

## FAMILY FARMING OR AGRIBUSINESS IN BENIN ? A DISCUSSION REGARDING FOOD SECURITY

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There is an impressive number of papers on how food security can be effectively achieved. However, the present paper assesses the contribution of agricultural models to food security in general and in Benin particularly. In order to effectively contribute to achieving food security, the Government of Benin has made the development of agriculture a top priority sector in its “Government Action Program” (PAG) 2016-2021. In this perspective, two strategic documents namely the “Strategic Plan for the Development of the Agricultural Sector” (PSDSA) and the “National Investment Plan for Agriculture, Food Security and Nutrition” (PNIASAN) were validated in May 2017 to guide the development of agriculture in the country. The main goal of the PSDSA and the PNIASAN is to contribute to economic growth and food security through an efficient sustainable production and farms management for the period of 2017-2025<sup>1</sup>. However, the “Study on Global Vulnerability and Food Security Analysis” (AGVSA) carried out in 2017 to assess the state of food security in Benin reveals that 9.6% of the population is food insecure. This percentage accounts for 1.09 million people<sup>2</sup>. Besides, 0.7% which accounts for 80 000 people experience severe food insecurity. In other words, this part of the population has deficient dietary intake and cannot meet their minimum dietary needs. More importantly, the AGVSA study reveals that rural households are more affected by food insecurity than urban ones. The same study reveals that 12% of rural households are in moderate food insecurity and 1% in severe food insecurity against 7% moderate food insecurity for urban households. These facts appeal for a better understanding of the agricultural production models as well as the food supply system in rural areas. How are these agricultural production models affecting food security particularly in rural households? The paper discusses in the following lines the contribution of family farming and agribusiness as the two agricultural models recognized and promoted with institutional frameworks in Benin.

The agricultural production in Benin is made of two categories of crops: food crops and cash crops<sup>3</sup>. The main food crops are cereals (maize, sorghum, millet and rice), roots and tubers (cassava, yam, sweet potato,

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<sup>1</sup> PSDSA, *Plan Stratégique de Développement du Secteur Agricole : Orientations stratégiques 2025*, mai 2017, Cotonou, 22 p.

<sup>2</sup> PAM, Programme Alimentaire Mondial des Nations Unies, *Analyse Globale de la Vulnérabilité, de la Sécurité Alimentaire et de la Nutrition (AGVSAN)*, octobre 2014, Rome, 148 p.

<sup>3</sup> PSRSA, *Plan Stratégique de Relance du Secteur Agricole*, MAEP, octobre 2011, Cotonou, 107 p.

Irish potato), legumes (beans, cowpea, soybean and ground nut) and oilseeds (pea nuts and palm nuts). The main cash crops are cotton, pineapple, cashew. Much of the agricultural production, including fisheries and livestock, provides the bulk of food consumed in Benin and their contribution to food security is of great importance<sup>4</sup>. The food crops mentioned above are mostly provided by family farming practiced in rural households. The AGVSA study estimates that over one-third (37%) of households in Benin practiced subsistence farming or gardening during the 2016-2017 crop year. About three-quarters (72.4%) of households that do not engage in subsistence agriculture are not farmers and are engaged in other economic activities. This confirms that family farms in rural areas are producing most of the food consumed in Benin. The contribution of family farming to food availability in rural households is evident as farmers produce crops primarily for their own food needs. Therefore, the fact that rural households are highly vulnerable to food insecurity compare to urban households needs to be discussed.

Alongside family farming, the government has been promoting agribusiness for more than a decade as agriculture in Benin is the main sector for wealth and job creation. Unlike family farming, agribusiness is mostly assimilated to large farms with massive production mainly dedicated to the market. The inclusion of rural farmers into production systems dedicated to the market makes them loose progressively the focus on farming to feed themselves. Therefore, it is important to analyze the consequences of this predominant market-oriented production system on farmers in rural areas.

The remainder of this paper is organized as follows. Section I provides background information on the concept of food security and an overall view of the state of food security in Benin. In section II, we briefly define family farming and agribusiness as their understood and practiced in Benin. In section III, the institutional framework of food security in Benin is presented. Section IV exposes the linkage of each agricultural model with the institutional framework and the eventual impacts on rural households' vulnerability to food insecurity. In section V, based on three main causes of food insecurity in Benin, we critically discussed the contributions of family farming and agribusiness. Afterwards in section VI, some concluding remarks are given.

## I. Overview of food security in Benin

Food security was defined at the World Food Summit as a situation in which all people, always, have physical and economic access to enough, safe and nutritious food to meet their needs and their dietary preferences for healthy and active lives<sup>5</sup>. In practice, food security is difficult to measure as it is not a

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<sup>4</sup> PSDSA, *Plan Stratégique de Développement du Secteur Agricole : Orientations stratégiques 2025*, Op. cit.

<sup>5</sup> FAO, Committee on World Food Security (CFS 2012/39/4): *Director-General's Report on World Food Security: A Reappraisal of the Concepts and Approaches*, Rome, 2012, 14 p.

specific feature to notice at a specific time. More information is available on the emergence, the evolution and the tools to measure food security<sup>6</sup>. Four fundamental pillars help understand the complexity and broadness of the concept of food security: availability of food, access to food, appropriate use of the food and stability over time of the three previous pillars. There is more information on the pillars of food security as well as how each pillar can be achieved and assessed<sup>7</sup>. However, the conceptual framework of food security shows that the food security state of a household or a person is the outcome of a wide range of factors. Therefore, the assessment of food security is based on multiple indicators related to the four pillars previously mentioned.

The data regarding food security in this paper were obtained with the CARI approach used to assess the situation of households' food insecurity for the AGVSA study conducted in 2017 in Benin. The CARI approach (Consolidated Food Security Indicator Approach) was developed by the World Food Program to assess food security in all its dimensions. This approach makes it possible to combine food security indicators in a way that is systematic and transparent to establish a clear classification of households. Based on the CARI, each household surveyed is classified according to a food security composite index (Food Security Index) in four categories that are: food secure, food insecure without hunger, food insecure with moderate hunger, food insecure with severe food hunger. The first, "Food Secure" means that one can satisfy their dietary needs and has no reported indications of food-access problems or limitations. The second, "Food Insecure without hunger" states one has a food consumption just adequate without resorting to irreversible adaptation strategies but cannot afford some essential non-food expenses. The third, "Food Insecure with moderate hunger" means the person has a deficient food consumption or cannot meet its minimum food needs without resorting to irreversible adaptation strategies. The fourth, "Food insecure with severe hunger" means one has a very poor food consumption or is experiencing a significant loss of livelihood that will lead to challenges of food consumption or worse. There are more papers about food security indicators, their differences and several ways of classification of vulnerable people according to some relevant aspects in the context of the study<sup>8</sup>.

AGVSA study shows that in Benin, up to 4.9 million people (42.9%) live in limit food security conditions<sup>9</sup>. Moreover, the same study reveals that 12% of rural households are in moderate food insecurity and 1% in severe food insecurity against 7% moderate food insecurity for urban households.

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<sup>6</sup> FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*, Rome, 2019, 212 p.

<sup>7</sup> John Hoddinott, Yisehac Yohannes, "Dietary diversity as a food security indicator: A final report", Food Consumption and Nutrition Division, International Food Policy Research Institute, Washington, D.C, 2002.

<sup>8</sup> Pangaribowo Evita Hanie, Gerber Nicolas, Torero Maximo, "Food and nutrition security indicators: A review", *ZEF Working Paper Series*, no. I08, University of Bonn, Center for Development Research (ZEF), Bonn, february 2013, 50 p.

<sup>9</sup> PAM, Programme Alimentaire Mondial des Nations Unies, *Analyse Globale de la Vulnérabilité, de la Sécurité Alimentaire et de la Nutrition (AGVSAN)*, octobre 2014, Rome, 148 p.

Why are rural households more affected by food insecurity though most of them produce through family farming the bulk of food consumed in urban areas? Are farmers producing mainly as part of agribusiness production systems? How is each model affecting the four pillars of food security in rural households?

## II. Family farming and Agribusiness in Benin

In its most generic terms, family farming is all family-based farming activities in relation to many aspects of rural development. According to FAO<sup>10</sup>, family farming is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labor, both women's and men. The family and the farm are linked, coevolve and combine economic, environmental, reproductive, social and cultural functions. Family farming, therefore, depends on family labor and is meant to meet the social, cultural and economic needs of the family members. The most important feature is the production objectives of the farm.

In Benin, family farming employs around 70% of the active population<sup>11</sup>. The "Strategic Plan for the Revival of the Agricultural Sector \_ PSRSA<sup>12</sup>" defines family farming through 3 main features. The first is the effective participation of the head of the family in the production process. The second and most important for this paper is the farming mainly dedicated to the food needs of the household and not profit. The third feature is the greater importance of family labor over wage labor. It is therefore clear that in Benin, the main goal of family farming is to meet the food needs of the household. In this regard, family farming contributes to food availability in rural households, which is the first pillar of food security.

According to Fontan Sers<sup>13</sup>, agribusiness can be defined as all economic activities likely to generate a significant surplus of marketable massive and large agricultural production. It includes pure farm activity as well as all other industries and services that make up the supply chain that connects the farm to the consumer through processing and sale. This definition emphasizes the size of the farm, processing and marketing of agricultural products as important features of this model of agriculture. Moreover, the "Strategic Plan for the Revival of the Agricultural Sector \_ PSRSA" also clearly states that the main goal of agribusiness is market oriented unlike family farming. However, in Benin few large farms organised for massive production and food processing for the market exist. Therefore, rural households initially practicing family farming are organized and included in agricultural chains for the main purpose of

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<sup>10</sup> FAO, Committee on World Food Security (CFS 2012/39/4): *Director-General's Report on World Food Security: A Reappraisal of the Concepts and Approaches*, Rome, 2012, 14 p.

<sup>11</sup> PSRSA, *Plan Stratégique de Relance du Secteur Agricole*, MAEP, octobre 2011, Cotonou, 107 p.

<sup>12</sup> *Ibid.*

<sup>13</sup> Charlotte Fontan Sers, *Etat des lieux sur l'agrobusiness et les systèmes mixtes agriculture-élevage en Afrique de l'Ouest et du Centre*. éd Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricole, 2011. 30 p.

producing for the market and mostly cash crops. Though family farming can be market oriented when the household generates a surplus of production, the situation in the previous case is progressively changing the main purpose of family farming.

The inclusion of rural households in agribusiness chains is due to the lack of support to family farming crop production in terms of inputs and market structure. This can be noticed in the professionalization process of agriculture which mainly addresses cash crops in Benin. In this perspective, farmers are included in production systems such as contract farming to supply agri-food processing firms in exchange of inputs and loans<sup>14</sup>. These production systems guarantee inputs and sometimes loans to farmers and are progressively making rural households invest most of their resources and labour to produce cash crops in order to supply agri-processing firms and traders. Thus, farmers forget the main goal why they used to farm which is to feed the household. This cash making agriculture model from the inputs to the final product is often refer to as agribusiness. How can this model be beneficial to farmers without putting them at risk regarding food availability in the households?

How can both models (family farming and agribusiness) be included in a strategic perspective that strengthens food security by assuring food availability in rural households? Agribusiness can be beneficial to small farms insofar as it includes them in supply chains consuming the surplus of their food base crops and offer them easier access to inputs. Zohra<sup>15</sup> insists that to strengthen food security in rural households, agribusiness systems must be developed to process the surplus of food base crops of farmers not changing the food production goals of farmers in order to include them in the production of an intensive cash based monoculture. How does the current agricultural institutional framework contribute to that?

### III. Institutional framework of food security in Benin

Several initiatives have been taken in Benin for the achievement of food security. Two main strategic documents currently define the framework of the development of agriculture and food security. These are the “Strategic Plan for the Development of the Agricultural Sector” (PSDSA) and the “National Investment Plan for Agricultural, Food and Nutrition Security” (PNIASAN). The PNIASAN is one of the outcomes of the Malabo commitments, articulated with the ECOWAP strategy. The PNIASAN has a long-term approach and is based on several structuring actions and institutional, steering and financing tools. This strategic document states in its section 4 the goal of boosting food production, transformation and marketing by working with family farms, firms, factories and investors.

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<sup>14</sup> DEDRAS ONG, CRADIB et REDAD ONG, Rapport annuel de l'Alliance Soja PAFISO, 2013, 40 p.

<sup>15</sup> Zohra Bouamra-Mechemache, Sabine Duvaleix-Treguer, Aude Ridier, *Contrats et modes de coordination en agriculture*, Économie rurale, 2015, 345 p.

In the section 5.2.3 of the PNIASAN, it is stated that the government will support family farming to enable them to progressively professionalize. This means that farmers' organizations should improve the provision of economic services to their members, especially in terms of facilitating access to good inputs, credits, insurance and market information. Farmers will be strengthened to achieve their main role in agriculture which is to provide the bulk of food needed in their respective households to ensure food and nutritional security. As for agribusiness, it is stated in the same section that the private sector will have to invest in agribusiness firms to improve the level of agri-food processed in order to create value, jobs and economic growth. The implementation of the PSDSA with the PNIASAN is therefore taking both family farming and agribusiness into consideration.

This framework if well implemented will lean on the complementarities of both farming models to reinforce food security in rural households and create agriculture based economic growth as well. It is only in this perspective that family farming through its professionalization could play both roles: satisfy the household's food needs at first and then contribute to the growth of agribusiness by supplying the surplus of commodities for processing. Regarding the framework of implementation, what results could be expected from each model and how would they possibly affect the pillars of food security?

#### IV. Foreseen results of both models

Thought the four pillars cannot be dissociated when it comes to assessing food security, its achievement always starts with food availability which is the first pillar. Food availability can be guaranteed and sustained by family farming relevant food crop production in the household. The second pillar, quality use of the food can be ensured both in household cooking skills and through agri-processing. Access to food and food stability which are the two last pillars can be guaranteed by the development of agribusiness.

This involves the development of road infrastructures for greater accessibility to rural areas to get supplied in commodities for agri-food processing. Agri-food processing will limit post-harvest losses by making food surplus available to agri-food processing firms<sup>16</sup>. The development of agribusiness based on family farming will allow rural households to be more resilient to food insecurity and make a stable income as well. To achieve this, a control system and a quality assurance should be implemented to ensure that the large share of agri-food processed are local production and that the commodities meet local consumption needs in both rural and urban areas. However, food crops should be always addressed particularly even if the farmer is part of a supply system for processing. A dynamic quality assurance system is needed to

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<sup>16</sup> FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*, Rome, 2019, 212 p.

ensure the quality of agri-food products and food safety. They must be applied at every stage of the food production chain and must comply with the regulations and the needs of consumers at the local level. In this regard, supports for the development of agribusiness will primarily focus on the aspects of food availability and processing of the surplus for local consumption. To understand the importance to farm for consumption first, one should analyze the causes of food insecurity in the current free market economy.

Important post-harvest losses are recorded each year due to lack of suitable technologies for crop conservation. Improving post-harvest techniques would increase the quantity of marketed agricultural products and contribute to improved food security. Agri-food processing increases food security in four main ways. The first way is by reducing post-harvest losses, which are estimated to be 30% for cereals, 50% for roots and tubers, and up to 70% for fruits and vegetables<sup>17</sup>. The second way is by lengthening the shelf life of foods, it is easier to reach urban areas where most of the population is concentrated. The third way is by valuing products, incomes improve, and the level of employment increases along the food chain, from production to consumption. And last but not the least is that it improves the quality and safety of food through the implementation of appropriate certification and traceability systems for market access.

It appears from the foregoing paragraphs that the four pillars of food security can be met through the strategic complementarity of family farming and agribusiness in Benin. In this regard, by strategically supporting agribusiness in its complementarity features with family farming, all pillars of food security will be met. Food availability will be achieved through family farming. Food accessibility will be achieved through investment in major infrastructures, including roads to access rural areas, hydro agricultural development, and construction of crop markets. The use of food will be ensured by raising the awareness of households on best food consumption practices on the one hand and by providing technical and financial support to agricultural firms to process food for local consumptions. The fourth pillar which is stability could be ensured through the improvement of the institutional environment to promote access to inputs for crop production and the stabilization of food prices in a fair market for farmers. These results cannot be achieved if the solutions do not take shape in the causes that hinder the achievement of food security in Benin.

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<sup>17</sup> UA, BAD, FAO, IFAD, Commission économique pour l'Afrique, Organisation des Nations Unies pour le développement industriel, *Initiative pour le développement de l'agrobusiness et des agro-industries en Afrique*, 2010, 33 p.

## V. Critical analysis regarding food security

Regarding the main causes of food insecurity in Benin, poverty and limited access to food come first. AGVSA study reports that more than 96 % of households affected by a shock experienced a reduction in income and only 10 % of them were able to fully recover<sup>18</sup>. The logic of producing commodities to sell and then buy food with the sales income is not realistic in our context for two reasons related to the second pillar of food security. The first reason is that there is no guarantee that the income gained from the sale is enough to ensure the food budget of the household. The second reason is related to the problem of access to food, which depends on other factors that are independent of agriculture, such as road infrastructure and means of transport to get food to certain areas.

Another cause of food insecurity based on the AGVSA study, is the weakness of household resilience. Vulnerable households are more affected by shocks (64% of small farmers, 56% of households living on aid, 51% of daily workers, 51% of food farmers) than households of employees, civil servants or traders. However, the professionalization of family farming as described in the PNIASAN could help mitigate the devastating impact of food shocks for which rural households are more than 50% victims. Support for the professionalization of family farming should avoid inserting farmers into a supply chain that leads them to produce only for firms and the market. This is the risk faced by rural households, which are increasingly producing under contract for agro-processing firms. The lack of adequate infrastructures to facilitate the transportation of agricultural products and the fluctuation of food crops as well as cash crops prices proves that it is safer for farmers to guarantee food for their households by themselves. The covid19<sup>19</sup> pandemic has shown how unsafe it is to depend on long food supply chains as it puts people who depend on other actors for food at higher risks.

## VI. Some concluding remarks

From the foregoing, the discussion focuses on how family farming and agribusiness can contribute to food security instead of emphasizing the differences. The paper has highlighted some of the issues in agribusiness hindering the effective contribution of family farming to food security in the way both interact. The purpose was to offer an insight on how the dualism family farming and agribusiness can both work for food security. In the current overwhelmed market-oriented economy, the coexistence of family farming and agribusiness is undeniable, but the risk is family farming losing its main goal to only contribute to the development of agribusiness. The place and importance of family farming is evident as

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<sup>18</sup> PAM, Programme Alimentaire Mondial des Nations Unies, *Analyse Globale de la Vulnérabilité, de la Sécurité Alimentaire et de la Nutrition (AGVSAN)*, octobre 2014, Rome, 148 p.

<sup>19</sup> FAO, *COVID-19 and the risk to food supply chains: How to respond?* march 2020.

it ensures the most important pillar of food security in rural households: food availability. That is the main reason why the goal of production for the food needs of the households assured by family farming should not be changed. Nevertheless, agriculture is the first main sector of worth and job creation in Benin. Therefore, the partnership between agribusiness and family farming is necessary but can only be beneficial if both are put into a strategic perspective to achieve food security and create economic growth.

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