

Creation of Food Processing Businesses as a Means to Reduce Poverty in Cameroon: Considerations for Food Safety

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SUMMARY

Agriculture is an important part of the rural economy in sub-Saharan Africa; however, statistics for poverty and underemployment in the region are highest in the world. One of the support mechanisms for economic growth are ministerial strategies to create and support new small- and medium-sized enterprises that add value to primary agricultural products through food processing. Urbanization, the expansion of supermarkets, and the demand for convenience food, present potential opportunities for economic growth to these new food processing businesses. Given the significant incidence of foodborne illness in the region, this article will consider the food safety challenges new food processing businesses in sub-Saharan Africa will face.

OVERVIEW

Cameroon: The shift from agriculture to food processing

Cameroon, located in sub-Saharan Africa is the second largest economy in central Africa (48). More than 61% of the population lives in rural areas, with about 70% working in the agriculture sector. Agriculture is particularly important to the region, as agriculture accounts for about 35% of Cameroon's gross domestic product, with rural areas exporting 55% of its agricultural products (12).

Despite the importance of agriculture to the economy, the poverty rate in Cameroon is 40% (4); furthermore, 79% of the rural labor force is underpaid and live below the poverty line (4). Women are particularly affected, as the majority of the agricultural labor force are women (72%) (15). Approximately 90% of the food consumed by the Cameroonian population is supplied by rural women (46). In rural Cameroon, 80% of women are underemployed (15), meaning that they are they are employed for less hours than desired, resulting in a low income (30).

The food economy, however, is shifting in sub-Saharan Africa from agriculture to postharvest businesses, including food processing. There has been a shift in population from rural areas to urban areas; urban lifestyles have driven an increase in the demand of processed foods (7). As more women, who are generally responsible for the preparation of

meals, enter the workforce, it is reported that the demand for convenience foods has risen (24, 40, 41). In addition, the popularity and spread of supermarkets is increasing to meet the demands of urbanization, the emerging middle class, and the demand for convenience food (41). Reardon et al. discuss that the rural and urban food supply chain has the potential to facilitate economic growth in rural areas of Africa, as the urban share of food consumption is approximately 60 to 70% (41).

The potential of food processing for economic growth in Cameroon

Across Europe, adding value to primary agricultural products through processing is a central element of rural development (17). The many benefits include using food waste and by-products, creating rural destinations for local food products, increasing access to urban food markets, adding value to local farming, and reviving lagging rural economies (17, 43). Valorization (defined as increasing value through the application of value-creating labor during production (33)) of primary food product waste through processing may transform them into products with higher retail values, creating economic benefits for businesses (17, 21, 45).

In response to the numbers of people working in agriculture who are in poverty and the potential opportunities presented by urbanization, the Cameroonian government has launched three programs to support the creation and development of small and medium enterprises (SMEs) that add value to agricultural products through food processing (11–14). One of the programs has been developed by the Cameroon Ministry of Small and Medium Enterprises, Social Economy and Handicrafts (13), with two additional programs developed by the Cameroon Ministry of Agriculture and Rural Development (11, 19). The overarching goal of these three programs is to take advantage of the opportunities presented by urbanization and changing lifestyles by creating food processing SMEs, shifting from exporting primary ingredients and importing processed foods to creating value-added processed food products in Cameroon for the domestic market. It is believed the programs will help reduce

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poverty, decrease food waste, create employment, increase the local economy, and improve food security (11–14).

The aim of the program developed by the Cameroon Ministry of Small and Medium Enterprises, Social Economy and Handicrafts (13) is to create 150 food processing SMEs, 3,500 jobs, and assist 6,750 farmers and wild food procurers to sell products to SMEs, with the aim of increasing the revenue by 50%. The program supports new and existing SMEs food processors by providing training, finance, and access to technology (13).

One of the programs developed by the Cameroon Ministry of Agriculture (19) is aimed at young people aged 18 to 35, living in rural Cameroon. Approximately 61% of the Cameroonian population lives in rural Cameroon, of which 78% are under 34 years of age. The majority of young people lack qualifications, thus limiting employability and economic prospects. The program supports young people to acquire the skills needed to start agrifood businesses, including food processing businesses. The program aims to support the creation of 5,400 agrifood businesses (19).

The second program that was developed by the Cameroon Ministry of Agriculture (11), specifically focuses on adding value to four primary food products that are widely grown in Cameroon by developing the value chain of pineapples, plantains, bananas, and palm oil from production to processing. One area of the program is to support the training of 1,500 young people (40% young women), with the aim of developing 600 new agrifood SMEs, including food processing businesses (11).

A common thread for the three Cameroonian programs (11, 13, 19) is that they are targeting women and young people. Women are the best placed to start food processing businesses due to the prevalence in food production (15, 46), and they often use the skills and tools of domestic cooking at the start, a task that is in the traditional domain of women in Cameroon (11, 13, 19). Young people are targeted to provide vocational training relevant to the rural economy to assist with its development (11, 13, 19).

Potential impact of the Cameroon government programs on food safety

If these three ministerial programs meet their objectives, thousands of new food processing SMEs will be created in Cameroon. Note that insignificant mention is made in the programs of food safety or food safety training. Mention is made in one of the programs that initiatives to improve food safety practices are embryonic (19), but there is no mention of the development of these initiatives or what food safety training and support will be provided to the new food processing businesses.

To protect the health of consumers from foodborne illnesses, adherence to food safety practices by food processing businesses is vital. Foodborne illnesses cause substantial health problems and economic burdens.

Approximately 91 million people per annum in Africa, with the majority reported to be in sub-Saharan Africa, become ill due to foodborne diseases, the world's highest per capita rate (50). The majority of investment in food safety focuses on producers for the export markets, instead of producing food safely for the domestic consumer (23).

It was noted in one of the programs that food processing businesses are likely to start in domestic kitchens (19); however, it is widely accepted that a substantial number of sporadic foodborne illnesses are associated with food prepared in the home (6, 10, 42). Figures for Africa are not known; nevertheless, it is suggested that the majority (87%) of sporadic foodborne illnesses in Europe, Australia, New Zealand, and North America are associated with food prepared or consumed in the home, and it is likely that the figure is greater due to underreporting (42).

Several factors contribute to the incidence of foodborne illness, including inappropriate temperature for storage, cooking, and or reheating, improper handling, cross-contamination, and inadequate cleaning of areas in the kitchen (10, 20, 42). Food processing in the home kitchen (e.g., canning of meats, fruit, and vegetables) is also a cause of foodborne illnesses (20).

Food safety risks associated with the domestic kitchen may be exacerbated in sub-Saharan Africa by the lack of refrigeration, constant electrical supply, inadequate sanitation and water, and high ambient temperatures (29). Cameroon has constant power outages, and access to electricity is estimated at 14% in rural areas and 65 to 88% in urban areas (36). Previous research indicates that power outages result in high temperature levels in domestic refrigerators that may have an impact on food safety (28). Given the prevalence of foodborne disease in sub-Saharan Africa and that most foodborne illness is associated with the home, one may question if the assumption to support the creation of SMEs operating in domestic kitchens without food safety training and support is sound.

Gaining an understanding of the traditional and baseline food safety skills that women have may help identify targeted support to be given to women to increase awareness and the appropriate skills to produce food safely. Some studies report that women have better food safety knowledge than men; however, such studies assert that more research is needed to explore the role gender plays in food safety behavior (22, 27).

As there is a focus on supporting young people living in rural Cameroon to create SMEs (19), many of whom have no qualifications and have low levels of education, no mention of food safety support to meet the challenges of a cohort with low levels of education was included in the programs. This could have an impact on food safety, given the association between low levels of education and food safety knowledge (1); further investigation among young food handlers in rural Cameroon is needed.

Food safety and certification in Cameroon

Cameroon has food safety laws governing food for human consumption. These laws apply to all business that are involved in farming, production, manufacturing, preparing, handling, packaging, storing, and transporting foods that are sold for human consumption (39). According to the food safety laws in Cameroon (39), all food producers, preparers, and distributors selling food to the public must be registered with the appropriate local authority who is to inspect food businesses every 3 years and have systems in place that document the system for the safe production of food, including the training of personnel (39). However, data detailing the number of food SMEs in Cameroon that are registered with the appropriate authorities are lacking.

Despite the existence of food safety laws in Cameroon, they are not enforced. Many food businesses are not registered with local authorities. A study highlighted that among 1,600 street food vendors in southwest Cameroon, only 30% were registered with the local authority; in addition, knowledge of food safety and regulation was critically deficient among such Cameroonian street food vendors (3). There is an identified lack of data detailing the number of food processing SMEs that are registered with the local authority in Cameroon; there is also a lack of information regarding the documented food safety management systems implemented by food processing SMEs as required by law.

Note that currently, an estimated 80% of food for local consumption sold in sub-Saharan Africa is sold in unregulated or ineffectively regulated local markets, commonly called informal markets (25). Informal markets are important for the economy and culture, as they sell local primary products and traditional processed foods, and they are vital for those with low incomes, as they often sell food at lower prices (25). However, with the rise of urbanization and increasing incomes in the region, some consumers are regularly purchasing convenience foods, street food, and food from supermarkets, leading to a growing demand for safe food and food safety certification to ensure that their purchased food is safe (31, 38, 49).

Food safety certification usually involves the implementation of a food safety management system, such as the hazard analysis critical control point system, which is then verified by an independent third-party organization (35). It has been reported that implementing a food safety management system can save a food processing business money, increase customer confidence (47), enhance the image of a company, provide a competitive edge (18), increase sales, and strengthen market share (44). In the context of lower and middle-income countries, including sub-Saharan Africa, it has been argued that systems such as the hazard analysis critical control point have been designed to meet the stringent standards of the countries who import foods from lower and middle-income countries (49) and are aimed at large food

manufacturing countries in Europe or North America who do not take into account the food production environment and culture in sub-Saharan Africa (26). There is widespread belief that many governments in sub-Saharan Africa lack the resources to design, implement, and enforce food safety regulatory structures that are fit for SMEs producing food for local consumption (8, 24, 26, 37, 38). It has also been argued that businesses that adhere to food safety standards in sub-Saharan Africa may be able to access the more lucrative formal markets that may create more jobs and alleviate poverty (16, 34).

For Cameroon, the website of the government body (5) that sets food safety standards and certifies food businesses indicates that only 25 food businesses in Cameroon have been certified, all of which are large manufacturing businesses.

It is not known how many food processing businesses there are in Cameroon; it has been reported that there are approximately 2,500 industrial processing businesses (9). There are no figures for the number of SME food processing businesses in Cameroon or how many have registered with the appropriate authority. Research into this area could help establish a baseline to understand the barriers that exist for SME food processors in Cameroon from registering with the local authority or obtaining food safety certification. Such data could help inform the development of future support mechanisms to enhance and improve food safety.

Considering the Cameroon government programs to encourage the development of new SME food processing businesses and an initial indication that business are not registering with the local authorities (3) or being certified (5), further research is needed to understand the existing support that is provided, the support that is needed, and any difficulties SMEs face in accessing the appropriate support.

Research conducted in Zimbabwe (32) and Ghana (2) concluded that barriers for small businesses for implementing food safety management systems include lack of finance, training and knowledge, support from the government-testing facilities, and infrastructure. These challenges are not confined to sub-Saharan Africa. A study in the United Kingdom by Evans and Taylor (18) determined that key barriers included cost, time, knowledge, and an understanding of how accreditation would benefit the business. Although there is a vast difference between the food processing context in Europe and sub-Saharan Africa, research, to examine if lessons learned in Europe could be adapted for Cameroon, may be of value.

CONCLUSION

The creation and support of food processing SMEs is a key strategy for the Cameroon government for alleviating poverty. It has created three programs that may result in thousands of new food processing businesses. The support for these new business in food safety appears to be lacking; this has the potential to exacerbate the already high levels of

foodborne illnesses and the resulting health and economic burden. These new businesses, however, should comply with Cameroon food safety laws; research is needed to gain an understanding of how many of these new companies adhere to food safety requirements. Given the lack of certification among SMEs in Cameroon, this article has identified the need to explore the potential barriers to food safety compliance and food safety certification among SMEs in Cameroon. Furthermore, there is a need to consider the possible solutions to support SMEs in Cameroon to overcome difficulties to obtain food safety certification. Indeed, there is a need to consider the most suitable types of support and training for the groups that are being

targeted to develop new SME food processing businesses. Additional studies investigating the food safety practices and support needed by these individuals may be useful. A study examining the food safety knowledge and practices within new SME food processing businesses could help to identify potential food safety issues and inform the development of food safety training specific for new SME food processing businesses in Cameroon. Finally, because consumers purchase the majority of food in informal markets, and there are indications that the demand for safe food is increasing, research regarding consumer perceptions of, and demand for, food safety certification in Cameroon may be of benefit to SMEs and the Cameroonian government.

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