqueduct are scarce. The basic services of electricity, sewerage, and water supply, in general, are vital to maintaining the quality of life of a population, so the results show that there are still some deficiencies that deteriorate the quality of life of the rural population (Graphic 14).

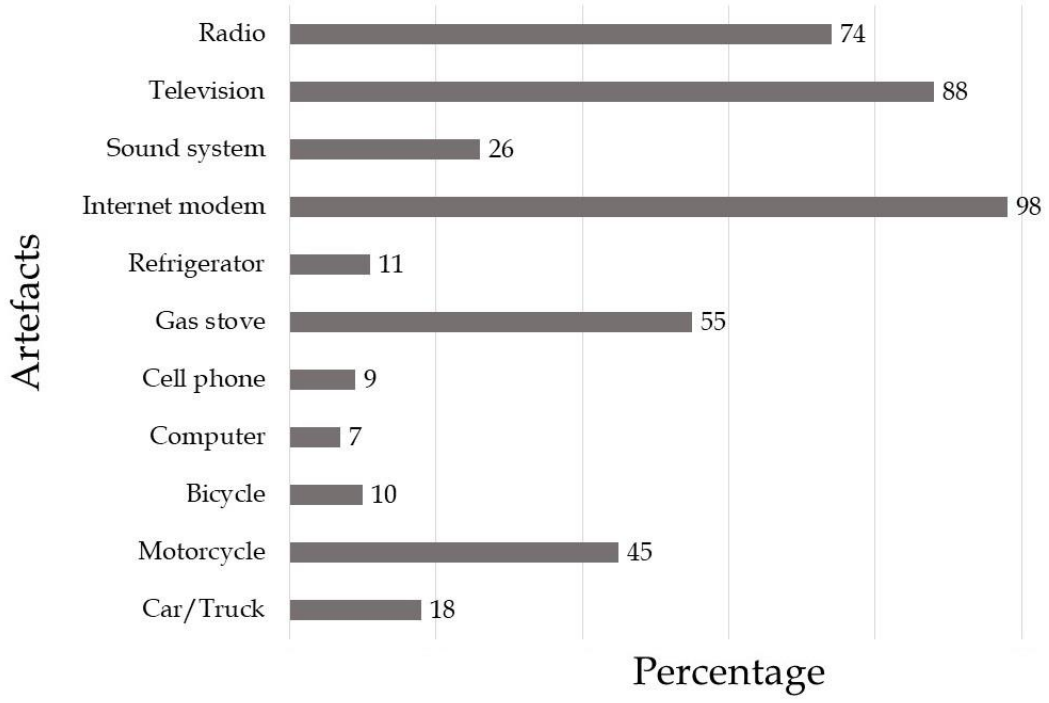


Graphic 14. Basic services frequency in rural household housing
Source: Authors

It has already been stated by other authors that the most extensive networks in rural areas of the country are those of electric power. However, the situation is not satisfactory, since the municipal aqueducts are only sufficient for the urban centers and have serious deficiencies to cover the needs of the rural areas. Likewise, sewerage networks cannot be extended in rural areas, while septic tanks, although known, are not widely used in rural areas (Orozco-Farfán y Rojas, 2006). On the other hand, it is known that the value of both

the physical artefacts and the social aspects and relationships that operate between them, constitute a conscious articulation between technological determinism and social constructivism that humanity is currently facing (Rincón-González, 2006).

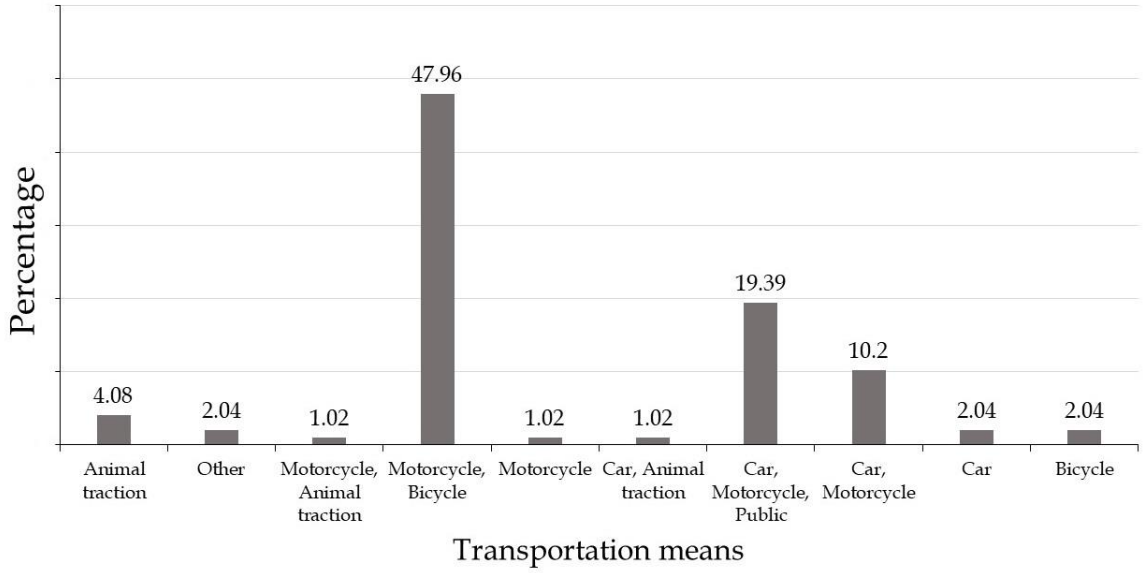
The devices most frequently used by project beneficiaries are the Internet modem (98%), television (88%), radio (74%), gas stove (55%), and motorcycle (45%). Only 18% have a car truck, 11% a refrigerator, 9% a cell phone, and 7% a computer, reflecting the disparity (Graphic 15).



Graphic 15. Artefact's presence in the rural household in the 98 families of Norte de Santander
Source: Authors

Farmers have acquired means of communication such as modems, radio, and television, which end up being the media to which they devote most of their time. (García Ramírez, 2011). Technological tools, although they contribute to improving production processes and improve the use of acquired resources, must be managed in a utilitarian manner, making the best possible use of them. (Durán-Castillo, 2019). Although all technologies are not always within everyone's reach, it is known that mobile telephony is a fundamental tool for communication in the rural population, offering wide-ranging social benefits such as health, employment, education, participation in events and/or projects, connection with family members, as well as access to digital education (Caceres-Ramírez, 2018).

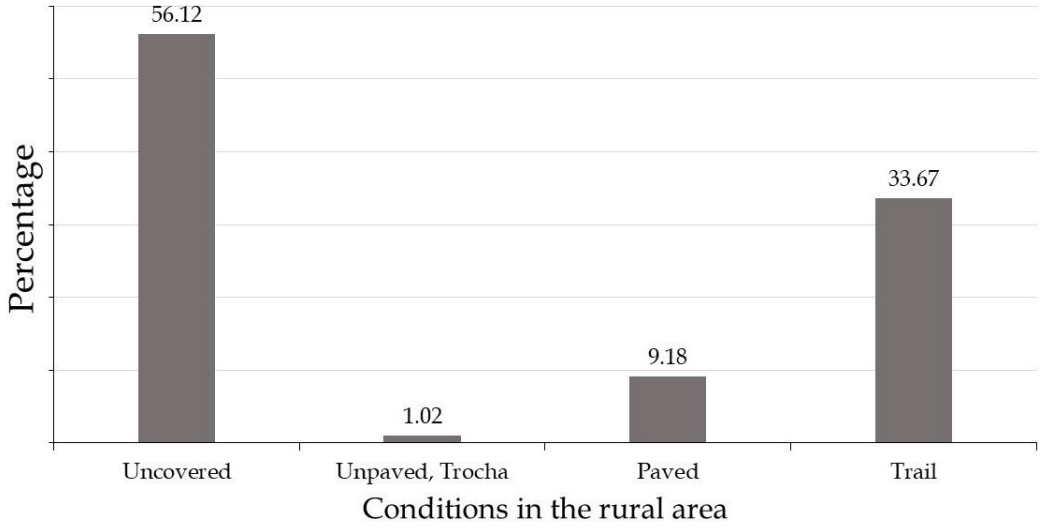
The means of transportation of the farmers surveyed are mainly by motorcycle (47.96%), others have a car and motorcycle (19.39%), 10.20% have a car, 5.1% have no means of transportation of their own and use public transportation; the rest use combinations of these or animal traction or bicycles, which reflects the low purchasing power of the farmers with respect to conventional means of transportation (Graphic 16).



Graphic 16. Means of transportation owned by farmers in six municipalities of Norte de Santander
Source: Authors

The social development of mankind has required mobilization means of both people and products. Transportation has evolved according to local circumstances and new market requirements. The transport sector is one of the most complex components of the rural economic system, it is conceived as part of rural development and this, in turn, from the activities carried out by the farmer. (Flórez-Jiménez y Ramírez-Rojas, 2007) to move from one place to another. Influencing the purchase of their vehicles, leaving behind animal transportation, and increasing the use of motorcycles in these sectors.

Regarding the state of the roads, 56.12% are classified as uncovered, 33.67% trail, and very low percentage 9.18% paved, which implies difficulties in the transport of agricultural inputs, food and crops as well as medical services (Graphic 17).



Graphic 17. Road conditions in the rural area
Source: Authors

The lack of adequate road infrastructure on access roads negatively impacts the generation of income for producers and the promotion of new crops. For this reason, the acquisition of inputs for production becomes more expensive and it is even more difficult to access new and better markets for the sale of goods and services, thus favoring the emergence of intermediaries who live off the farmer's labor (Villar y Ramírez, 2014). Only with greater road connectivity will there be public and private investments that allow farmers to buy food and have access to school places. And with greater spending power, households can set up businesses that supply local markets with goods and services. (Sánchez-Rojas, 2016).

CONCLUSIONS

The most frequent age of the family representatives was between 34 and 57 years old, characterized by being mostly farmers, almost 70% with more than 5 years on the farm, with a predominance of 3 to 4 members in the family, where more than 65% of the father is the main contributor.

The education of the children falls on the mother, followed by the family group (father-mother), siblings, cousins, uncles or members of the closest family nucleus, with single parenthood predominating, followed by biparentalism, where at least one member of the family is in charge of the children's education. The number of family members varied between 3-4 members, with 27.55% - 24.9%, followed by 5,2, 6, (16.33%, 11.22% and 10.20%) and 1 (8.16%) respectively, being medium-sized families, with a tendency to be less numerous.

Most of the houses are characterized by having a living-dining room, kitchen and sanitary services, rooms for each member of the family, with separation of social, family, and food areas, built mostly of brick-block 71.43% and only 3.06 to 14.29% of the houses conserve bareque and adobe, respectively, as traditional rural construction materials, which today are rescued by modern architecture.

Most families use firewood for cooking, and only 30.61% use firewood and propane gas as an alternative for food preparation, 71.4% have electricity and only 14.3% have sewage and aqueduct services, meaning the majority have access to electricity, but a large minority do not have water and sewage, which are vital services that have an impact on food preparation and the health of individuals.

Most families own a radio, television, gas stove, and modem with internet access and entertainment facilities derived from the electrical access they have. For the rural dwellers, 47.96% own a motorcycle, while only 10.20% own a car and 4.08% own traction animals, the first two being the most predominant and used for transportation, significantly displacing the use of animals for the mobilization of inputs and foodstuffs. Similarly, access roads are unpaved 56.12% and dirt roads 33.67%, which causes serious problems in

transporting food and agricultural inputs to the farms and distributing the harvests, increasing the real value of inputs and their sale in urban areas.

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