

The Sahel Crisis: An Analysis of its Impact on Food Security in Mali

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Abstract: This study aimed to assess the resilience of Mali in the context of food security, given its status as a member of the Sahel region. Like many developing economies, Mali is characterized by a significant portion of its economy in the primary sector, with agriculture contributing 37% to its Gross Domestic Product (GDP) of \$837 per capita in 2018, as reported by the National Institute of Statistics. By conducting a comprehensive review of existing literature and conducting in-depth field research, we aimed to shed light on the challenges of food security in a state of flux. Our findings emphasized Mali's ability to tackle food insecurity, despite the difficulties posed by its harsh environment.

Keywords: Food security, Mali, Gross Domestic Product, Policies

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1. Introduction

Mali, sharing the Sahel with countries such as Burkina Faso, Mauritania, Niger, and Chad, is not immune from the recurring shocks affecting the food and nutritional security of millions of populations who live below the poverty line (1.25 USD per day per person according to the World Bank 2018). In rural areas, access to food is a permanent challenge, with vulnerable populations spending more than half of their income on these expenses. In the face of a security crisis, these households quickly exhaust their limited resources and are then unable to rebuild their assets due to a lack of a permanent source of income.

The year 2012 marked the start of the worst crisis that threatened the very existence of Mali as a country. This situation nearly undermined the efforts of the various sectors, including public authorities, populations, and technical and financial partners, who were working to put an end to the recurring food crises affecting the inhabitants of its arid zones (north) and parts of the central regions (Mopti and Ségou, 2012).

Common frameworks and partnerships have emerged involving sectors including social transfers for food and nutritional security to harmonize approaches and provide a better response to the crisis. However, there is still a notable lack of consensus on key issues,

such as targeting beneficiaries or transfer modalities, which is largely due to the recent emergence of social protection policies in Mali and other Sahel countries. These sector-specific policies are strongly influenced and constantly evolving because the donors have different approaches, leading to the lack of minimum standards in this area.

The food and nutritional security strategy aims to meet the essential needs of the population. One of the measures taken at the Mali donors' roundtable in 2008 was to achieve food self-sufficiency by increasing and diversifying agricultural production and improving the incomes of the population through better market organization for staple foods, such as cereals, sugar, oil, fruits, and vegetables.

The major challenge posed is to find a way to reconcile subsistence agriculture in the absence of peace across the entire territory, to lay the foundation for long-term food security across all regions of the country. The objective of this work is to analyze the resilience of Mali in terms of food security, despite its complex multidimensional crisis. To achieve this, our analysis focuses on a theoretical approach and a field study. After this study, we will be able to answer the following questions:

1. How do populations organize themselves with the help of public authorities and their partners?
2. Is the support from public authorities and their partners sufficient?
3. Does this support eliminate the need for further help?
4. Do populations that are not affected approve of this assistance?
5. What is a sustainable strategy for coordinating supply and demand?
6. How can we improve physical and economic access to food for populations, particularly vulnerable and poor populations?
7. How can we strengthen institutional and financial governance in terms of food and nutritional security?

As a methodology, we rely on the analysis and utilization of surveys and reports from sectors such as the Ministry of Agriculture, the Ministry of Solidarity and Social Development, the Food and Agriculture Organization (FAO), the United Nations High Commissioner for Refugees (UNHCR), articles addressing similar issues through a literature review and interviews with various resource persons working in the targeted field to collect information and data from multiple sources.

This paper consists of two parts, the first being theoretical, focusing on the links

between security crises and food security. The second focuses on the efforts made by sectors (public authorities, humanitarian organizations, concerned populations) to overcome the negative externalities resulting from crises.

2. Methodology

The quality of research is based both on the method and the theory. The choice of approach will generally determine how we plan our responses to our research questions. Of course, the nature of the object you will study will also influence your choice of approach. The methodology is concerned with codifying rules.

We emphasized the previous report of Fishbein & Ajzen (1975) that the analytical approach allows researchers to focus on the elements that give them the theoretical legitimacy to rely on the accuracy of details, to prove and validate their thoughts with the scientific community. Today, we can still resort to the classical analytical approach, which remains an excellent tool, because the flaw is not in the tool but in the type of use.

The flaw comes from the fact that disciples have elevated these principles to the rank of dogmas of thought and science. This method is based on four principles: evidence, reduction, comprehensiveness, and causality, which allow one to order the thoughts by

starting with the simplest and easiest objects to know, gradually building up to the knowledge of the most complicated.

We agree that scientific research remains a dynamic process or a rational approach that allows for a clear and objective examination of phenomena, finding solutions to problems, and obtaining precise answers from investigations. This process is characterized by being systematic and rigorous and leading to the acquisition of new knowledge. The goal we want to achieve through our paper is to provide answers to the fundamental criteria of the functions of research that require the description, explanation, understanding, control, and prediction of facts, phenomena, and behaviors. Scientific rigor is guided by the notion of objectivity, meaning that the researcher deals only with facts within a framework defined by the scientific community.

The selection of the documents that will allow for an objective treatment of the study's theme is carried out through document reading. Therefore, there is an indispensable prerequisite before definitively choosing a document as a source of inspiration. It must be observed and understood in terms of its structure, through visual detection which allows it to be characterized through the organization of paragraphs, punctuation, and vocabulary used. The ability to distinguish

between descriptive texts (narrative, explanatory, didactic, or normative) and problematic texts (argumentative, and polemic) is necessary. Once the form of the document is identified, its content must be understood: what is known about the subject? Is expert assistance necessary? The analyst's personal experience is then utilized, especially if they are a specialist in the relevant field.

It is concluded that the purpose of document analysis is to precisely define a certain number of elements that may not necessarily appear explicitly in the information obtained from the bibliographic description. This analysis represents the preliminary and common phase of the operations of condensation (establishment of summaries) and indexation.

Regarding the method of investigation through the qualitative approach, the researcher starts from a concrete situation containing a particular phenomenon, such as terrorism-related insecurity in the case of research, which he aims to understand rather than demonstrate, prove, or control. It gives meaning to the phenomenon through or beyond observation, description (determining the nature and characteristics of the phenomena), interpretation, and appreciation of the context and the phenomenon as it presents itself. This method uses qualitative

research techniques to study particular facts (case studies, observation, structured or unstructured interviews, etc.). The qualitative mode provides content data, not numerical data resulting from the quantitative approach. The qualitative research process involves using emerging questions and procedures; collecting data at the participants' locations; analyzing data inductively, starting from the particular to build general themes, and interpreting the meaning of the data. A qualitative research report has a flexible structure.

3. Relationship between crisis and food security in Mali

In this section, we present the different theoretical and empirical contributions that allow us to give legitimacy, arising from the interdependence between crisis and food security, enabling the population to guarantee or have decent means of subsistence over time.

3.1. The history of food security-related crises

Mali, a landlocked Saharan country in West Africa, covering a vast area of 1,241,238 km² and with almost 7000 km of borders with seven countries including Algeria, Burkina Faso, Ivory Coast, Guinea Conakry, Mauritania, Niger, and Senegal. The

country's geographic institute highlights the existence of three major climate zones, namely the Sudanese region in the south with rainfall reaching 1400 mm in some years; the Sahel in the center with rainfall ranging between 200 and 550 mm; and the southern Sahara in the north covering two-thirds of the territory with annual rainfall less than 127 mm. According to the National Institute of Statistics, the estimated population of Mali was 19,727,661 in 2018, of which 50.50% were women (9,861,858), largely concentrated in only one-third of the country's surface (central and southern regions). The population density is therefore very low in the 5 regions of the North (Gao, Kidal, Ménaka, Taoudéni, and Tombouctou) with only one-fifth of the population living in over 820,000 km². A result of a very high population growth rate (3.10% per year from 2012 to 2020, one of the highest in the world, with a fertility rate of 6.3 children on average per woman and a daily average increase of 827 people), the population of Mali could reach 30 million by 2035. We emphasize with the previous report of Follona (2017) that the population is predominantly rural (64.4% in 2012), living on subsistence agriculture and pastoralism in arid zones and very dependent on climate conditions. Despite sustained economic growth in recent decades, poverty remains widespread: in

2012, 50.40% of the population lived on less than 1.25 dollars per day.

We observed that since the 1970s, desertification has caused various major food crises in Mali, largely due to natural disasters such as droughts, floods, and locust invasions, which tend to increase in frequency and intensity with climate change often coupled with economic shocks (such as the rise in energy and food prices in 2007-08) and successive political crises (armed conflict in the North, particularly in 1990, 2006 and 2012). These crises are the cause of massive internal population movements, particularly in other regions of the country and neighboring nations (such as Niger, Mauritania, and Burkina-Faso).

Since January 2012, Mali has faced its worst crisis, described as multi-dimensional and threatening its existence as a nation (security, humanitarian, and sociopolitical), this situation is the indirect consequence of the international intervention in Libya that opened the doors to a jihadist invasion in the North of the country. The violence, looting, and general confusion caused have resulted in internal displacement movements to the South and refugees in neighboring countries. According to the 2017 UNHCR report, "there were still 58,985 internally displaced people, mainly in the North of the country. This situation increases the pressure on already

vulnerable host communities. Furthermore, there are still 143,567 Malian refugees in neighboring countries. The political fragility that has resulted from these events continues to hinder the country's development processes". Despite the signing of the 2015 Algiers agreement between the government of Mali and the groups (platform, supporting the public authorities) and the coordination leading the rebellion, the peace process remains very fragile. This situation means that populations residing in the regions affected by the security crisis (North and a large part of the Center) have important and recurrent humanitarian needs.

According to the National Institute of Statistics in 2018, the number of people affected by food insecurity during the lean season ranges between 3 and 5 million each year, a large part of whom (410,000 people in 2015, nearly 2 million in 2014) were in a critical situation and needed humanitarian assistance to ensure food security defined by (Coulibaly et al., 2016) as "in the Bambara language as *dun ka faasabati*, literally, *dun ka faa*: eating to satisfaction; *sabati*: making it permanent. The analysis of this translation through local representations refers to more or less mythical memories of *gnô mansa*, literally, *gnô*: sorghum, millet, and *mansa*: king. This is the farmer whose granaries never emptied and where the duration of

grain stocks was seven years. Since decentralization, our agricultural lands are threatened, *dun ka fa ma sabati* (that is, literally, eating to satisfaction is not permanent)" This point enables us to link poverty and the absence of food security in the country.

3.2. The relationship between poverty and food security

The concepts related to food security have evolved over the last thirty years, parallel to the evolution of official political thinking (Heidhues et al., 2004; FAO, 2004a and 2012b; Clay, 2012; Diagne, 2013; Follona, 2017). The term appeared in the mid-1970s when the World Food Summit (1974) defined food security in terms of food supply, that is, ensuring the availability and stability of basic food product prices at the national and international levels. "Ability to always supply the world with basic products, to support growth in food consumption, while controlling fluctuations and prices." In 1983, FAO studies focused on access to food and led to a definition based on the balance between demand and the supply element of the food security equation: "Ensure that everyone, at all times, has physical and economic access to the food they need" (FAO, 1983).

The definition was then revised to incorporate into food security analyses the individual and household levels, as well as the regional and national aggregation levels. Documentary research has allowed us to understand that the concept of food security takes into account its multi-dimensional impact, which is both quantitatively and qualitatively reflected in four aspects: food availability, access to food, stability, and food utilization (Diagne, 2013).

Regarding food availability, it must consider a sufficient amount and appropriate quality that meets international standards, provided by national production or imports (including food aid from partners). We note that access to food encompasses all residents' access to adequate resources (rights) that allow them to acquire adequate and nutritious food. Rights are defined as the set of goods a person may access due to the legal, political, economic, and social context of the community in which they live (including certain traditional rights such as access to common resources).

If we analyze the use of food, we must highlight the framework of a proper diet, safe drinking water, sanitation, and health care to achieve a state of nutritional well-being that meets all the physiological needs of the person. All these elements highlight the role of non-food factors in food security. One of the most fundamental aspects is stability

despite circumstances and contingencies. To achieve food security, a population, household, or individual must have permanent access to adequate food. This access to food should not be threatened by sudden shocks (such as an economic or climate crisis) or cyclical events (such as seasonal food insecurity). This concept can therefore simultaneously concern the availability and the outcome of access to food security. The aspects regarding food stability and its use have been the subject of several studies and analyses by many economists and specialists in the field (Clay 2012, Diagne 2013; Camara, 2015).

Regarding poverty, there is no universally recognized definition despite abundant literature on the subject. Whether it be from the economic, social, cultural, or anthropological approaches or the perspective of international institutions, poverty is never defined in and of itself, but instead concerning other concepts such as well-being, basic needs, and social exclusion. Poverty is not a universal condition; its definition is attached to the various characteristics that make it up. In this context and to better understand this phenomenon, we will present the perspective of international institutions on the definition of poverty, as well as a number of ideas developed on the subject by economists in

the literature (Chambers, 1990; Sen, 1998, Beitone et al., 2002; Verez, 2007; Benoît, 2012).

The complexity in defining poverty lies in the description of the characteristics of this phenomenon: poverty as a lack of monetary resources, a deficit of education and health, or the absence of freedom, the inability to participate in a community, or a lack of a sense of belonging to a given society. What should a person not lack absolutely? This question leads to the broader notion of equity, which complicates the conceptualization of poverty. Poverty is therefore not a universal condition, its definition varies based on its characteristics and social norms that are approached differently by different authors.

The United Nations Development Programme (PNUD) considers that individuals, families, or groups of the population can be considered in a state of poverty when they lack the necessary resources to obtain adequate food, participate in activities, and have living conditions and conveniences that are normally or widely encouraged or approved in the societies to which they belong. Poverty is also the condition in which a human being is permanently deprived of the resources, means, choices, and power necessary to

acquire and maintain economic autonomy and promote active inclusion in society.

In the absence of a definition of poverty itself, many authors approach it from its victims. Thus previously Beitone et al. (2002) point out that "individuals or families whose resources (material, cultural, and social) are so low that they are excluded from acceptable minimum lifestyles in the member state in which they live" can be considered poor. For the World Bank and the UNDP, poverty results from "lack of access to assets, insufficient or inappropriate economic growth, and poor governance".

The West African sub-regional financial institution, the Central Bank of West African States (BCEAO), has also taken an interest in understanding this crucial issue for the countries in the zone. According to it, "poverty is a complex phenomenon, with the term covering several meanings. According to common usage, it characterizes the situation of an individual who does not have the necessary resources for a decent life. This definition takes into account the material dimension, related to living conditions in general, especially access to food, potable water, clothing, housing, transportation, and energy. It also covers the immaterial aspect, relating to access to education, quality health coverage, and valuable activity. These two dimensions of poverty refer to the terms

human poverty and monetary poverty, developed by the United Nations Development Programme (PNUD) and the World Bank" (BCEAO, 2012).

Another form of poverty is social or relational poverty, which "resembles the suffered (rather than desired) isolation, involuntary solitude, exclusion, and marginalization." We agree with the previous study of Verez (2007) that this situation is not very frequent in Mali, given the importance placed on solidarity and mutual support.

We conclude that institutionalized corruption in countries in the south such as Mali, is one of the ingredients that perpetuates and reinforces poverty, especially during times of crisis. Therefore, appropriate mechanisms that facilitate necessary checks are necessary. This existence of corruption is a significant determinant in the root cause of the food crisis, as resources meant to fight the phenomenon are misdirected for personal purposes. According to a previous report by Verez (2010), "Corruption has serious consequences, without counterpower, a decentralized decision-making system, accessible information, respected accounting, and regular auditing, sectors can redouble fraudulent practices and internalize the idea that it is the norm: what is the point of being good and honest if others are not." We

understand the vicious cycle in which corruption leads to more corruption.

Reinforcing the link between resilience and nutrition in agriculture and food

Linking nutrition and population resilience is theoretically necessary, as it provides a foundation for reinforcing practices. We observed that the concepts of nutrition and resilience are closely linked, as nutrition is both a determinant and a result of reinforcing resilience. One of the concerns of all governments in Mali is to eradicate malnutrition to reinforce resilience, as well-nourished people are healthier, can work better, and have better physical reserves. Households with good nutritional security are better equipped to withstand, endure longer, and recover more quickly from shock situations. Conversely, less resilient households are more affected by external shocks and therefore face a greater risk of malnutrition.

We agree with the previous study of Follona (2017), that "the agriculture and food sectors are essential for human nutrition and community resilience, but approaches designed to improve household resilience to shocks do not always contribute to positive results - and sometimes even have negative effects - on nutrition." Therefore, the strengthening of the legal and political

environment is necessary to ensure that nutrition issues are properly taken into account in the development of policies, programs, and coordination systems. The Ministry of Children and Family and the Ministry of Social Development work with the country's partners to address existing deficiencies in this area. Different sectors have become aware of the need to raise awareness among political decision-makers who must take measures to reinforce resilience in the socio-economic and human costs of undernutrition/malnutrition.

To ensure that the nutritional needs of vulnerable individuals and groups are taken into account, it is imperative to include explicit nutritional goals in disaster risk management and resilience frameworks, strengthening the interconnections between development policies and food and nutrition security coordination mechanisms at all levels (national, regional, and local), and humanitarian coordination programs and structures. Integrating nutrition into agriculture and food information systems will likely improve the tracking of risks and situation analysis, leading to reliable results and better action planning to enhance resilience, which is often not the case in affected areas.

New strategies such as the integration and consideration of food consumption

indicators, such as dietary diversity, into early warning systems, can help increase their ability to predict shocks and identify the most at-risk households or livelihood groups. For this, stakeholders must view nutritional indicators (especially growth stunting) as indicators of decreased resilience and high vulnerability in analyzing and monitoring the situation of affected populations.

Understanding the sources of malnutrition for different livelihood groups can help in the mastery of early warning indicator analysis and anticipate risks for specific groups.

4. The efforts made by the public authorities to end and prevent crises

Since the advent of democracy in March 1991, Mali has benefited from the effective support of several partners. The Sweden-Mali cooperation program from 2016 to 2020 provides significant support for national and regional food and nutritional security policies and support for the resilience of agro-pastoral communities. The FAO, through its Strategic Objective 5, which aims to improve the resilience of livelihoods to threats and crises, and its Country Programming Framework (2018-2022) with Mali, piloted and supported by the "Strengthening the resilience of vulnerable populations to climate variability" project, has the overall goal of significantly improving the food and

nutritional security of vulnerable populations in the intervention regions through strengthening their resilience against hazards.

a - The implementation of an early warning system (EWS) by the authorities

By analyzing the reports of the EWS, it appears that structurally, the most vulnerable populations are mainly located in the Western Sahel (North of the regions of Kayes and Koulikoro), the Dogon Plateau, the North of the central Delta of the Niger River (Mopti region), the lake zones of Mopti and Timbuktu, the Bourem zone (Gao region) and the Kidal region. Among the causes of this structural vulnerability and food insecurity in Mali, the drought with its effects on the watercourse and groundwater table levels, the drying up of lakes and ponds represents the dominant factor. This structural vulnerability to rainfall is also linked to insufficient arrangements at the level of agriculture, livestock, and fishing.

This food security device integrating early warning functions, decision-making, and action includes the following tools: the Early Warning System (EWS), a mechanism responsible for monitoring food security, the determination of a minimum national security stock (physical stock), the establishment of a watch cell, a food security

fund (financial stock), the creation of an agricultural market observatory monitoring food product prices, the strengthening of the capacities of the Mali Food Products Office (OPAM), which implements food security interventions based on the structures of the Ministry of Territorial Administration.

To facilitate regulation, as the temptation of profit led farmers to sell a significant amount of their harvest, causing food insecurity issues during the lean period, the public authorities deemed it useful to better coordinate initiatives. In this spirit, the Cereal Market Restructuring Program (PRMC) was created, with the financial support of the World Food Program (WFP) through a contribution to the national food security stock. It also serves as a coordinator between different donors.

Regarding livestock, which is the flagship product of farming and one of the main activities in regions affected by the security crisis, unusual movements of animals in the western Sahel and northern part of the country will reduce supplies in the markets of these locations due to the departures to areas with abundant grazing. The decrease in supply compared to demand in the western Sahel due to the departure of transhumant has contributed to raising the price of animals and the scarcity caused by theft and massive livestock theft by bandits due to insecurity in

the areas of breeding (north and center). We noted that in Mali, the liberalization of prices led to the development of a performing supply system for markets. However, access to food for the entire population remains a major challenge for the government. Economic policy options taken by leaders from independence to the 80s were based on marked state intervention. Thus, the state ensured through its representatives the distribution of agricultural credits and inputs at subsidized prices. The prices of different agricultural speculations were decided by the government. One of the main criteria for determining food prices was the purchasing power of consumers in urban areas. This fixation was intended to provide cereals in large metropolitan areas at low prices and at the same time offer incentives to producers. The Stabilization and Price Regulation Office was responsible for managing the subsidies caused by the price policy funded from resources primarily from specific taxes on hydrocarbons and other funding received from partners. The Mali Agricultural Products Office (OPAM), created in 1964, had a monopoly on the trade of cereals. The office was responsible for collecting cereals from producers grouped into agricultural cooperatives located throughout the country. Since 1991, the market has been fully liberalized. Prices are therefore no longer set

by government structures, but by the supply and demand conditions in the country and the sub-region. The OPAM has seen its responsibilities limited to the management of the national food security stock and food aid. Non-government organizations (NGOs) often intervene through the purchase and distribution of cereal.

b - The National Food Security Strategy (SNSA)

This strategy was developed and adopted by the government in 2002, with the general objective of ensuring that all Malians have access at all times to the food necessary to lead a healthy and active life, as noted previously (Diagne, 2013), all four food security conditions must be ensured and sustained, including food availability, access to food, stability and appropriate food use. Specific objectives, directions, and mechanisms have been defined. The Ministry of Agriculture and Food Security is responsible. Sector policies have been developed in different areas of the primary sector, such as livestock, fishing, and agriculture.

According to the Ministry of Livestock and Fishing (2018), the sector policy in livestock revolves around six strategic axes, including improving animal nutrition, animal health, livestock performance, development of

marketing and processing infrastructure and equipment, capacity building of sectors, and rational management of natural resources.

Regarding the fishing sector policy, it is based on harmonious development, taking into account the preservation of the environment and ecosystems. This fishing sector policy is governed by the Fishing and Aquaculture Development Strategy (SDPA). The goal of this policy is the sustainable management of the fishing and aquaculture resources in Mali.

5. Discussion on existing measures

The government's strategic directions and investment priorities for the agricultural sector, which concentrates the majority of the country's active population, are taken following the general development objectives of the rural sector through eight priority areas.

After several studies and meetings with representatives of farmers' organizations, the latter has been chosen to guide the development of the sector and identify the most relevant and effective solutions to implement so that Malian agriculture can effectively contribute to the development goals and sustained growth, reversing the trend in the fight against poverty.

The following areas are retained: Food security, the development of irrigated

agriculture, the development of agricultural and forest products, the fishing and aquaculture sector, livestock and animal husbandry, the strengthening of support and accompaniment measures to increase and ensure the sustainability and competitiveness of the agricultural sector, the preservation and decentralized management of natural resources and wildlife, and finally measures that facilitate the promotion of rural employment and fight against youth unemployment.

The goal of these public policies is to create the conditions for food self-sufficiency, giving all Malians the opportunity to produce competitively, with the aim of sustaining means of sustained income capable of ensuring permanent means of subsistence so that food insecurity problems are a thing of the past for all citizens.

We also emphasize the need to improve governance in the country at the institutional level. The application of governance principles and values helps prevent and avoid frustration that can result in security crises as a result of the rebellion of a population that feels excluded or marginalized. Strengthening the performance and intervention capacity of public administration services to meet the needs of the population is a necessity to initiate the legitimate development that all citizens aspire to.

The sensitization and training of public administration personnel on the different methods, means, goals, and processes of stakeholder participation are challenges that the public authorities must address in order to calm and inspire the necessary dynamic of responsible behavior among citizens. Improving coordination mechanisms and integrating institutional communication into public administration as a cross-functional function will be essential to avoid the mistakes made in the past that facilitated population unrest.

To achieve this, it is necessary to reconsider the preparation of the "implementation" phase of sectoral strategies and programs, through the establishment and structuring of implementation dialogue with stakeholders.

According to Follona (2017), it is also necessary to "articulate national and local concerns (take into account local programs and projects). To improve the operational conditions of sectoral strategies and programs, enable stakeholder adherence, and facilitate the territorial implementation of sectoral strategies and programs.

In Mali, it is, therefore, necessary to properly formulate the guidelines of multisectoral public policies, as we acknowledge that the interdependencies between the different sectors, factors, and variables that interact on all sectoral components are defined,

recognized, and taken into consideration in the relevant national policies and strategies. The adaptation of coordination mechanisms and the development of an integrated and shared communication strategy must be among the priorities of the actions to be corrected by the public authorities and their partners.

6. Conclusion

The evolution of GDP, heavily influenced by exports in the agricultural and mining sectors, has still not been accompanied by a decrease in the depth of poverty in Mali. Therefore, the equations "productive investments", "added value" and "equitable redistribution" of the fruits of growth, which give rise to crises, must be solved to give more chances to development in general, which is a source of progress and wealth for the majority of the population.

Agriculture, along with livestock farming, is the dominant activity in the regions of the North, particularly affected by insecurity in the Sahel and some parts of the two central regions (Mopti and Ségou). The development of this sector requires a peaceful and cordial climate, but with insecurity, populations are forced to abandon everything to try to survive and rebuild in areas unaffected by the negative externalities of this situation. The establishment of appropriate structures and

mechanisms to address the difficulties imposed on its inhabitants is a moral obligation of the public authorities and the international community.

The insecurity coupled with climate hazards in Mali complicates the resolution of the poverty equation, which has been the major problem that different governments since independence in 1960 have tried to eradicate. Researchers like Nicholson (2005) and New et al. (2006) highlighted that the evolution of climate conditions since 1960 in West Africa shows a regional trend towards a significant increase in the duration of drought episodes during the rainy season, which leads to nutritional difficulties through food crises for populations mainly living in rural areas and relying mainly on agricultural revenue.

Before the security crisis of 2012, Mali had managed to avoid major food crises since the 1983-1985 period, thanks to the food security system put in place at that time. The Cereal Market Restructuring Program (PRMC) was set up by the government and a group of technical and financial partners (PTF) in 1981. Created to gradually liberalize cereal markets, the program later evolved its objectives to establish and sustain a food security system capable of identifying and managing food crises while creating conditions for increased production despite the hazards faced by producers.

We acknowledge that food and nutritional insecurity have structural characteristics. Mali has been affected by it in recent years, through a combination of biophysical and agro-climatic shocks affecting crops and livestock, and economic shocks. These natural and climatic ones have been added since the first quarter of 2012, those of a security nature. Despite peace agreements, the humanitarian situation remains concerning. The year 2018 was particularly characterized by the outbreak of intercommunal violence (Peulhs - Dogons) in the center, facilitating the proliferation and existence of pockets of food and pastoral crises, which concern all sectors in the country (public authorities, populations, PTF).

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