

**Impact of the Covid-19 Pandemic on Agroecological Family Farming in
the Backlands Territory from Araripe in Pernambuco**

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ABSTRACT

The present reality of the Pandemic caused by the COVID-19, is characterized by new adaptations in the decrease of the social and economic activities, with the social isolations, in cities and countryside communities, causing a decrease in the commercialization of food by the familiar agriculture, damaging the activities of social organization and rural technical advice in the sustainable development of agricultural activities, by the non-governmental institutions and representative entities of the civil society, in the implementation of public policies assisted to the farmers, having a greater consequence in the social vulnerability and rural poverty. The present article aims to study the effects of the pandemic on family farming in the territory of the backlands from Araripe in the state of Pernambuco, describing the strategies adopted in the social organization of countryside communities, in reducing the social impacts of the pandemic on family farming. Through a bibliographical research, based on academic literature, newspapers and institutional reports, on the activities of rural technical assistance with principles of agro-ecology, developed during the period of incidences of the pandemic. As a result, technological strategies were identified in the remote media, for the activities of rural technical assistance, organization of marketing of food products from family farming, at home, in greengrocers and emporiums of solidary marketing, assisted by non-governmental institutions, in the development of motivational initiatives for rural families, in overcoming social and economic difficulties, during this phase of social isolation and safety protocols to the health of countryside area families and the entire world population.

KEY WORDS: Rural Technical Assistance, Food Security, Covid-19

INTRODUCTION

The presence of the new Coronavirus, caused by the SARS-coV-2 virus, a highly infectious disease, for populations in their different social stratum and ages, brought a health crisis and different social and economic consequences to all Brazilian territories. Thus, different sectors of the economy had to adapt to a new way of life, due to social isolation, by setting organization and survival initiatives for the different productive sectors.

According to QIU, CHEN and SHI (2020), these measures significantly helps to reduce the rate of virus transmission, according to a study arranged between January and February 2020, in Wuhan, China, the city where the first case and outbreak of COVID-19 occurred in the world. For that matter, one of the productive sectors most damaged by the quarantine policies introduced to contain the spread of COVID-19 is family farming.

By the characteristics of family farmers, We can see that most of them are linked to government programs, in support of rural technical assistance institutions, in the income generation from the sale of food from small countryside properties. However, due to social isolation rules, with the quarantine decree in some locations, with the shutdown of most non-essential businesses, the classroom classes in schools being cancelled, which demonstrated an impact of short-term uncertainties, which also were experienced by the rural and urban population, with the suspension of almost all activities and the movement of people, being restricted to family life.

In the face of uncertain circumstances, organizations that develop activities around family farming, through the area of food security, non-governmental organizations and social and union movements, have been presenting a set of emergency claims to protect the production and income of this productive sector. This is made by actions to consolidate existing public policies, at the federal, provincial and local levels, as an alternative to ensuring their economic activities and food security in the development of family farming. This paper aims to analyze the actions developed in family farming, through rural technical assistance and

marketing of family farming products, with the participation of social organizations, during the Covid-19 pandemic period, in the backlands of Araripe territory in Pernambuco.

METHODOLOGY

The study was arranged by an exploratory qualitative nature research, according to the classification by RICHARDSON et al. (1999), using bibliographic review, covering texts published in scientific journals, academic texts, news in newspapers and other wide-ranging and rapid dissemination of virtual media. Thus, we sought to research family farming during the Covid-19 pandemic, within the cities and regions that make up the Araripe backlands territory, in the semiarid region of the State of Pernambuco.

IMPACT OF THE PANDEMIC ON THE BACKLANDS FROM ARARIPE TERRITORY

The territory of the Backlands from Araripe in the province of Pernambuco, which, according to data from the last census (IBGE, 2010), the region has a population of 307,658 inhabitants, with 46% residing in rural areas, which are distributed in 10 municipalities (Araripina, Bodocó, Exú, Granito, Ipubi, Moreilândia, Ouricuri, Santa Cruz, Santa Filomena and Trindade) in a total territory of 11.544.52 km², located in the westernmost portion and part of the semiarid region of the Northeast. In addition, the aforementioned territory has as its limits the Cariri Territory (Ceará) to the North, the municipality of Parnamirim and the Backlands from São Francisco river Territory to the South (Pernambuco), the municipality of Serrita (Pernambuco) to the East and to the West the Vale dos Guaribas Territory (Piauí). It is also worth to notice that the Araripe Region's economy is mainly engaged in gypsum exploration, in the so-called Polo Gesseiro, responsible for most of the Brazilian gypsum production, where 40% of the world's gypsum reserves are concentrated. Practically all municipalities in the region depends on gypsum activity, resulting from the extraction of gypsum, used in the manufacture of plaster, mainly used in civil construction. Added to this, in addition to the plastering pole, the local economy stands out in agricultural activities, in the cultivation of cassava and beans, in poultry, in goats, in cattle raising and beekeeping (IF SERTÃO-PE, 2017).

This region in the Araripe hinterland is marked by the expressive presence of family farming, with a significant portion of the population living in poverty, and according to the diagnosis that references the Territorial Plan for Sustainable Rural Development, 48,270 families were enrolled in cash transfer programs (MDA; Fotear; IADH, 2011). Among the social problems, poverty can be seen in a greater or lesser degree, according to each Brazilian region, with the North and Northeast regions of the country showing much lower social indicators compared to the others (CORRÊA; LIMA; CAMPOS, 2015).

In Brazil, in relation to the COVID-19 pandemic, it can be highlighted that the speed of its spread and the current level of scientific knowledge, created uncertainties about the strategies to fight the disease, and powered by social inequalities. It has been recommended, including by the World Health Organization, that the responses of the health sector should be structured in stages and in keeping with the surveillance of epidemics: containment, suppression, mitigation and recovery (WORLD HEALTH ORGANIZATION 2020; QIU, CHEN, SHI, 2020). In Pernambuco, responses to the pandemic were given quickly, after the confirmation of the first two imported cases, notified as COVID-19 on March 12th. In response to this, the Government of the province of Pernambuco published the Legislative Decree No. 48,809, of

March 14th, 2020, prohibiting events with more than 50 people, followed by several other decrees, published in March and also in the following months, with protocols of social distancing of different natures. For what matters to Administration, Pernambuco is divided into 185 municipalities, distributed in 12 Health Regions, grouped into four Health Macro-Regions (SECRETARIA ESTADUAL DE SAÚDE, 2012). In this context, the national health council considers it essential that the Unified Health System, as a body legally responsible for the surveillance and monitoring of the actions of the Department of Health and from the Public Health, and that this Department maintains consistency with the guidelines of the World Health Organization (WHO) and human rights, reassuring the need for isolation actions, valuing science, clinical and social research, based on the social determination of the health-disease process.

Quadro 1 - Quantitativos de casos da Covid-19 no Sertão do Araripe em Pernambuco.

COVID – 19	Mild Cases	Moderate Cases	Total
IX Health Region	11764	861	12625
Araripina	4109	326	4435
Bodocó	1294	66	1360
Exu	2060	64	2124
Granito	124	7	131
Ipubi	526	74	600
Ouricuri	1281	120	1401
Parnamirim	618	49	667
Santa Cruz	349	28	377
Santa Filomena	272	11	283
Moreilândia	231	11	242
Trindade	900	105	1005

Source: CIEVS/SEVS/SES-PE. data updated in 03/14/2021. Data can be reviewed.

It is worth to mention that in this territory, weekly street markets use to happen, in the sale of the production of family farmers, as well as being characterized as a place of relationships of affection and coexistence, which takes place there. People who pass by there are not just customers or consumers, they have behaviours recognized by traders, particular tastes, often with life stories intertwined by family or friendship with affectional bond. Thus, in addition to the fear of contamination, the importance of mourning and respect were imposed in the face of the current reality, caused by the covid-19 pandemic.

Although, in general, agricultural production sector has not been the most affected, compared to others, such as those directly related to leisure, culture and sport, the economic impacts for family farmers and peasants were significant, especially for those who had less diversification of production and means of commercialization (which depended on sales at the street market only, or for institutional programs, etc.), as well as those who live further away from the big centers and who do not have private means of transport. In municipalities where the disease was increasing, and also the distancing protocols became more demanding, keeping the street market in operation as usual became unfeasible in April, May, until the opening phase of these fairs for the commercialization of family farming production, through social distancing and safety protocols, when it comes to viral infections. After this period, gradually, some activities that involved larger audiences returned. Even with restrictive protocols, and high level of insecurity, little by little some activities were resumed, in a good part of the general commerce in these urban centers in the Araripe Backlands territory.

AGROECOLOGY AND ITS POTENTIAL TO FACE THE PANDEMIC AND TRANSFORM THE FUTURE

Agroecology is based, then, on proposing changes to overcome the negative effects of chemical, mechanical and biological revolutions, on the environment, on social dynamics and also the impact on people's life, such as pesticide contamination, soil degradation, pollution of the air, water, the increasing of the agribusiness and rural exodus, among countless consequences. Altogether, a well-established cadre of scientists started to propose alternatives to the development model based exclusively on the aforementioned revolutions. Such alternative paths are not conclusive yet, there are divergences between them, when it comes to the possible levels of adoption of chemical inputs or technologies in agricultural practices. The pandemic has made seen, paradoxically, to show that changes in the way of life and production are necessary, in what we can call, an agroecological transition. According to data from the National Register of Organic Producers, maintained by the Department of Agriculture, Livestock and Supply (MAPA), Pernambuco has an important network of organic producers, social control organizations and certifiers: There are 27 Social Control Organizations (OCS), with 578 registered producers operating in 27 municipalities and the existence of five certifiers operating in the state is also identified, which serve 75 organic producers, 13 legal entities and 62 natural person (BRASIL, 2018).

In the first months of 2020, several works started to be published, pointing precisely to the predictions of the Agroecology supporters, and became evident while in the pandemic. Something that was already noticed in previous epidemics is the relationship between food and epidemic outbreaks. Such findings, especially the link between the use of pesticides, food, animal husbandry systems, forms of occupation and use of spaces for agricultural activities, inequalities in access to health systems and the latest major epidemics, have given rise to strong propositions of paths to be followed, thereby avoiding another crisis, by adopting agroecological principles in food production and circulation systems (ALTIERI, NICHOLLS, 2020; GEMMILL-HERREN, 2020; DUNCAN, RIVERA-FERRE, CLAEYS, 2020). The post-pandemic hypothesis is of an increasing in social and economic inequalities, in the medium and long term, considering that those who were able to respond better, with less capital losses, should reconstitute their economies more efficiently, as they consumption is re-establishing itself. The attention of the government and other socio-economic support institutions must turn to groups of family farmers, peasants and other traditional communities, who must have become even more vulnerable and excluded from the processes of socioeconomic participation in their territories. As the main alternative in the recovery of this socio-economic reality, the principles of Agroecology can lead society not only to overcome the current crisis, but to avoid new crises of a similar type and promote positive social changes.

RURAL TECHNICAL ASSISTANCE IN TIMES OF PANDEMICS

With the pandemics arrival in Brazil and the restrictions of social contact in March 2020, the Technical Assistance and Rural Extension (ATER) processes underwent significant changes to continue to happen. What was previously done in person, has become a routine using the whatsapp application and others social medias, making up a practice that is nothing new, while in the pandemic period, with the practice of remote rural technical assistance (DIAS, 2021).

These are some issues raised by this study, in which the use of social communication technology, used in the practice of remote rural technical assistance, does not replace face-to-face moments, but it is a tool that, if well used, can expand action, reduce costs and speed up rural extension processes, combined with the face-to-face approach.

Virtual communication strengthens physical presence, which is already starting to happen following security protocols, in rural technical assistance actions, through virtual dialogue with farming families, using the WhatsApp application that, even before the pandemic, this practice was already part of the actions of the Center for Assistance and Support to Workers and Alternative Non-Governmental Institutions - NGO CAATINGA, maintaining it as a contact instrument in the communication and social mobilization strategy. As well as the presence in other social media on the internet, through the sharing of messages and videos over the internet, expanding considerably among farmers, especially rural youth, who have come to run well this technology. The internet has been important so that workers can access other health or social assistance services, as not all families have access to the internet or a device with a WhatsApp application, as a strategy to continue to work and keeping the communities and families assisted, even with another means of communication and with new learning, (VIEIRA, 2021).

In this terms, despite the difficulties, with the demand for insertion in the digital world, many farmers are joining the process of adaptation to the technological world of information and avoiding distance from the market. In these moments, the internet works as an ally of farmers in response to the crisis (SOUZA & BERALDO, 2020).

Another extremely important communication tool that was strengthened during this time of pandemic, used as an institutional priority, was the radio program Family Agriculture in Debate, carried out collectively by the team from the Center for Assistance and Support to Alternative Workers and Non-Governmental Institutions, broadcast in three radio stations in the Backlands from Araripe territory, with coverage in several municipalities. In this way, the challenges of a remote rural technical assistance and extension, in partnership with other rural technical assistance institutions, understand that it is important to improve quality of internet access, to make rural assistance projects and programs feasible, both for the families, as for technicians from public institutions, NGOs and families, for the use of technological equipment and access to the internet (BRANCO, CARVALHO, XENOPHONE, 2021). The same authors state that the methodologies used in technical assistance and remote rural extension are important, but they will not replace technical assistance and in-person remote rural extension, which allows a level of knowledge transmission that goes beyond technical knowledge, involving a process of education and exchange of ideas and knowledge.

In a scenario of sustainable family farming in Pernambuco, it was possible to identify the weaknesses, especially within the scope of the Department of Agriculture and Agrarian Reform, the main body managing State Government actions for rural development, and the main instrument for the implementation of public policies for the strengthening of family farming, with regard to budget forecasting and execution focused on research and extension, from the perspective of sustainable family farming. It is also possible to state that family farming in the Province of Pernambuco accumulates important elements, such as the numerous experiences of agroecological street market, social controlled organizations and registered

organic/agroecological farmers, which make it possible to make efforts to move forward to the process of transition and consolidation of an agriculture, where food production is based on the guiding principles of sustainability (SOUZA; LYRA; SILVA, 2018). Therefore, agroecology values not only the farmer's knowledge and techniques, but also recognizes and values the workforce employed in the agricultural production process, in family food security, in overcoming economic and social crises, based on a set of practices and knowledge of a place or territory, in sustainable rural development.

COMMERCIALIZATION IN THE SUSTAINABLE FAMILY FARM IN PANDEMIC TIMES

According to data from the National Register of Organic Producers, Led by the Department of Agriculture, Livestock and Supply (MAPA), Pernambuco has an important network of organic producers, social control organizations and certifiers: there are 27 Social Control Organizations (OCS), with 578 registered producers operating in 27 municipalities and the existence of five certifiers operating in the state is also identified, which serve 75 organic producers, 13 legal entities and 62 natural person (BRASIL, 2018). There is a consensus that the general retraction in demand for food, resulting from the loss of consumer purchasing power, rising of unemployment rate in the country and the suspension and closing of traditionally accessible markets, will have particularly impacting effects on family farmers. This group of producers depends on short supply chains and local markets for the sale of their production (FAVARETO; CAVALCANTI FILHO, 2020). In this way, recent studies on family farming have shown the effects of the pandemic in three main and interconnected dimensions: a) difficulties in maintenance the productive and commercial dynamics; b) impacts on production volumes; c) effects on prices received and drop in family farmers' income in recent months (IICA, 2020; SALAZAR et al., 2020; IDB, 2020).

The immediate cancelling of classes ended up disrupting purchases by the National School Feeding Program (PNAE), having negative repercussions on local food supply systems and on family farming as well. This situation was mitigated by the publication, yet in April, of Resolution Nº 02/2020 of the Department of Education (MEC), which authorized, on an exceptional basis, the distribution of foodstuffs purchased via PNAE, to the families of students. However, many provinces and municipalities chose to use this resolution to purchase food from large retail chains or to create a “meal aid”, allocating amounts in kind so that the families purchase their food themselves. This has resulted in reduced access to diversified and healthy food for students and their families and has left potential farmers out of this market, impacting the income of family farming (PREISS et al., 2020b; VALADARES et al., 2020).

In the territory of the Araripe Backlands, which since February 2020, where Brazil directly experiences cases of the coronavirus, in which Covid-19 was characterized by the World Health Organization (WHO) as a pandemic, that is, present in Worldwide. As a result, there is a moment of strong crisis that, after a year, still impacts the entire rural and urban population, preventing circulation on the streets, with greater health safety. As a result, there are many impacts on people's lives, including the way they buy food. Food producers also felt the reflection of this moment, mainly in the commercialization of their products. Faced with this scenario, according to HONÓRIO; XENOFONTE, (2021), farming families were guided to adopt

new marketing strategies, because in the Backlands from Araripe, the marketing of agroecological products has 13 agroecological fairs and the territory also has fixed commercialization spaces, through the organization of family farming. Such as Espaços Empório Kaeth, in the city of Ouricuri-PE, Ecoa, in the city of Araripina-PE and the Espaço de Comercialização Agroecológico, in the city of Santa Cruz-PE, featuring an increase in products offered by farmers, especially those who are not yet able to be present at regional fairs. Other ways to market were to adopt virtual communication, through the WhatsApp application, as the main means of promoting sales, by sending individual messages, product photos to local consumer customers. In this way, using the application in different ways, whether by displaying the products in the "status" function or with the creation of groups, to publicize and sell products from family farming production, as well as becoming a space for exchanging knowledge and ideas between farmers, women farmers and consumers. The sale of food and products at home, in community homes or in the neighborhood has been strengthened as an alternative for resulting in family income, as has the delivery of orders made via messages. Another form of sale that has grown in the Araripe backlands is the supply and delivery of products to more conventional commercial spaces, such as greengrocers, which has contributed to the sale of production. Sustainable family farming has strengthened marketing strategies, reinforcing the contribution of agroecological family farming to the capacity to feed the population. With the current reality of this pandemic, there is the challenge of at the same time reflecting on the reflection of these changes and innovations, for agroecological production, when family farmers, who adapt and reinvent themselves to drain local production from family units, continuing to feed the population, even yet at a time of social distance (HONÓRIO; XENOFONTE, 2021).

With no doubt, the main transformation resulting from the pandemic when it comes to the commercialization of food is the increase in virtual purchases, whether through applications commonly used for personal and private contacts (WhatsApp), whether through new applications or through online shopping platforms and "Virtual Fairs", the fact is that the food trade mediated by information technologies has grown (PREISS, 2020a). These new marketing dynamics have transformed delivery practices and the ways in which farmers offer their products, as well as alleviating the disruptive effects of the pandemic on local food systems (FAO, 2020).

As activities related to food and agriculture in general are considered essential when new research fronts are explored, supplying many questions, especially around the debates about adapting to new realities about healthy food, animal husbandry systems, society-nature relationship, agrifood systems and markets, which can place Agroecology, as a paradigm of social transformation, in an epicenter of discussions (ALTIERI, NICHOLLS, 2020).

Agroecology as a science, which values traditional knowledge in the construction of a sustainable agricultural production model, has as its object the social strengthening of the producer and agricultural communities, so that they can be active subjects of their own lives, who can live with dignity and independence in the countryside, in harmony with natural resources and producing healthy food. For that matter, CUNHA et. al. (2015 p.3) highlights that food sovereignty is directly linked to food production.

CONCLUSION

The current crisis caused by the covid-19 pandemic demonstrated the importance of agroecology, through the development models of family farming, in different national territories, in the social organization of rural communities, in the construction of local knowledge and food security, in reduction of social inequalities, that demonstrated results from the production and commercialization of products from family farming, through the impact of the current humanitarian health crisis, which directly affects the social and economic development of a nation. In conclusion, the importance of public policies, which is already consolidated in the mobilization agendas, of rural technical assistance, of non-governmental and public organizations, of representative entities of family farming, consolidated by face-to-face activities and appropriate to a new model remote rural technical assistance, in the adoption of communication technologies and social organization, through legislative decrees and rules for social isolation. In addition, short-term commercialization markets between farmer and consumer must be strengthened, with street markets, centers for the commercialization of agroecological family farming products, in the adaptation and innovation of this commercialization of healthy food through information technologies, greater distribution of income, in overcoming production and marketing difficulties. Through the problem of the pandemic, which is distancing itself, in the uncertain future, in the evaluation of strategies, which have been carried out in the sustainability of rural activities, in regional agro-ecological territories.

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