**Your name**

Patronela Nhamilando Vilanculo

**Your student ID number**

**UM71040SAG80193**

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**I. INTRODUCTION**

Rural extension is an educational process that aims to transmit useful information to the population, helping them to learn how to use it to improve their lives, as well as that of their families and communities. Extension can be combined or integrated with other technology transfer activities, as in most projects to increase production aimed at the market (AMÉRICO, 2010).

Agriculture is an economic activity that began approximately ten thousand years ago, when man began to plant, cultivate and perfect edible herbs, roots and trees and domesticated, placing under his dependence, some species of animals, in exchange for food and protection it could offer. With agriculture, man went from being a collector to a food producer (ROMANIELLO & THIAGO, 2015).

The success of conservation agriculture is driven by the behavior of farmers when they receive information disseminated by extension services and NGOs in Manica. The technicians of the project have endeavored to transmit techniques to the farmers, with a view to guaranteeing the progress of the implementation of the project and, consequently, the achievement of the desired production levels within the scope of conservation agriculture.

Since according to (BARROS & FREIXIAL, 2011), conservation agriculture aims to produce by improving soil fertility, so that future generations can obtain productivity equal to or greater than that obtained in the conventional way, improving their quality of life .

Conservation Agriculture in Mozambique has been an increasingly accepted practice by agrarian producers who see this technique as a way to increase productivity with low production costs and greater soil protection.

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**1.1. Problem**

According to MOUZINHO et al., (2013), conservation agriculture in Mozambique has been promoted since the mid-1990s and according to MILDER et al., (2011), NGOs such as FAO, GTZ among others, together with farmers has focused its attention on harnessing the potential of conservation agriculture as a means of achieving greater agricultural productivity and sustainability, as well as resolving the issue of food insecurity.

The Macate District has an agricultural potential, which can be noted for the existence of fertile soils typical of the tropical climate, which makes it suitable for the production of species such as vegetables, grasses, tubers, fruit trees, among others, but in recent years, since 2013 irregular rains have occurred, in face of this situation the extension services and NGOs have encouraged farmers to invest in conservation agriculture, with a view to improving production levels since conservation agriculture reduces practices aimed at wear and tear of the soil and uses techniques that contribute to the sustainability of the soil.

However, despite the technical monitoring, there is a predominance of the use of unsuitable techniques such as burning stubble for cleaning purposes in the field, thus eliminating the presence and action of microorganisms in the soil, whose function is to produce harmonics that stimulate the plant growth and improving soil performance, therefore, the following starting question arises: To what extent do extension services contribute to increasing production levels through Conservation Agriculture in the District of Macete?

**1.2. Justification**

The choice of the topic “Conservation Agriculture - Evaluation of the Contribution of Extension Services in the context of the Implementation of Conservation Agriculture in the District of Macate” was due to the fact that extension services play an important role in Mozambique, particularly in the district of Macate - Manica, with regard to the process of disseminating production techniques in CA and agro-ecological, this is so that these techniques are known and practiced by farmers.

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Farmers need to be monitored, informed, in order to encourage farmers to produce while conserving the soil so that it is beneficial for longer and to guarantee food security for families in the locations of Marera in Macate, by increasing production.

Conservation agriculture is a production system that reduces practices that contribute to soil degradation throughout the production process, such as the use of instruments that compact the soil, the burning of crop residues from the previous campaign on the soil surface and the use of chemicals with a view to increasing soil fertility. As it is a form of production that guarantees the sustainability of the soil, it is assumed that by developing conservation agriculture in accordance with the guidelines of the extension services, it is possible to produce and gradually increase production levels.

**1.3.Objectives**

**1.3.1. General:**

• Assess the contribution of Extension Services in the scope of the Implementation of Conservation Agriculture in the District of Macate.

**1.3.2. Specifics:**

• Characterize conservation agriculture practiced by farmers in the locality of Golo;

• Describe the activities disseminated by the extension services in the context of the implementation of conservation agriculture;

• Compare the production levels of (Maize and Sweet Potato) crops produced in Conservation Agriculture before and after assistance from extension services.

**II. LITERATURE REVIEW**

**2.1.Brief history on Rural Extension**

According to ADAMS (1982), quoted by SAMBO (2003), the term extension was initially used in connection with education about 100 years ago. The extension was then used by the University of Cambridge, England to describe the method of spreading knowledge, the populations that lived around it.

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The emergence of the Extension is dealt with at various historical moments in the formation of humanity. However, the institutionalization of rural extension took place in the United States in the middle of the 18th century, in 1914, at a time of great transformations in various sectors of the American economy, starting with the industrial revolution (ROMANIELLO & ASSIS, 2015).

The pioneer of this system was Richard Moulton, lecturer in literature. Although the first extension had no connection with agriculture, it was characterized by four elements common to modern agricultural extension programs “the knowledge to be disseminated, the people to be served, the central extension organization and the intentionalist or the man of contact ”(SAMBO, 2003).

Most extension services in Africa emerged in the late 1960s and early 1970s, as a result of the independence of many African countries. In Mozambique, agricultural extension services have been practiced since the colonial period in the production of sisal, sugar cane, cotton, rice and coconut. At that time, the “commodity based approach” was the extension model practiced by agrarian companies. (MUCAVEL & MABOTE, 2005).

**2.2. Basic concepts**

**2.2.1.Extensionist**

According to GASPAR (2010), the extension agent is an agent of change, he intervenes to promote change, in order to improve the lives of farmers and their families, in other words the extension agent must be able to plan the work extension, to organize its realization and in general to manage and effectively control an extension office and its activities.

**2.2.2. Rural Extension**

Second (DNEA, 2008), Rural Extension is a continuous process of transmitting information (communication dimension) and supporting the target group so that it can acquire knowledge, skills and attitudes (non-formal education dimension) necessary for its own development .

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**2.2.3. Technical assistance**

Technical Assistance is defined as a non-formal education service, of a continuous nature in rural areas, which promotes processes of management, production, processing and commercialization of agricultural and non-agricultural activities and services, including agro-extractive, forestry and TECHNICAL ASSISTANCE EMPLOYMENT AND RURAL EXTENSION (EMATER, 2010).

**2.3. Conservation agriculture**

According to BARBITO (2015), conservation agriculture is an agricultural system that uses a set of agricultural techniques that have the function of protecting the soil from erosion, improving soil fertility, increasing its profitability, contributing to the protection of the environment, thereby improving social sustainability.

According to NHANCALE (2010), conservation agriculture is a set of practices for managing soil, water and crops with the aim of increasing agricultural productivity while conserving natural resources.

The practice of conservation agriculture is to make use of the land for agriculture without revolving the soil. Thus, residues from previous crops remain on the soil surface, and sowing is done directly on the mulch (ORAM & ROSA, 2010).

**2.3.1. Principles of conservation agriculture**

According to CALAGARI & TAIMO (2005), the conservation agriculture system has been developed on different continents, in the most diverse agro-ecological regions. This system is governed by some fundamental principles in the regions of the world where this agriculture is developed, and its application can promote benefits leading to the development of sustainable agriculture that basically consists of:

• Do not remove the soil (minimum disturbance of the soil), sowing directly on the soil;

• Keep the ground covered as much as possible;

• Rotate crops and cover crops, with greater diversification and consequently more balance.

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**2.4. Importance of Conservation Agriculture**

The countless experiences of farmers and the results obtained by research show that the conservation agriculture system is important because it promotes soil conservation and recovery, makes better use of moisture, and nutrient balance, improves the productive capacity of the soil, reduces costs production and poverty reduction in rural areas.

The improvement of the processes of use of the soil, management of the soil, and maintenance of the productive capacity of the same, is a way to make possible the maintenance of the family in a sustainable way and compatible both with the natural resources under the point of view of environmental quality, as as in the socio-economic aspect, in the aspect of food security and quality of life of the peasants (CALAGARI & TAIMO, 2005).

**2.5. Challenge for Conservation Agriculture**

Conservation agriculture has the potential to improve the lives of farmers, but its success is not automatic, it is possible to face several challenges that can be highlighted according to (CALAGARI & TAIMO, 2005):

• Change in attitude: Moving to conservation agriculture involves a fundamental change in attitude. For example, farmers must abandon their traditional practices of preparing the land with a hoe or plow and, on the contrary, rely on organic farming, plant roots and soil microorganisms;

• Crop Rest: Keeping the soil covered is important in conservation agriculture, but it can be difficult because farmers use crop remnants as fodder to cover the roof, fuel and as feed for animals. If it is to keep the soil covered, farmers will have to protect their fields and find alternative sources of fuel and fodder;

• Other challenges: it can be difficult for farmers to work in groups, form organizations or get the support they need to start Conservation farming.

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**III. METHODOLOGY**

**3.1.Description of the study area: Limits**

The present research was carried out in the locality of Marera, Macate district is located in the center of the province of Manica in Mozambique. It was created with the elevation of the administrative post of Macate to district in 2013, to which was added the administrative post of Zembe, both belonging to the district of Gondola. The seat of this district is the village of Macate.

It has a border, to the north with the city of Chimoio and the district of Gondola (also to the east), to the west with the district of Vanduzi and to the south with the district of Sussundenga. MINISTRY OF STATE ADMINISTRATION (MAE, 2005).

**3.1.1 Administrative division**

The district is divided into two administrative posts, Macate, and Zembe, composed of the following locations:

**Macate Administrative Post:**

• Chissassa

• Macate

• Marihuana

• Marera

**Zembe Administrative Post:**

• Good view

• Charonga

**3.1.2. Savings and Services**

Agriculture is the dominant activity and involves almost all households compared to other districts; agriculture is practiced on a rainfed basis and manually on small family farms and on a combination of crops based on local varieties such as maize, cassava, beans cowpeas, peanuts, sweet potatoes, rice, sorghum and butter beans. Livestock promotion has little potential, but private investment and tradition in cattle breeding and the use of animal traction.

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Diseases and the lack of funds and extension services are the main obstacles to their development. The district maintains commercial links with other districts and provinces, products are traded mainly in local markets, but also in local districts. (MAE, 2005).

**3.1.3.Characterization of the target group**

The target group is composed of 25 farmers, 18 women and 7 men who have been practicing CA since the second agricultural campaign in 2012, and are organized in groups of 25 farmers to facilitate the work of extension technicians where they are dedicated to crop practices such as: Maize, cowpeas, peanuts, manioc, vegetables and sweet potatoes.

**3.2.Sampling**

It is the procedure by which a group of people or a subset of a population is chosen in order to obtain information related to a phenomenon, and in such a way that the entire population that is interested is represented. The Sampling Plan serves to describe the strategy to be used to select the sample. This plan provides details on how to proceed with the use of a sampling method for a given study (POCINHO, 2009).

**3.2.1.Sample selection**

For the selection of the sample, non-probabilistic sampling was used by typical or intentional, where according to GIL (2008), non-probabilistic sampling by typical or intentional consists of selecting a subgroup of the population that, based on the available information, can be considered representative of the entire population, however it requires considerable knowledge of the population and the selected subgroup.

In turn, MARCONI & LAKATOS (2003), justify that in this type of sampling, the researcher is interested in the opinion of certain elements of the population, even if it is not representative of it, admitting that they can somehow represent the universe.

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**3.2.2 Defining the Sample Size**

To obtain the representative sample size in this research, the idea of ​​MATAKALA & MACUCULE (1998) was obeyed, where they state that the minimum sample for the study depends on the total number of the population or universe. 15% of the sample is defined if the total population covered is not greater than 100, 10% if it is in the range of 100 to 500 and 5% if it is greater than 500. To define the sample size, 10% of the sample was removed. universe of 250 farmers, having obtained 25 farmers as representatives and 2 extension technicians were interviewed which totaled a sample of 27 interviewees. Based on the sample, it was possible to obtain the necessary data to proceed with the research through the results obtained in the interview. From the sample extracted, farmers were grouped according to the table below.

**Table n ° 1: Farmers interviewed**

|  |  |  |
| --- | --- | --- |
| **Number of farmers interviewed** | | |
| **Age** | **Female** | **Male** |
| Youth (18-35) | 9 | 2 |
| Elderly (60 onwards) | 2 | 0 |

Source: Author (2020), based on research data.

**3.3. Data collection technique**

For data collection, the following technical procedures were used: Bibliographic review, direct observation and semi-structured interviews, where according to GIL (2008), the choice of these methods in the research is due to the fact that they assist the researcher in the clear understanding of perceptions and discourses of the interviewed individuals, in a social context in which they are inserted.

**IV. MAIN CERTIFICATION SYSTEMS IN BRAZILIAN AGRICULTURE**

The number and types of certification - available to stakeholders main chains of Brazilian agribusiness - depend to a large extent on characteristics of international markets and, failing that, of the preferences of Brazilian consumers and the pro-activity of organs both for inspection and for inducing new methods / forms production, distribution and consumption.

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The certification process is voluntary in nature, depending on thus of the cost / benefit analysis by the producers and their organizations. IT'S a process of continuous improvement of the product and the production system: existence of documents and records that guarantee traceability, the system monitoring and evaluation, the standards that regulate certification, audits compliance check and the requirement to comply with the legal apparatus, induce progress in this direction. In addition, the presence of normalizing organs and accredited certifiers, the existence of seals and certificates and the network or international alliances that give “credits” to stamps and certificates, allow additional advantages in terms of market competitiveness.

In any of the certification cases considered, either with criteria environmental, social or quality according to the attributes of the ISO 9000 series, or their combination, membership decisions have mostly been driven by the real possibility of adding value to products: overpricing, replacement and cost savings, new markets or the prospect customer loyalty. In this regard, it should be noted that even in traditional markets such as organic, with strong environmental appeal, the The main driver of changes are still economic gains. That is, the environmental attributes are strategic complements of competitiveness (economic) markets.

An important aspect, especially in the certification processes of family farmers, is the prerequisite for internal organization and the actors of the productive chain as a whole. In addition to gains in direct aggregation values ​​resulting from continuous improvements in the links of the chain, the comprehensive certification perspective (inputs for production, field and post-harvest, distribution and consumption) brings opportunities for new arrangements in the chain, whether due to technical or economic motivation, resulting often in the main competitive advantage.

Thus, the ongoing certification processes offer opportunities actors in a given production chain, to focus and / or anticipate trends of the market, of building new competitiveness strategies (arrangements for actors), to develop new products and markets (quality attributes environmental and social responsibility).

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**4.1 ISO 9000 series certifications and ISO 14000 in agriculture**

The certifiable standards of ISO 9000 and ISO 14000 have produced important consequences for the growth of world trade, by facilitating the exchange of information on the specification of products, services and technologies.

Currently, ISO standard certifications are becoming frequent in the main industries and in the trade in services, in view of the demands of the markets in relation to the traceability of the production and the need for mechanisms that guarantee quality of products and services on the market.

To have an idea of ​​the extent of these changes, it is worth remembering that even end of 2003, according to the International Organization for Standardization - ISO (2005), more than 550 thousand companies were certified worldwide, according to ISO 9001 standards (management systems quality) and more than 36 thousand companies according to ISO 14000 standards (systems environmental management). Although it is voluntarily adopted, with the processes of globalization of markets and the very credibility that certification ISO brings to the companies present in the international market, the process of certification has become almost a mandatory requirement for the competitiveness: a minimum quality platform in processes production of manufactured goods and services.

In the Brazilian case, the process of adhering to ISO standards began in 1989, and currently, according to data from the National Metrology Institute,

Standardization and Industrial Quality (Inmetro), (INMETRO, 2005a and 2005b), 5,900 companies certified by ISO 9001/20002 and little more than 600 companies under the ISO 14001 standard.

In Brazil, similarly to international trends, certification of companies that operate in agricultural activities by ISO norms do not happened at the same pace as the industrial and services sectors. This fact is due to to the characteristics of the standards that adequately mirror processes but with a more complex application for agriculture and livestock, in which many stages still depend on natural or artisanal processes.

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Reflecting such difficulties, certifications in the agricultural sector are being concentrated in the post-harvest, processing, processing primary and industrialization. In Brazil, only 18 ISO certificates 9001: 2000 and 7 ISO 14001 certificates were issued, for activities agricultural activities that include production systems in the field. As a result, in the agricultural sector, and in particular, in the activities field, the market itself has been inducing the implementation of norms specific to each of the sub-sectors.

A successful example is forestry production for wood or pulp and paper production, currently with Program for standards Endorsement of Forest Certification Scheems (PEFC) and Forest Stewardship Council (CMF), both widely accepted and credible in the market International.

In Brazil, this subsector still has the Forest Certification (Cerflor) linked to the Brazilian Forest Certification Program (PEFC).

Besides the forest area, several other agricultural activities are developing or implementing their own certification systems. Among them, to highlight organic certification for the specificity of the code of conduct which incorporates (non-use of industrialized inputs, including pesticides), in this case converging to Ifoam standards.

In addition, it is important to quote the certifications / conformity assessments prevailing in the fresh fruit market, especially in Europe, whose tendency is the almost compulsory consolidation of a code of conduct drawn up by retailers present in the markets, where it is worth mentioning the norms certification of Integrated Production, Eurep-GAP and BRC, as described below.

**4.2 The Eurep-GAP Certification, BRC and Integrated Production3 (PI)**

In Europe, in recent decades, the fresh fruit and vegetable market has undergone major transformations, including the establishment of the total number of commercialized fruits meet one or more protocols for quality in its broad concept.

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Among the certifiable protocols and standards known in that market,vin addition to the ISO 9000 (quality management) and ISO 14000 (environmental management) series there are more specific ones such as Eurep-GAP, related to good agricultural practices established by Europe's retailer network for producers suppliers in your market; British Retail Consortium (BRC), variant of the previous required by the United Kingdom market; Integrated Production (PI), for fresh fruits and vegetables, required for European markets, which have in common incorporate the Hazard Analysis and Critical Points of Risk Control (HACCP)), aimed at monitoring and evaluating the quality of products aimed at the food market (KITAMURA, 2003).

Although the different types of certification are competing, the high cost of certification processes and the dynamism of the markets increasingly induce integrated certification, that is, processes that simultaneously serve several protocols, e.g. Eurep-GAP, BRC and PI, whose advantage is that in a single registration and traceability process, meet to the requirements of different markets. In Brazil, Eurep-GAP, BRC, PI and similar protocols and standards have been adopted since the second half of the 1990s, mainly by tropical fruit producers in the São Francisco Valley and the South of the Country, whose production is aimed at the European market.

Currently, the main Brazilian fruits that are the target of certification, according to those criteria, are: mango, grape, apple, papaya, melon, orange, lemon, cashew, passion fruit, banana, guava, fig, peach, coconut and khaki. Evidently, with the diversity of products worked on, the new focus and objective of certification is quality and safety in consumption for the large internal market and at the same time the access of family farmers to these innovations.

In terms of Public Sector initiatives, PI and PAS. Significant resources have been allocated by the Ministry of Agriculture, Livestock and Supply (Mapa), for the development of the integrated fruit production throughout Brazil, with approximately 35 thousand hectares heading for certification.

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As for PAS, without similar international organization, whose consortium of institutions led by Embrapa, National Service for Industrial Learning (Senai) and Brazilian Service for Support for Micro and Small Enterprises (Sebrae) has allocated public resources important to introduce quality protocols similar to those of IP, but with prospects for defining certification or evaluation processes more flexible and low-cost compliance procedures.

**4.3 Organic production certification**

In recent years, worldwide, organic production has been presenting expressive growth. According to estimates by Willer and Yussefi (2004), in 2003, the area cultivated with organic systems reached 24 million hectares worldwide, and of these, about 10.7 million hectares are of products sold with organic management certificates.

It is important to note that a large part of this area refers to pastures Australia and Argentina.

Currently, organic management agriculture is present in more than than a hundred countries and represents an annual market of about US $ 23 billion. Given the prospects for this market, organic farming increasingly deserves the attention of public policies throughout the 56 countries have already implemented or are in the process of regulation of organic production (STATUS ..., 2002).

Following these trends, in recent years, organic production Brazilian economy has also been showing high growth rates: 30% to 50% a.a. Despite the scarcity of reliable statistics, Willer and Yussefi (2004), estimate that 841,769 ha are managed in organic systems in Brazil, and of these, just over 275 thousand certified hectares.

In Brazil, organic systems mobilize around 19 thousand producers, mainly from family farmers, located in the Southeast and South of the country:

São Paulo, Paraná and Rio Grande do Sul. It is still a small market – of US $ 200 million, if we consider only certified production – with predominance of the sale of large supermarkets and specialized chains of distribution.

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The Brazilian case is peculiar, since a good part of the production and of the organic management areas is not certified - they are crops historically conducted in a natural way, marketed in this condition or simply with self-declaration seals, notably through the direct route and with surcharges reduced when compared to those with organic certification according to standards of the International Federation of Organic Movement (Ifoam).

To get an idea of ​​the possibilities of organic production, it is worth to point out that although the vast majority of organic production systems developed countries have lower yields than their respective conventional production systems, the average overprices of 30% obtained on sale, when opposed to the costs of organic certification, of 3% and 1% of gross income (WHAT ..., 2001), indicate the high competitiveness of these production systems - higher net income - in view of the fact that the markets are in continuous differentiation.

Although there are more than a dozen companies accredited by the Ifoam working on organic certification in Brazil, the vast majority of certifications were made by the Instituto Biodinâmico de Desenvolvimento (IBD), thanks to its credibility in the national and international market.

The certification standards for organic production applied in Brazil are aligned with the international criteria of Ifoam, which regulates the general conditions management of the productive system, the inputs and practices allowed and prohibited and penalties in the production stages in the field and in the post-harvest phase (INSTITUTO BIODINÂMICO, 2003). Such standards establish minimum requirements for the conversion of conventional to organic systems, taking as a starting point the non-use of industrialized inputs and the recommendation of good practices handling and manufacturing.

The following steps are covered by the standards for organic certification: the conversion of the production unit, the identification of packaging and labels, the general aspects, forest cover, social aspects of the establishment, fertilizers and fertilizers, the control of pests, diseases, use of water regulators growth, contamination control, the production of seedlings and seeds, the animal husbandry and products of animal origin in addition to references to the audit and conditions for using the certificate (INSTITUTO BIODINÂMICO, 2003).

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Currently, Brazilian organic production has already surpassed the small scale and horticultural production, characteristics that for decades ratified the unviable condition of this management system. Today, more than 50 agricultural products and by-products produced organically they are offered to the consumer, including vegetables, tropical fruits and temperate climate, grains, meat and milk, condiments, wood, among others, either fresh or processed. In order to meet the growing demands of all actors involved in organic production chains, the Ministry of Agriculture, Livestock and Supply (Mapa) has been leading the actions for regulation organic production, including certification, in Brazil.

**4.4 Certification of management of native and planted forests**

The expression “Forest Certification”, so widely popularized in the the past 10 years, concerns the certification of good management practices forestry. The concept applies both to planted forests and to natural forests (or native forests).

Currently, certain import markets, mainly those from European countries, require that forest products such as cellulose, paper, or sawn wood and even furniture, are produced with wood whose means of production have been certified, as to their sustainability, by a third party independent of the commercial relationship.

The topic has been widely documented in the literature, such as, for example, in the works of Upton and Bass (1996), Viana et al. (1996) and Mäntyranta (2002). The essence of the technical content of forest certification systems regards the notion of sustainability of management, observing its economic, social and environmental dimensions. The chain of custody or monitoring of the use of the raw material (certified), as well as of their subsequent transformations, in the manufacture of forest products, it is also subject to certification.

Among the several advantages of certification, for the forest producer, the following are particularly relevant:

a) Compliance with all legislation (such as, for example, civil, labor, tax and environmental).

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b) Improvement of the organization's image.

c) Promotion of sustainable forest management.

d) Regional socioeconomic and environmental development.

e) Expansion of exports and access to new markets.

f) Creation of a differential in relation to other producers, whose management operations are not certified, which makes it possible to obtain better prices for forest products. For the consumer of forest products, there remains the certainty that you are purchasing products made with wood whose production environment has its sustainability certified.

Currently, there are two major basic certification systems forestry in operation on the planet: the Program for Endorsement of Forest Certification Scheemes (PEFC) and the Forest Stewardship Council (FSC). Created in 1999, and based in Luxembourg, (PEFC) is an international program forest certification system comprising 18 national systems that coexist through a process of mutual and reciprocal recognition to the extent in which, in an effective manner, they are substantially equivalent. Initially based in Ouachita, Mexico, and operational since 1994, the FSC is a system adapted to different regions, countries and local characteristics and that, for some years, it was the only existing system, resulting in its prevalence in that period. PEFC is responsible for certifying the management of 100 million hectares of forests across the planet; FSC accounts for 42 million acre.

In Brazil, FSC and the Brazilian Forest Certification Program (Cerflor), linked to PEFC, coexist. The choice, by one or the other certification system, remains with the forest producer, who has the market preference, for a or another system, an important decision factor. However, many similarities - and some differences - between these two certification systems, can be identified, as will be analyzed in the sequence.

To apply for certification by the FSC, all forests must comply with Principles 1 to 9 and respective criteria. Forest plantations must additionally comply with Principle 10.

Principle 1 - Compliance with laws and FSC Principles.

Principle 2 - Rights and responsibilities of possession and use (of land and Forest).

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Principle 3 - Rights of indigenous peoples (recognition and respect).

Principle 4 - Community relations and workers' rights.

Principle 5 - Benefits of the forest.

Principle 6 - Environmental impact.

Principle 7 - Management plan.

Principle 8 - Monitoring and evaluation.

Principle 9 - Maintenance of high conservation value forests.

Principle 10 - Tree plantations.

The interested reader about certification by the FSC program in Brazil, additional information can be obtained at www.fsc.org.br. After many years of development - and with the effective participation of several parties stakeholders - the Brazilian Forest Certification Program (Cerflor), was finally materialized, in February 2002, with the publication of the following Brazilian standards:

NBR 14789 - Forest Management - Principles, criteria and indicators for forest plantations.

NBR 14790 - Forest Management - Chain of custody.

NBR 14791 - Guidelines for forestry auditor - General Principles.

NBR 14792 - Guidelines for forestry auditor - Procedures for audit - Forest management audit.

NBR 14793 - Forest auditing guidelines - Procedures for audit, qualification criteria for forest auditors.

In March 2004, the following standard was published, which concerns the certification of sustainable management of native forests:

NBR 15789 - Forest Management - Principles, criteria and indicators for native forests (published in March 2004).

The forest audit - With a view to certification by the Cerflor program - is based on the verification of indicators, in the context of several criteria and that meet the following fundamental principles:

• Compliance with legislation.

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• Rationality in the use of forest resources in the short, medium and long-term, in search of its sustainability.

• Zeal for biological diversity.

• Respect for water, soil and air.

• Environmental, economic and social development of the regions where forestry activity is included.

To the reader interested in the Brazilian Forest Certification Program (Cerflor), it is recommended to consult www.inmetro.gov.br or www.abnt.org.br.

Although, in each program, FSC or Cerflor, the number of different, an examination of the relevant standards reveals that their technical content is quite similar. It is worth noting that while the FSC is fully independent, Cerflor formally integrates the Brazilian Certification System (SBC), with all the credibility and security that already established structure provides.

Final considerations

Over the past few years, across the globe, the growth of consciousness environmental and food security concerns have been accompanied by reflected in consumer markets for products and services. Thus, there is a growing demand from consumers, especially those located importing countries, for information about the environmental aspects that characterize agricultural and forestry productive activities.

It is observed that the preference for safe and healthy foods – and whose raw materials have been produced with environmental responsibility and social - it is growing and irreversible. The certification materializes the service to a basic consumer right: the right to information.

The concept of quality that in the past meant standardized products and homogeneous in physical-chemical terms (ISO 9000 series standards), now passes to add new criteria such as free of pesticide residues, additives, of pathogenic microorganisms, produced in production systems that they do not pollute or degrade the environment.

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In addition, international market segments are beginning to adopt social quality criteria; protection of the worker and his family, of traditional communities and their culture.

Thus, the ecological and social criteria of competitiveness increasingly present in the international agricultural markets, before fads, transitory, is a natural tendency of the globalization of the agrifood system, whose initial induction is due to the exercise of preference by consumers in post-industrial societies, where the basket of basic needs increasingly include services and monetarily intangible values ​​such as the environmental quality and well-being of workers and their families.

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**V. Conclusions**

According to the results obtained in the research, it was possible to conclude that in the locality of Marera the family sector has been committed to the implementation of CA, which is an agriculture that helps in the sustainability of the soil, and requires less work or cultural practices from sowing to the harvest.

Within the scope of the implementation of the CA, the intentionalist disseminated activities related to soil preparation, direct sowing, background fertilization and phytosanitary control. It has played a major role in ensuring food security for rural households, as according to survey data there has been an increase of 0.14 ton / ha in maize production levels and an increase of 0, 3 ton / ha in the sweet potato crop after technical assistance, practicing conservation agriculture.

It was possible to verify that new forms of production are invested in the agricultural sector through extension services, where it is verified that the process of implementation in its entirety, of these forms of production is still a challenge to farmers due to the constraints that accompany this process. .

As a way of answering the starting question asked, it was found that extension services have contributed greatly to the process of disseminating new forms of production, as farmers have been betting on its implementation and consecutively there is a gradual increase in production. , due to the elimination of agricultural practices that contributed to soil degradation, thus opting for practices that aim at soil sustainability and increased productive capacity since agriculture is the sector of activity of greatest occupation for rural families.

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