Ecological Family Agriculture Held in Remígio, PB, Brazil: A Case Study on Production of Knowledge and Innovation

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Abstract

This article describes, identify and analyze the social and technological, innovation and the production of knowledge among the family farmers syndicated in the municipality of Remígio, Paraíba's State, located in the Brazilian semi-arid and belonging to the so-called Polo da Borborema - a network of labour unions and rural workers. The said Polo has been practising innovation in ecological-based agriculture and with an emphasis on existing social relations, knowledge and local expertise. Thus, the case study and the qualitative approach were chosen. The collection of the data was carried out through a half-structured interview with farmers. The main results indicate that ecological agriculture practiced in the municipality of Remígio is an advanced process of local and private development. The local and particular aspect refers to the important feature that is the aspect of providing innovation from the experimentation and the necessity of each farmer, respecting their particularity and knowing. This process of producing knowledge and innovations is mainly based on the reflexive practice and the contextualization of knowledge through daily and informal processes of innovation. As important innovations that arise through these processes, there were several techniques and actions deployed, such as seed bank, solidarity rotary funds, among others, that take on innovative role, awareness and the growing change in Thought of the farmers. Some of these innovations are set up as "novelties", since they are based on external models. It is concluded by reaffirming the rich process of innovations and knowledge produced by these ecological farmers in communion with their old acquaintances allied to those brought by the Polo da Borborema, reaffirming and valuing the identities of these farmers.

Keywords: Innovation, production of knowledge, social inclusion.

1. INTRODUCTION

Nowadays, it becomes vital to understand that from the possession of the knowledges, innovations emerge, acquired, often, with the character of "novelties" in the constructive processes. This is because, innovation and knowledge production, can be associated, interconnected and indispensable in any system, be it scientific, dynamic, intercultural, experimental or technological, since the walk of innovation is completely dependent on the persistent search and application of new knowledge.

It is important to consider knowledge not only by the scientific character, but as the first case, the enjoyment and also the practice of rational and perceptual resources by the individual. These being, captivated by the "tracjo" and/or by formal learning.

The singular exercise of knowledge production and, due to the creation of new resources, can be called innovative activity (or innovation), this being an activity of which results, more or less susceptible, are comprehensible in the format of Inventions or innovations [1].

Innovation has been a design of dissimilar models of organizations, with this, in each reality, the aspects should be observed with the purpose of boosting it or extinguishing the barriers that can intrude it. It alluded to a complex construct, with different dimensions, conceptions and contexts of application that, consequently, is inferred from various theoretical approaches in several fields of knowledge, branches of activity and industrial sectors [2].

Innovations generally arise as a consequence of the antagonistic conditions of lack of work and opportunities, whether by the market or another factor, constituting a social insertion tool, which aims to construct new modalities of Development, related to a sustainable production technical basis.

Introduced in a modern conjuncture, the rationale for innovation in agriculture concludes two elementary and correlated aspects. Firstly, a view that the transformation, or modernization in agriculture, should be conditioned to modifications in the elements of production, that is, usual elements have been replaced by modern, such as inputs and machines. Secondly, a linear idealization where innovations and knowledge and innovations are elaborated extrinsically and pierced to productive spheres.

In many countries, the institutionalization of knowledge production and innovation has occurred in agriculture, in waiting for projects and policies to modernise the sector. Through a powerful integration and an interventional policy coordinated by the State, in the general at national level, from public research, teaching and extension bodies, agriculture has been modernized and integrated into developmental projects in developing countries economies [3].

Despite the public and private efforts to modernise the modernization in the rural world and agricultural production, it is possible to affirm the existence of enormous diversity in the ways of farming and producing knowledge and innovations in agriculture [4].

This diversity is configured as a result of the active role that farmers can take in the production processes, through the knowledge they accumulate and the decisions they make that are consistent with the capacity for peasant resistance. In this framework in various parts of the country and the world, farmers plan and conceive alternative pathways to those induced by modernizing policies [5].

Such pluralities give rise to the movements of contrariness to the agricultural developmentalist model introduced in Brazil (with greater strength between the 1970-1980 decades), where they direct their criticism to the social impacts of the agricultural model, contradicting some Dilemmas, such as the exorbitant concentration of land tenure and the riches conceived, the impetuous processes of displacement to large cities in industrialization process and the exacerbation of the dissimilarities between regions of the country.

It is in the nucleus of this movement of socio-environmental deniation that the first practices of alternative farming become rooted in Brazil-what later, in the years 90, would depart from the initial conceptual idea of alternative farming to be called Agroecology and agroecological transition.

In this sense, this study analyzes the experiences experienced by the family farmers of Paraíba, since, punctually in this expressive moment of resistance, it was built an identity of peasant farming, unions,

associations Community, pastoral services and support organizations for farmers, building a web that establishes support for new technical, organizational and political intervention standards for the strengthening of family farming. In view of this context, in the beginning of the years 1990, it was born through the action of three unions of rural workers with advice of "advisory and services to projects in alternative agriculture (AS-PTA)" With the challenge of connecting agendas to fight the reality and Concrete motivations of the large and diversified family farming of the territory. What would later provide the political conditions for the emergence of the Union Polo and the Borborema family farming organizations.

The creation of the Polo da Borborema is intertwining with the history of ecological farmers in the municipality of Remígio, this is due to the articulation of the rural workers ' unions of Remígio, Solânea and Lagoa Seca that begin the work creating political conditions and social services for the birth of the Borborema Union pole.

The Remígio's Syndicate, originated in 1962, was recognized in 1967 and dismembered in 1973, it was in its essence quite assistentialist, it worked more like a medical outpatient clinic than a union. In 1992, however, a new union model begins to be traced, young people from different denominations such as the MST, pastoral services, support organizations and others, interested in making a new union model, which was community as never had in Remígio and Motivated by the ideal of making a community union properly, using as an example/dream of Xapuri de Chico Mendes, began to engage in the struggle for the reform of the outdated union model that Remígio fit, establishing new molds Technical, organizational and political interference. The work was not easy, the communities did not understand the Union

Going to them and resisted this presence very much, was when the AS-PTA (advisory and services to projects in alternative agriculture) began to do a work in the region, at first in Remígio and Solânea, through a participatory rapid diagnosis (DRP) that Reflected agriculture within the property, seeking to better understand agriculture and the role of Union intervention in experiences, with dissemination, experimentation, even in generating public policies that could be charged.

It was the as-PTA that already advised and built a work together with Polo who aroused in Remígio the idea of agroecology. Little was understood of alternative technology, at the time, and even the family farming was quite "mixed", it was difficult this understanding between the ecological alternative and still understand that, for example, "had to have poison to ant, because nobody Fought the ant, it was not understood that the environmental imbalance that led the ants to have a larger population than the predator of it ", the understanding of alternative technology was that it would be more accessible to families, but it properly dictates, this because So far the idea of ecological farming that had been developed by the farmers themselves.

In 1996, Lagoa Seca also made the diagnosis supported by the union of Remígio, so it was also creating the idea of the articulation of the Semiarid Paraiba (ASA), headquartered in Campina Grande and in 1996, the Union Polo of Borborema, already with expressive visibility and Works with seeds, arborization within the swidging, planting techniques, animal silage and even with all these actions, there was a political crisis in the Union, between Presidentialism and community unionism, facing difficulties in the implementation

Of this community union idea. From 1995 onwards, the Union is now integrated by men and women, developing work with children and youth.

In 2006, thanks to the performance of the Polo, the Agroecological Fair of Remígio was initiated-it has the community character, gathering monthly (example in the region)-is a fair that makes seminars of management, production, exchange visit, among others.

Considering the initial resistance of the farmers, it is paramount to emphasize the intense social dynamics of experimentation of innovations and the production of knowledge that was spreading, by the Polo, through a process of collective learning coming from the Rescue and revaluation of the knowledge on the management of local agroecosystems, as well as the reconstruction of new measures aimed at resolving the problems and daily challenges of the agricultural families of the Polo da Borborema territory, in a way Especially those of the municipality of Remígio, Paraíba.

In this context, it is of the utmost relevance to redeem the history of Polo, to know and analyze the achievements achieved by these family farmers and to know how the acquisition and production of knowledge and technological innovation are being implemented, Through access or not to public policies, providing environmentally friendly farmers with innovations in the productive, economic and social sectors, as well as by introducing these farmers into a dynamic, organized, collective and sustainable farming, in addition To generate social, economic, productive, political inclusion, and knowledge of the field, produced by them in their production systems, in the exchange of experiences, in individual and collective experiences.

Structurally, the article is divided into five sections. One is this introduction, which situates the reader in the history of the region and in the context of the research. Following is a brief review of the literature on innovation and knowledge production. This part is followed by the section of the methodology where there are also some delineations of this research and presentation of the study area. The fourth section is the results and discussion. Lastly, in the last section, some final considerations are presented.

2. PRODUCTION OF KNOWLEDGE AND INNOVATION: LITERATURE REVIEW

The process of knowledge production considers formal, informal and everyday aspects, as elementary bases for the construction and reproduction of innovation, taking into account historical principles and the sum of this constant process. In this process, the subjects are constantly interacting, firming bonds and constantly altering what transforms them.

The process of composition of knowledge about the world is a collective process and not only individual this because, the concepts generated for its conception were and are elaborated throughout the whole history of mankind by the whole of the social subjects, meaning Thus, that knowledge is historical and social; History, since each new knowledge is an improvement of previous knowledge; and social, since no subject has an entirely new knowledge, so all knowledge is based on previous knowledge, elaborated by other individuals. Thus, "new" knowledge is also socially elaborated [6].

In the perception of Nonaka and Takeuchi [7], human knowledge can be categorized into two species: tacit knowledge and explicit knowledge, the tacit being the one who inhabits the minds of individuals, having a strong connection with practice and being strongly Personnel hardly shared and dependent on the individual personal life story, their mental models and their values; Already explicit knowledge is encrypted, formal, can be simply communicated and shared found in projects and documents, being substantiated in the item itself, the tacit and explicit knowledge are not disaggregated units, but rather paid.

On the other hand, in a particular way, the human condition varies according to the natural circumstances (physical condition, age, health, and sex), Psychic (absorbency, temperance, level of satisfaction) habitual and psychosociological of the subject. Entirely, these variants are able to help the subject operate relatively intensively in the way he intervening about social life, thereby influencing the generation of historical and cultural facts, which are generated, since it is necessary A rational and systematic interpretation of the one that takes on this particular charge in the construction of the educational universe, but especially of the social universe and its history.

According to Terra [8], tacit knowledge is interconnected to the innovation process, since it assumes the purposes of identifying and resolving problems, from the smallest to the greatest clash and finally precipitation and prediction.

In this set, knowledge is, therefore, a theoretical practical way of understanding the world, of men and of things, refers to a tool for understanding the relationships of the subjects between themselves and them with the environment in which they live in various, varied and detailed dimensions. Since knowledge is the central utensil of the consummation of human beings as humans, since it operationalizes them to think and act more consciously about the world, their social practice, research, is a complex task that takes place at all times of Human life, leading us to conclude that research is to generate knowledge for action [9].

Relating knowledge to a very dependent area and based on an evolutionary vision [10].

In recent decades, summaring the expression "knowledge-based economy", committed to describing the tendency to increasing dependence on information, knowledge and skills, in most countries of advanced economies [11]. View of other spheres, in an empirical sphere, the production of knowledge, integrates several actions based on a systematic effort directly related to the generation, absorption, diffusion, progress and employment of knowledge and techniques, including several Activities interconnected in the process, such as research, systematization of experiences, production of techniques, both in the productive bias, as active, the development of processes and products and research.

The concept "innovation" has been applied in a wide variety of definitions, being often confused with "novelty". Concisely, some considerations are pertinent in this feeling, reflecting that innovation is the successful exploitation of new ideas, that is, a new fusion of knowledge to produce something "new" is an innovation, however a new knowledge Not only use value but also exchange. Santos [12], historically, divide innovation and its cycle into three phases: the first of them is the invention, existing since the beginning of mankind; the imitation or diffusion, common in the markets of which the economy was grounded by production; And the outsourcing of consumer and innovation products, used as a strategy for economic sustainability of organizations in the 21st century, coming after globalization of the economy

and the possibility to drive the speed of searching for new products, particularity of contemporary dynamics.

For Rogers [13], the path in which innovation develops results in all decisions, activities and their impacts, which happen through the recognition of an obstacle or a shortage, through the sequential adherence of innovation by users. Still completing, the step of "decision making" of the user about innovation is titled the process of Deliberation of innovation, thus being executed in stadiums or steps, such as knowledge, persuasion, decision, implementation and confirmation.

The idea of innovation is conceived as a creation or renewal of something that already exists, coming from observations, studies and persistence, seeking solutions that are simple and practical, to the extent that can be uncomplicately understood and accepted by Consumers [14].

Oliveira [15] emphasizes the paramount importance of the trivial difference between invention and innovation, considering that the invention is the technically viable "remedy" of a problem, while innovation is the technical and economically viable "remedy" of problem. Being technically and economically viable, innovation is the invention spontaneously sociabilized and dispersed in society.

Herrera and Ugarte [16] highlight that innovation “Innovation always refers to the set of actions necessary to transform a particular situation, which includes from the redesign of processes to the development of new capacities, since all innovation assumes a new competence. (...) A new way to do things, to organize to face the vulnerability “.

Depending on the type of innovation, but because it does not say the context in which it is being employed, it is possible to classify different types of innovation succinctly, including three main flags, the problems, constraints and opportunities.

It may be formal or informal, the innovative activity assumes two different characters, being formal, in which the exercise of innovation is carried out in exclusive environments and in formal institutions, for example, in scientific laboratories and in Research and development departments. In the informal innovation, the problem-solving manager encourages finding a solution within the norms that it suits him, making use of his knowledge and fertilizing them with the issue.

The incumbencies based on innovation are indispensable for the maintenance of economic development in the capitalist system, inserting the modification of living standards and the creation of new technologies [17]. It is relevant to understand that, generally, innovations arise as a consequence of the antagonistic conditions of lack of work and opportunities, either by the market or by another factor, constituting a social insertion tool, which aims at the construction of new development modalities. Notoriously, they are based on innovations that derive from genius, vocation or aptitude, however, the preponderance of innovations, are given as a result of a rational, intelligent and premeditated search for opportunities to innovate.

Triumphing in the construction of a new paradigm capable of overcoming the difficulty and accepting the plurality of the scientific and technological field is an "always innovative and constructive challenge" for scientific and technological competences, this is because one must recognize the role of the companies/actors in creating the opportunities and activities of research and development, as well as on the role and personal commitment of each member, so that a new impetus for innovation can be printed and

facilitate the adaptation of the sector productive to the challenges imposed by globalization through the diffusion, adequacy and use of new processes, forms of organization, services and products.
In view of this brief theoretical framework, we have to describe how innovation and knowledge production are given in the field of study. Before, however, it is necessary to present the methodology and procedures adopted.

3. METHODOLOGY AND PROCEDURES

Methodologically, we opted for the case study, in order to gather detailed and systematic information on the subject: Production of knowledge and innovation and qualitative approach in data analysis.
For the collection of secondary data, we accessed government databases and the unions in question, trade union leaflets, booklets, among others.
For the collection of primary data, the instrument used was a semi-structured interview script and participant observation-with the use of a field diary. In advance, through the pre-test of the interview, the interviewees were chosen, identifying the subjects of research analysis according to the objectives that guide this dissertation, we chose to work with different family units, which were In different locations in the design of the territorial area, taking into account the particular characteristics of occupation and fixation in that environment, included here the historical context, as well as its trajectory in agriculture.
Thus, interviews and participant observation were conducted with representatives of families of ecological unionized farmers. A total of 20 interviews were conducted. The interviews were recorded and subsequently transcribed. In addition to the interviews, technical materials (leaflets and bulletins) produced from the ecological agriculture of Remígio were collected.
The municipality of Remígio is located in the mesoregion of semi-arid and in the western Curimataú microregion, it has a territorial area of 178.1 km² with a demographic density of 98.77 inhabitants/km².

4. RESULTS AND DISCUSSION

The use of the expression agroecological agriculture in this work referred to the realities studied, which compose a set of productive practices and social relations that in an interrelated way construct the design of an agriculture that prioritizes the values Environmental impacts in agricultural production. For better understanding and visibility the agriculture of Remígio/PB is not only based on the elimination of pesticides, high solubility chemical fertilizers and genetically modified organisms, but, it is a progress and a change of posture that goes much, in addition Of this, because the political, cultural, social and economic aspects that subsist agroecological practices are valued.
This frequent use of expression roots a specific and local character of the path of construction of agroecological agriculture in this reality. The result of the capacity of the "spreading seeds", of the pioneers in acting and hitting the front with the strong trends and concepts given to the development, especially by the modernizing bias of agriculture, thus emerging a new sociotechnical proposal.
This considering that this new socio-technical proposal encompasses among many things, the synthesis of the dialogue between ideas and ideals added and constructed in the most varied spaces by the technicians

and also by the farmers who share the same ideal, the search unceasingly of strategies, knowledge through practice with agricultural families and the sum with partners involved in the construction of new socio-technical and productive alternatives which allow them the identity of agroecological farmers/ That is manifested locally through their discourses.

Organized in different thematic areas (water resources, agro-biodiversity, animal husbandry, health and food, ecological crops and commercialization), the Polo da Borborema builds the work in the form of agroecological innovation networks that articulate More than 8000 agricultural families from the Borborema territory.

Historically, the Polo occupies the territory of Borborema, a prominent presence as it resumes and updates a long tradition of social resistances that have been structured as active responses to adverse political and economic conjuncture of agriculture Peasant.

Recognizing the agrarian history of the Territory of action of the Borborema is to reaffirm a completely extreme "before and after" in the lives of so many farmers and in the life of the organizers of this process, since it is possible to identify the evolution of Processes of innovations within the accelerated progressive process of agricultural change, characterized by the multiplication of innovations.

It is valid first of all, to consider that the term knowledge is being treated in this work, such as the admission and performance of the intellectual and sensory capacities by the human being, and may be it, both conquered by experience and learning Formal, as for both. Besides that, as already mentioned in this dissertation, knowledge can both be stacked in the human mind (tacit knowledge), and can be factual, generating a complex of courses and accumulations (coded knowledge).

Learning encompasses the multiple methodologies by which the knowledge and ability to do something are arranged in a process of mastery by individuals and social groups. As explained by Rosenberg [18], learning can be by informal practice (learning in daily work), as well as a formal learning (through schools, internships, trainings, among others).

In this field that integrates the association between the production of knowledge and consequently the generation of new solutions is conceived the activity of innovation or "innovative activity", an activity that results in perceptible solutions in the form of inventions or innovations. Considering more than one innovation is a new aggregation of knowledge in order to manufacture a new one, adding to this new knowledge the value not only of use, but also of exchange.

In a specific way, ecological/agroecological agriculture or the different practices of alternative agricultures are part of a differentiated group for this type of contemplation, because it is coherent to affirm that the degree of institutionalization of the production of knowledge, innovation activity and consequently learning is low, or in some situations, almost unreal. But why does that happen? Most of the time, and in the theoretical/scientific/political debate of the agrarian issue, this category is most often considered as a disadvantaged margin of the technical productive standards and the technological trajectories instituted by the modernization of Agriculture.

This considering how the institutionalization of innovation and the established technological roadmaps were based on parameters that consider the annexation of industrial elements (modern inputs) as substantial the expansion of productivity and Profitability of agriculture.

Nevertheless, even with this historical propensity for standardization and decharacterization of innovative activity, the habitual and informal activity still remains and, in many circumstances, is so or more important than formal activities. Two determinant points of the type of innovative activity that stand out in a given sector or activity can be listed, one point is the level of institutionalization of the innovative activity and the other, the method with which the work is organized in that sector or activity [19].

Based on the theoretical references proposed above, the main innovations and knowledge produced in the ecological agriculture of Remígio/Paraíba are presented here, considering that this process is continuous, which have much added to the Over the years and that this is nothing more than the result of the growing work developed in the form of creative practices and processes of contextualization of exogenous knowledge and practices to agroecological conditions and local knowledge, triggered by the organization of the farmers themselves, in addition to the reorganization proposed by the Borborema Polo in the region. Technical and capable innovations of families reproduce when questioned, both farmers and the diffusers of this new ecological/agroecological based agriculture on how the past was addressing how the participation in the Union and the Polo to develop a more sustainable agriculture, these were consonants to appoint participation in courses, exchange visits, experimentations and other training activities as fundamental in the training process.

According to reports from the interviewees, the junction of the strands that support the work developed in the region is based, above all, on sustainable practices and experimentations that consider sufficient technical elements to think and propose interventions More ecological in the production units of farmers ' families, providing a collective learning process, motivated in the recognition and enhancement of knowledge about local agroecosystems by the farmers themselves. This, taking into account the Polo da Borborema as a political-organizational sphere Consolidator of the set of local development and stimulus of agroecology and not only as a claimant of public policies such as emphasize [20]. Among the various agricultural innovations of agroecological basis are highlighted the practices cited in addition to techniques used, as follow below:

• Community seed Banks

Cultivated and historically saved, the seeds of passion (as are called the Creole Seeds in Paraíba) represent true jewels for the farmer families. With a rich genetic load, these seeds bring in themselves the resistance, adaptation and cultural heritage of several generations that means, among many wonders, the independence of the purchase of seeds every year. Articulated in a network form, the banks of community seeds of Remígio are articulated with more than 70 banks in the territory of the Polo, mobilizing peasant families for the use and conservation of local varieties cultivated in intercropping systems.

Seed banks are forms of community organizations that aspire to the self-sufficiency of a collective in the supply of seeds of certain species, also referring to a fundamental strategy for climate instabilities, the semiarid, Post that guarantees the diversity and quantity of varieties and species chosen for the appropriate planting moment [21].

I consider in this work the community seed banks as innovation due to the fact that some farmers already had the practice of storing seeds in their own homes before the community banks were formed (it was a kind of bank person/ Individual) with the proposal for the improvement of the Polo in the awareness of

farmers making this genetic reserve thinking not only about themselves, but in their neighbor, in their association, in their community, the values of agroecology are born, the principles Work together by the common goal in the pursuit of good for all.

Farmers and agriculturists are the managers themselves, as a lending system, they guarantee farmers a good quality seed for planting at the right time, besides being seeds adapted to local conditions, valuing the tastes and Preferences for each region. The families take a quantity of seeds and assume the commitment to return in the same quantity with a small percentage increase at the time of harvest, so that the banks can always prosper [22]. It is also a commitment of the farmer families to return to the banks a seed in good condition so that there is a guarantee of commitment to work.

• Infrastructures for water harvesting and storage

The dynamics for constructions of thousands of infrastructures focused on the capture and storage of water is also an innovation recognized by both the diffusers of this agroecological agriculture in the municipality of Remígio, and by the farmers, since in Most rural households can find different types of water reservoirs, such as plate cisterns; Pedestrian cisterns, which has ensured a representative water grid that generates as a consequence a personal safety for use and consumption, as well as in productivity;

The semi-arid joint (ASA) has already put into practice several social technologies, whether for family supply or production, however, some have already become governmental programs, as is the case of the plate cisterns to capture water from Rain for human supply, which aroused in the project cisterns of plate, cisterns boardwalk, cisterns of Flurry, Barreiro Trincheioa.

• 1 million cisterns program (P1MC): In a process of deconcentration and popularization of the water, through the storage of rainwater that falls from the roof, in cisterns built with cement plates next to each house, farmers start to have water Drinking for consumption, rather than walking kilometers looking for water mainly to drink in reservoirs (dams, Barreiros) Most of the time of private properties, the cisterns occupy a significant volume of water for family use in a Representative time course, with this autonomy and quality of life, families are managing their own water, in addition to the decreasing incidence of diseases due to the consumption of contaminated water and the decrease in the burden of work of women in Domestic activities.

• Sidewalk cisterns and Flood cisterns: with the objective of expanding the water supply of agricultural families, the program encourages the productive potential of family units, the minimum space near the house should be used for planting and breeding, land and water integrate a system of "Earth and water to grow and maintain the life of plants and animals". In this space, having water means hydric safety and also food and nutritional security, because the stored rainwater also serves to produce food and seeds.

They are the social technologies that provide quality of life for the family, besides the generation of income in the use of this water for consumption and creations, flowerbeds, making for the families an instrument of liberation and self-affirmation.

In some cases are novelties (such as the sidewalk cisterns), these social technologies, in others are considered innovations in the aspect of their improvements or adaptations, however the most important has been its democratization, these social technologies are also In the range of actions made possible by the implementation of solidarity revolving funds.

• Network of nurseries

The Borborema Polo has supported municipal, community and family nurseries that collaborate to the practices of rearborization and restoration of the native landscape of properties, increasing the functions of trees in the environmental production systems and of the trees in production systems.

The seedlings vary between fruit, forage, and forest, medicinal and arboreal that adds even more diversity in the environment. With them the ideas of living surrounds and landscape-swied integration are possible, guaranteeing the environment a greater environmental equilibrium. The seedlings of these nurseries have helped family farmers understand the principles of agroforestry within their crops in their localities.

It is a work that has strengthened with the strong contribution of youth, with the campaign of Childhood and youth, developing activities of seed collection, production and distribution of seedlings, learned and experienced in workshops and moments of formation.

• Solidarity revolving Funds are nothing more than instruments of popular sovereignty of agroecological innovations of agricultural families. In the municipality of Remígio there are several types of FRS, with or without currency circulation, we can include the BSC, screen fences (produced by the farmers themselves), wire fences, palm fields, ecological stoves, acquisitions of small animal's reform and Improvement of kitchens, purchase of ovens and machines (for pulp production and processing of other products such as cassava) that has greatly assisted the production and commercialization of products in agroecological fairs.

The funds, which bring together resources such as labor and money, rotatives, in which resources circulate, revolve among all members, solidarity, who receives the resource, assumes the responsibility to contribute further, in which you do not think only in your need, but Also in the other, is another action of the Polo, with articulation in the unions focused on the diversification and the productive restructuring of the surroundings of the houses providing access by farmers to a set of tools that opportun the transition Agroecological and the economic sustainability of communities in the protagonism of their realities, generating autonomy.

The Solidarity-based revolving fund functions as a community savings, with its management directed towards strengthening family farming, can be formed by both the donation of voluntary resources by each participant/member as can be assembled from External resources and actions aimed at the community, according to the synthesis of the interviewees ' statements.

House surroundings (productive yards)

There are many actions supported by FRS, the productive backyards are an example of revitalization, because they are in the tiny spaces in the case, which most often women, cultivate food, medicinal plants, create small animals, which Ensures a better quality of life for the family. The Polo has held in Remígio, as well as in other municipalities through the Health and Food Commission an accentuated work in the regeneration of these backyards providing that the family complex can innovate its productive systems diversifying, generating Food security and income. What was previously seen as "worthless" now integrates, the productive system contributing directly to the economy, besides that, in it are demonstrated several knowledge and practices passed from generation to generation.

Thus, the backyards develop the important role in the sovereignty and food security of families, affirming the ecological, cultural, social and economic principles of agroecology. Agroecology extrapolates the one-

dimensional view of agroecosystems (genetics, edaphology among others) to encompass an understanding of the ecological and social levels of coevolution, structure and functioning. Instead of focusing its attention on some particular component of the Agroecosystem, Agroecology emphasizes the interrelations between its components and the complex dynamics of ecological processes [23].

- Working with women

It is notorious and quite striking the work with women, for innovation and knowledge production, this because the actions of the Polo focused on them allow to trace a new history in the construction and diffusion of agroecology throughout the territory and in a special way in Remígio. Assisted by AS-PTA, Polo has rooted a network of experimenters who have provided profound changes in the lives of hundreds of women and building a development project on an agroecological basis for the region.

Agglutinated in the invisibility of female work in productive and reproductive activities, as well as in the open possibilities for women with the growing rise of non-agricultural activities as income generators, the debate on gender and agriculture Family has advanced considerably in recent years. While, some questions remain open, and they deserve a reflection when we ask the place of women in the agroecological proposals and the perspectives of emancipation linked to these activities [24].

The women's confrontation is not only because of their place in production, besides this, their struggle is also for their spaces as social subjects and protagonists of the advanced process of construction and development of agroecological agriculture in the territory of Borborema. It was from the creation of the Commission health and food that work with women became intense.

• The partnerships are also considered an innovation from the viewpoint of the leaderships, the various researches and collaborations that have mutually established themselves in the course of this progress in the territory, the flourishing trajectory of so many actions performed influences directly these interactions with different public and private institutions that work in the rural development field.

Other entities and partner NGOs join the Polo in this progressive path, the articulation of the semiarid Paraibano (ASA Paraíba), the PATAC (application program for appropriate technologies), the Centrac (Center for Cultural Action), the Cepes (Center for Studies Political and social), the CPT (Pastoral commission of the Earth), ASA Brasil (articulation of the Brazilian semiarid), INSA (National Institute of the Semiarid), the MST (Movement of landless rural workers), the program of Rural identity Territories (a Territorial development policy of the Secretariat for Territorial Development (until recently) Ministry of Agrarian Development (SDT/MDA)) implemented in 2003 that also acted as a partner and claimer of public policies adapted to the region , formally constituting the Borborema territory and the AS-PTA itself, which besides advising also works as a partner, among others.

Besides these mentioned above, actions in the management and conservation of the various production systems are also considered innovations, the "Awakening" of the valuation of the land is an extremely positive aspect if we think about the disruption of many thoughts that before They did not look at their property with the same look that one has today it is common for you to hear both from the farmers and by the disseminators who did not "see their sustainable environment", do not imagine the diversity of actions that could develop there.

The various spaces of formation, production, construction and experimentation are also considered innovative, in them, many experiences are exchanged, sumed and disseminated so that the farmer is the starting engine for the transformations in his life, in the His family and on the property;

• Exchange visits: Farmers know other experiences not only in Paraíba, but also in other states, discover many experiences developed by other families of experimenters farmers and returning their homes they Have the will to also experience those innovations or novelties and depend on the results, they socialize the knowledge acquired with the neighbours, arousing in the others the desire to mobilize to experience also.

• Training workshops: These are moments when families receive information about a particular innovation, also included in the moments of exchange, the workshops develop several innovative activities in both farmers and exhibitors, this Because the project of experimentation is supported and also strengthened with the partners of the Polo in this construction of local development, for example, we have cited silos, production of biofertilizers and others;

• The storage of forage in the silos guarantees the herds greater availability of food in good quality especially in the periods of drought. The raw material for silage comes from the swiddens, most of the time the "remains" that would be wasted, such as the Cambão and the straw of maize associated with other crops such as grass, palm, gliricidia, crushed and stocked guarantee the animals a high nutrition Due to the diversity of incorporated cultures.

• The production of biofertilizers is also seen as an innovation, it was through the very knowledge added that the farmers found alternatives for the control of pests and diseases, which was of scientific nature became replaced by the empirical nature, Through experimentation and dissemination of the methodologies used. The agroecological fairs also comprise an innovative strategy proposed by the Polo, since they do not happen only the commercialization of products, farmers exchange knowledge and practices and money is not the essential, there is a whole construction, training and Respect to agro-ecological principles. In the Polo region today there is a network of 12 agroecological fairs, coordinated by the Association Ecoborborema. The guidelines to be followed seek above all to establish this relationship of trust between the producer, the Environment and the consumer, preening to ethics and trust. The Agroecological Fair of Remígio, as already cited in the previous chapter, develops a series of activities of training and deepening of some themes of reflective interest, such as the study of the free Fair of the municipality and the exchange of farmers of Remígio for Know the fair of Lagoa Seca-PB, the diagnosis on the use of pesticides carried out in 2002 by the Polo, which resulted in a video assisted by more than 800 people in the city, the planning and evaluation meetings, the evaluation and management seminars already performed. A strong characteristic of this fair is its organization, with the participation of the fairers in the assemblages of Ecocorborema, the realization of monthly assemblies, and articulation of the sale to the PAA (food acquisition program), today not so strong of the Federal government. The articulation of this network of fairs is generating new opportunities and access to the markets for the region's family farming.

The autonomy of the farmers and the distribution of power horizontally and non-vertical, is an innovative process proposed by the Polo, this starting from the new union format, "The Four Walls" of the headquarters no longer behave their role as director, Secretary, leader Union.

The network of experimenters and agricultural experimentation farmers (monitors, multimers) is growing increasingly and strengthening as a methodological innovation introduced in the actions of the Polo. This model builds the decentralization of power and "name" to technicians with new and greater knowledge, with the disruption of this monopoly it is possible to attribute to them the highlight two essential functions, the first of appreciation or redemption of knowledge Development process and social transformation.
The work with youth has greatly advanced in the proposal to provoke them to awaken their knowledge and skills in the contribution of the productive system and the family. Through the supportive revolving funds and the partner projects to encourage work with young people, they build a path with the execution of practical activities managing the funds and arousing individual and collective potentials and expectations of the group (now has young beekeepers, animal breeders, suppliers of agroecological fair products, political mobilizers among others).

5. CONCLUSIONS

In addition to all the innovations recognized by the farmers, as well as by the technicians/leaders/members of the Polo da Borborema, in Remígio, and throughout the region that serves, was unanimous the perception of the new consciousness and of the whole systematic that today mobilizes and Transforms the lives of so many people. Change and adaptation in techniques of use and conservation of resources also add to these innovative actions. The reading of the local reality encompasses an immense accumulation of knowledge added to the search for new knowledge and experiences, renewing each day the mechanisms of innovation led to overcoming the economic, technical, and organizational socio-environmental adversities experienced By the region's family farming.
In agriculture, innovation affirms the theory of the two strands that it can happen, whether it is a formal activity, produced in research and development institutions and laboratories, or as an informal activity during productive practice.
In addition to all those described from the perspective of the feasibility of all these actions, other characters are read as innovators, according to the interviewees ' statements.
The breeding of manure from the Sterers (which was previously wasted), the seed picker, the transgenic test performed in the region's corn and still in the test phase, the machine to make the "couscous of passion" with the local seeds were also cited as innovations.
The life and trajectory of ecological/agroecological farmers in Remígio and throughout the Polo's work radius clearly describes two completely different stories, the past rooted in a "suffering", heterogeneous agriculture, without expectations of Improvements and return and the today's current, which is a cry of "liberation" of signature and emancipation of its history and its positive advances. Promoting and disseminating so many experiences with family farming is not an easy task, not everything happens as it is desired, because the policies in the region most often do not take up with the Polo the flag of struggle and appreciation of this agriculture that Resists so long, it has already shown concretely where it can and manages to arrive, an agriculture that has historically been leaving its mark throughout its territory. The diffuser design based on the idea of passage and appropriation of the many technologies proposed in the

experimentation network has revitalized the local innovative processes as social tools of socialization of knowledge in a collective way where no one is submits or disappears.

The enormous organizational capacity of farmers in their communities and environments leads to innovative experiences in the management of community seed banks, agroecological fairs, work with women and youth, supportive revolving funds and others.

The various networks and actions provided by the Polo da Borborema confirm the existence of production activities and exchange of knowledge between producers, mutual observation and political, technical and social dialogue with some variants of a region to another.

Based on the relationship of reciprocity recognizing the production of knowledge as a result of the practice we are further enhancing the role of innovations produced and distributed horizontally, which does not neglect the technologies produced Externally, and their respective applications, this when the reality is contextualized and the local necessity allows the construction and association of new knowledge produced from the practices.

The common relationships and collectively expressed in the communities, although already described are generating innovation, active partner of the Polo, the partnerships, but above all of the farmers, prescribe the most diverse connections in mutual aid networks where life and Development of agroecological agriculture are community. As active subjects and forerunners of this whole process, using as an initial source the popular knowledge and power of exchange of knowledges (socialization), the learning in ecological/agroecological agriculture is allowed much stronger by the knowledge Accumulated throughout this historical journey.

The process of local development is continuous, the struggles are daily the production of knowledge, innovation and learning of family farming is a process that refreshes day by day, the Polo has contributed to the autonomy and reaffirmation of the identity of Farmers who have always been on the sidelines of society. Within this model of family farming it is extremely important to promote social organization as a basis for the construction of a sustainable development process, so as to include the small producer in the globalized and competitive world. This cooperation divides responsibilities, surpasses fears, insecurities and weaknesses while empowering the workforce, virtues and abilities.

A new cycle of recampesization in terms of land achievements and social sovereignty expresses the reality of the construction of peasant farming in the territory of Borborema providing a search for the construction of increasing levels of economic autonomy, Technical, political and cultural.

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