

# The Quality Management System Implementation Issues in Agribusiness Industries: Evidence from the Guinea Republic

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## ABSTRACT

This paper investigates the challenges of quality management system implementation in agribusiness in Guinea. We explore the issues encountered by the agribusiness managers in the Guinea Republic. In this study, the Delphi and AHP techniques are used to determine the problems the agri-food industries in Guinea face when setting up a quality management system. We looked into what caused problems and what managers thought about the need for ISO 9001 certification in Guinea's agribusiness industries. We also look at the activity reports of the Guinean Institute of Standardization and Metrology (IGNM) and the National Office of Quality Control (ONCQ) to learn more about the problems. Our findings show that the main issue is that more national quality management experts are needed to assist agribusiness. It also shows that agribusiness leaders are willing to get ISO 9001 certification and use a quality management system. Nevertheless, the high cost of certification and the amount of paperwork are big problems that make it hard to reach that goal. The results of this paper will fill a gap in the literature and allow the Guinean government to take steps to help the agribusiness industries set up quality management systems.

**Keywords:** agribusiness, finance, issues, ISO 9001, the Guinea Republic, quality management system.

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## I. INTRODUCTION

### A. Throwing the Problem Out

Guinean agri-food companies play a significant role in job creation and socio-economic growth in the country; with an 8.2% share of Guinea's gross domestic product (GDP), they contribute to poverty reduction. The observation shows that most of these companies need help setting up a quality management system. Among these difficulties are the high cost of certification and the need for qualified human resources to correctly implement all quality management processes in the company. However, the country has potential agricultural production. Its domestic production has not sufficed the market demand, so Guinea currently imports more than 25% of its staple food requirements [1]. Indeed, according to [2], a country or region with some claims to the agri-food industry must ensure that it has good agriculture, good industry, and a good distribution network; Guinea still has a long way to go to solve these problems.

In Africa, the food economy represents a substantial market and is expected to reach \$1 trillion by 2030, according to the World Bank. Agribusiness is already a driving force for development in several respects. In West Africa, the food economy accounts for 66% of total employment, and 40% of

the sector's added value is due to agribusiness outside agriculture [3]. Food processing accounts for 60% of total manufacturing employment in Niger and Nigeria and between 30% and 40% in Ghana, Burkina Faso and Mali [4] data from 2012-2015. In five East African countries, agribusiness accounts for between 27% and 64% of the manufacturing sector's contribution to GDP.

In Guinea, the fight for food security has become one of the priorities of the authorities at the highest level and the general population. Several researchers have conducted studies on food security in the world, such as [5], which have shown that the significant challenges we face in achieving global food security while addressing climate, extinction, and pandemic crises, require cooperation and trust. Indeed, it shows that the stakes are enormous, and we must call for a collective effort to meet the challenges related to the development of the agri-food industry sector so that our populations can eat quality products from any danger of consumption.

For [6], argued that based on the viewpoints of convention theory, studies on agri-food quality further examined the precise nature of different conventions used by actors to construct the qualities of agri-foods. Moreover, the role quality conventions play in shaping the patterns of industrial

organization, coordination, and exchange in different agri-food systems. Several researchers have been interested in the issue of food safety, as in the case of [7], who argued that food security is a global issue with repercussions for consumers and agri-food industries. It is generally available worldwide, but the latest food crises have highlighted the potential danger foodborne illnesses pose to consumers.

The 21<sup>st</sup> century is that of quality. Therefore, quality management is an effective management tool recognized worldwide for its contribution to the continuous improvement of the managerial performance of organizations through the effective involvement of all stakeholders of the organization of the Top Management Team, employees, suppliers, shareholders, and customers. Implementing quality management practices (QMP) calls for the total participation of all organization members, including the top management, which is instrumental in ensuring that the practices are effective in various aspects of products, processes and services [8].

### B. The Concept of Quality Management

Quality Management is essential for improving organizational effectiveness and achieving sustainable competitive advantage [9]. Today, quality is no longer only related to a “qualified” product. However, it is subject to the customer’s recommendations, who sets his need regarding the product’s characteristics. Thus, companies in general and agri-food companies, in particular, are obliged to submit to the wishes expressed by the customer during the entire production process. Quality management has had a long and fascinating history. The notion of “excellent” now encompasses considerably more than “conformance to specification” or “fitness for use.” Quality represents a philosophy, a synthesis of methodologies and practices, and an ongoing commitment to performance [10].

While quality research gained attention for decades (beginning in the 1930s with Shewhart, Deming, and Juran), there are relatively few empirical studies. Furthermore, expanding on the simple procedures and practitioners of quality management [11], cited by [11]. Other scholars, such as [12], identified seven central topics critical areas of quality research over the past thirty-seven (37) years (1980–2017): (a) Service quality and customer satisfaction; (b) Process design and control; (c) (International Organization for Standardization) ISO certification and standards; (d) TQM implementation, performance, and culture; (e) QM practices and performance; (f) Reliability, costs, failure, and problems; and (g) Excellence, quality awards.

[13] estimate quality management in several companies belonging to different industries, service, and health sectors. According to them, implementing quality management is a determining factor for a company’s long-term success. One of their research projects, [14] states that quality management is considered one of operations management’s most significant research themes. Further, they detail the role of quality management as a management mode composed of practices extended to all phases of the company’s activity. Quality management is focused on quality, based on the involvement and participation of all company members, aiming for the long-term success and satisfaction of all the company’s stakeholders.

Quality has become imperative, vital for competitiveness, sustainability, business development and a major strategic issue in a context of increasingly exacerbated global competition. It is a critical variable that directly impacts enterprises’ competitiveness because it generates scarcity and differentiation, thus constituting a significant competitive advantage. It is a complex and fundamentally evolving concept based on current technical and scientific knowledge. Finally, quality matters for the entire value chain, from design to place on the market, and therefore involves all operators. On that premise, The International Organization for Standardization (ISO) defines quality as “the conformance to specified requirements.” conformance to specified requirements.” a set of properties and characteristics of an entity that give it the ability to satisfy explicit or implicit needs.” It corresponds to the ability of a product, process, or service to meet or exceed consumer expectations/requirements.

The observation of ISO 9000 standards reveals that “Precise and complete definitions are lacking in the scientific field.” None of the great Master of Quality, Juran, and Deming, has given a clear definition despite their active participation in its development [15]. Researchers like [16] argued that quality approaches are another concept that has emerged as an evolving organizational design and an organizational discipline that companies adopt to be part of a logic of continuous improvement and evolve towards a societal and sustainable trend.

### C. Quality in the Agri-Food Industry

Based on studies of various agri-food products and industries, these scholars argued that definitions of agri-food quality should not be considered as pre-given but are formed fluidly as a result of interaction and negotiation among actors, including producers, consumers, traders, and retailers. [17], In addition, bad planning, delivery, and management can affect the quality of the product. Authors Bauer & al (2020) that sustainable agri-food systems make it possible to achieve food and nutritional security for present generations while not compromising the social, economic, and environmental balances that will allow future generations to do the same [18].

Quality intervention improves product quality performance by reducing defects in targeted garment products resulting in improved buyer-supplier relationships [19]. However, studies have shown that obtaining a quality product or service in a public or private company requires profound changes in the behavior of individuals within the organization. Usually, the agri-food system is seen as a field characterized by low research and development expenditure, owing to its generally recognized nature as a mature and relatively low-technology industry. However, changes in international competitiveness have now provided a solid incentive to innovate, both for small and medium-sized enterprises and big companies [20].

For [21], providing a quality service or product means providing an adjusted and economic response to a given need. To this end, undertaking a quality approach engages the company in the process of progress and constant improvement. Further on, other authors [22] argue that agri-food industries promote domestic production and can

increase exports; they enable food security and must, at the same time, ensure flawless health security.

#### D. Food Industry Concept (LPN)

The agri-food industry (IAA) is an enterprise that processes agricultural raw materials. Whether from soil cultivation, agriculture or livestock or imported for human and animal consumption [23]. This generic definition refers to a diversity of actors, particularly the stages of transformation assumed by Austin (1981) and the strategies adopted by [24]; [25]. It affects the well-being, health and survival of human beings. At first glance, it is a straightforward activity that can compare to a black box where it enters agricultural products on one side and leaves industrial products on the other [2].

Further, he technically defines the agri-food industry as a set of processes or operations that aim to transform living organisms to achieve specific objectives. The agri-food industry is at the point of articulation between the three traditional sectors of activity: agriculture, industry, and service. In the French Republic, [25] fragments this sector of activity while proposing a categorization situating these actors in the chain that transforms food products from agricultural raw materials to final consumer products. To this end, it distinguishes three types of industries:

- 1) Agri-food industries are located very early in the processing chain. They generate intermediate food products for the intermediate food industry.
- 2) Intermediate food industries are located downstream of agri-food industries and upstream of food industries.
- 3) The food industries are located further down the processing chain. They manufacture products intended directly for the final consumer market.
- 4)

## II. MATERIALS AND METHOD

### A. Choice of Methodological Approach

The traditional Delphi method was developed by [26]. It is a consensus strategy that systematically asks a group of experts or managers in a particular field what they think about a particular problem. In addition, to save time and money, [27] introduced the modified Delphi method, which, using a structured questionnaire, helps experts and managers to focus on a given problem, [28]. So that our study is consistent, we used the questionnaire to determine the most significant problems agri-food companies in Guinea face when trying to set up a quality management system.

The Hierarchical Process Analysis (HPA) method combines with the Delphi technique to explore challenges. AHP, created by [29], is a vigorous technique for solving complex decision problems. Later, many researchers used the AHP method in combination with the Delphi method to create mixed exploratory methods to investigate managerial views and critical factors. [28]; [30]. In this study, the Delphi method combined with the AHP technique is used to identify the challenges faced by the agri-food industries in Guinea in the implementation of a quality management system, the causes of these challenges, and the opinion of the managers about ISO 9001 certification in the agri-food industries in Guinea.

### B. Initial Questionnaire Development Process

As a first step, we got in touch with the managers of the agri-food industries that were listed in the Republic of Guinea's business directory. We are also looking at specific factors, like the manager's age, gender, level of training, and location, to see if they are willing to help us find data and carry out our research plan. For this purpose, a first letter was sent, but also telephone calls. After making contact, the first set of open-ended questions based on our research questions was sent to know their different points of view before validation. After some people said yes and others said no, we changed the questionnaire, sent it out again, and then double-checked that it was correct. One hundred-two managers of companies in the food business agreed to participate in the study. After accepting and adopting the final questionnaire, we conducted the survey using Google Forms. One thing to remember is that the people who answered chose to remain anonymous and speak on behalf of a company. The terms "surveyed," and "manager" were used during the research.

### C. Problem Statement

This study aims to find out how hard it is for Guinea agri-food industries to establish a quality management system and what the managers think about ISO 9001 certification.

### D. Research Objectives

This study aims to determine how hard it is for agri-food industries to implement a quality management system. Also, it shows why it is essential for these companies to get ISO 9001 certification in today's business world.

### E. Research Question

To carry out this research, we will analyses and answer the different questions of our study, which are, among others:

- 1) What challenges hinder the implementation of a quality management policy in Guinean agri-food companies?
- 2) Why is it essential for a company's ISO certification?
- 3) What needs to improve the quality management system of Guinean agri-food companies?

The answers to these questions will lead us to a way out of the challenges and propose possible solutions for an efficient and competitive agri-food sector capable of offering Guinean consumers and those around the world quality agri-food products.

### F. Data Sources and Sample Size Determination

In this study, we adopted two data collection methods: primary and secondary data. In collecting primary data, we proceeded through documentary research; we analyzed the activity reports of the Guinean Institute of Standardization and Metrology (IGNM). Moreover, the National Office of Quality Control (ONCQ) provides annual reports on the agri-food industries to have in-depth ideas on the problem and existing literature. For secondary data collection, we adopted a questionnaire-based survey. The choice of our research theme is driven by the fact that the issue of quality management has never been the subject of a scientific study in Guinea. As for the choice of the sample, we randomly selected companies from the directory of the register of agri-food enterprises in Guinea, then based on several criteria for the final validation of choice.

### G. Description of Participants

For this study, the necessary information collected is the order of the sex of the participants, their ages, their responsibility, their marital status, and their level of education see in Table I.

TABLE I: PARTICIPANT'S GENDER

Gender	Freq.	Percent	Cum.
Female	50	49.02	49.02
Male	52	50.98	100.00
Total	102	100.00	

In our first table (Table I), we find the majority is male 52 participants, or (50.98%), then comes the female gender with a total of 50 participants, a relative frequency of (49.02%).

TABLE II: PARTICIPANT'S AGE

Age	Freq.	Percent	Cum.
18-25	10	9.80	9.80
26-30	29	28.43	38.24
31-40	39	38.24	76.47
41-50	22	21.57	98.04
Above 50	2	1.96	100.00
Total	102	100.00	

Our statistical presentation at the age level indicates that most participants are in the order (31–40 years) or a relative frequency of 38.24%. Then comes the interval of 26 to 30 years, generating a total of 28.43%; in third place comes the order of 41 to 50 years, or 22% of the participants. Finally, between 18 to 25 years and more than 50 years, i.e., 9.80% and 1.96% of the respondents see in Table II.

TABLE III: PARTICIPANT'S EDUCATIONAL LEVEL

Education Levels	Freq.	Percent	Cum.
Baccalaureate	19	18.63	18.63
Bachelor	38	37.25	55.88
College or High School	17	16.67	72.55
Master or above	28	27.45	100.00
Total	102	100.00	

The statistics in the third table (Table III) show that 38 participants (37.25%) of the total respondents have a bachelor's degree in training. It's explained by the fact that most training programs offered by Guinean universities are limited to the bachelor's level. 28 participants, or 27.45%, have a master's level training or more. Most have had international training at this level, and some in the country through the master's and doctoral programs set up by some universities. Finally, come successively the level college / high school and Baccalaureate with 19 and 17 participants each, or (18.63% and 16.67%).

TABLE IV: PARTICIPANT'S MARITAL STATUS

Marital Status	Freq.	Percent	Cum.
Married	62	60.78	60.78
Single	32	31.37	92.16
Widower	8	7.84	100.00
Total	102	100.00	

Most of our respondents are married, a total of 62 participants or 60.78% of the relative frequency. Then occupies singles with an absolute frequency of 32, or 31.37%

relative frequency; finally, widowers with a total of 8 participants, or about 7.84% of the participants in the study see in Table IV.

TABLE V: PARTICIPANT'S FUNCTIONS

Functions	Freq.	Percent	Cum.
General Manager	47	46.08	46.08
Logistics Managers	13	12.75	58.82
Products Compliance Monitor	22	21.57	80.39
Quality Manager	20	19.61	100.00
Total	102	100.00	

The fifth statistical table (Table V) concerning the functions of the participants indicates that 47 participants are general managers of the food industries or 46.08%, then comes the function of product compliance controller with an absolute frequency of 22 participants or 21.57%, and in the third position comes the function of Quality Manager with an average of 20, or about 19.61%. Finally, the Logistics Manager was responsible for ensuring the delivery of products to the destination for 13 participants, or about 12.75% see in Table V.

## III. RESULTS

### A. The ISO Standard in the Republic of Guinea State of Play

Concerning Standardization, the first standards were the American and Canadian military standards. Standardization then evolved in a differentiated way in several countries and continents until the International Organization for Standardization (ISO) was given, in the early eighties, the mandate to develop standards and guides for management and quality assurance. For ISO, Certification provides written assurance (a certificate) by an independent authority that a product, service, or system satisfies particular standards.

The Government of the Republic of Guinea, in order to set up an effective and efficient National Quality Infrastructure and ensure the competitiveness of the economy, the protection of consumers and the environment, has decided with the support of the West African Quality System Program (WAQSP) to adopt a National Quality Policy-oriented to all the socio-economic sectors of the country [31].

Guinea's national ISO certification policy recommends that industries in general and agri-food industries, in particular, comply with the principles in processing agri-food products put on the market and ensure that these products are exempt from any danger to the consumer. Indeed, they must comply with the requirements set by Law L93/040/CTRN of October 15, 1993, on Standardisation and Certification of conformity to standards; but also Decree D93/209/PRG/SGG of October 21, 1993, implementing Law L93/040/CTRN on Certification constitute the legal instruments governing standardization activities in Guinea. Under this law, the Guinean Institute for Standardization and Metrology (IGNM) provides product certification. Without a confirmed national product certification system, the IGNM issues certificates of conformity to standards for products before they release for consumption with the possibility of affixing the national quality mark "NG." It also performs periodic checks on the same products to ensure their continued quality. System



Certification provides by external certifying bodies : AFNOR/AFAQ, Bureau Veritas, Société Générale de Surveillance (SGS).

In a context of liberalization, where imported products are sometimes of better quality and where price competitiveness is increasingly acute, improving the quality of local products is a lever for competitiveness [32]. However, the observation on the ground shows that Guinea has become the dumping ground for products of very dubious quality from specific foreign agri-food industries that threaten the production of local industries. This State of affairs naturally endangers the health safety of illiterate populations who do not consider the product's expiry date or organoleptic quality. The graph below shows the percentage by category of ISO certification in companies in the Republic of Guinea according to the 2020 International Organization for Standardization survey. In this graph, we see only 10 ISO 9001-certified companies or 40% of the total; then four companies certified ISO 14001 or 10%; 5 companies certified ISO 45001 or 15%. We still need to get a company certifying the rest of the ISOs in this batch.

Regarding ISO-certified agri-food companies, to date, there are only two in the country. According to our survey results, only Drink Non-Alcohol company from Guinea (BONAGUI SA) is certified ISO 9001:2008 & ISO 22000:2005. Moreover, General Drinks is certified ISO: 22000 out of the thirty-two agri-food industries registered at the Guinea Ministry of Industry and SMEs (2017) see section B see in Fig.1.

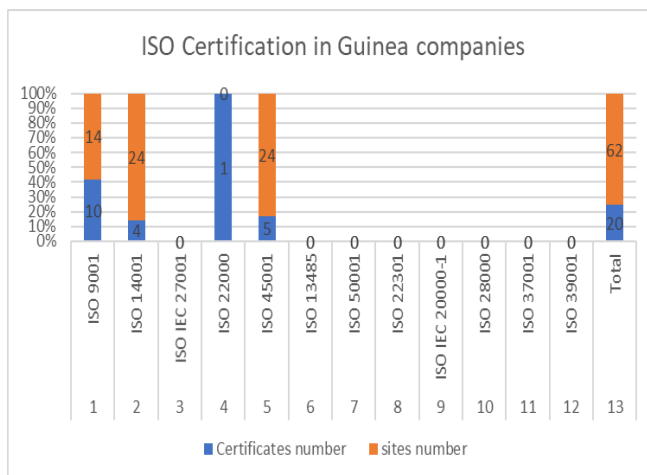


Fig. 1. The status of ISO Certification in Guinea companies.  
Source: ISO\_Survey\_2020 and IGNM-Guinea

### B. The Status of ISO Certification in Guinea's Agri-Food Industries

Guinea's agri-food sector has been at the forefront of the country's development strategy in recent years, given its place in food security. Quality is an increasingly important economic issue in agri-food markets. It is also a central question in the relations between the actors involved in these production chains and the development of a territory [32]. Despite the efforts made by the sector actors in Guinea, the observation still needs improvement regarding the profitability of companies evolving to transform local products to supply the local market with quality products.

Guinean agriculture is mainly subsistence agriculture, i.e. mainly for self-consumption, but whose surpluses sell on the

markets [33]. The Guinean agri-food sector today raises many more questions at the actors' level. Because so far, the country has yet to get rid of the import quantity of foodstuffs of large national consumption, such as rice, wheat, groundnut oil, and flour. As an essential driver of sustainable competitive advantage, quality has been the focus of theoretical research and management practice for a considerable time [10].

In this new global economic order, competition is becoming increasingly fierce in companies. The Agri-food sector is in the dynamic of innovation of their product to satisfy their customers' growing expectations and needs. Customers are increasingly becoming more demanding, but they are also continuously improving their brand image by adopting the quality approach to be more competitive in the local, regional, and international markets. Using ISO 9001 helps ensure that customers always get consistent, high-quality products and services, bringing many business benefits (www.iso.org).

For authors [34], an ISO certification does not guarantee that the processes or the products are of the highest quality. It only states that a system provides confidence that the organization will be consistent in their management processes. Because of the need to describe procedures and to keep track of non-compliances, ISO sees it as a bureaucratic process involving manuals and record keeping.

According to [8], the quality management problem has an important impact on the company's profitability, which makes several leaders of companies, organizations in general, and the food industry all opt for the Certification of their company and products. To date, Certification in public and private companies in Guinea, in general, is still slowing down because of the high cost of standardization, lack of qualified human resources, among other reasons mentioned by local entrepreneurs, and the dilapidated facilities of quality control bodies in the country.

Therefore, the agri-food sector is increasingly optimizing the quality profitability ratio to ensure these companies' competitiveness [16]. In the Republic of Guinea, the investigation reveals that the agri-food industries face several difficulties in making their products competitive compared to imported products. Nowadays, consumers are increasingly sensitive to the quality of agri-food products due to rising living standards [35] see in Table VI.

In Guinea, the fight to market quality agri-food products has increasingly become one of the priorities of entrepreneurs in the agri-food industry. It might be carried out by all stakeholders in the value chain so that local entrepreneurs can obtain ISO certification that will allow them to have customers' confidence in the excellent quality of products. Moreover, they export their products regionally and internationally.

### C. Challenges of Quality Management in the Agri-Food Industries in Guinea

In the Guinea Republic, the lack of competitiveness and non-compliance with standards negatively affect the quality of trade and make it difficult for Guinean products to access foreign markets. Therefore, it significantly reduces the profit-increasing capacity of local agri-food entrepreneurs.

TABLE VI: Agro-Processing SMEs and Industry registered at the Ministry of Industry and SMEs (April 2017)

Name	Location	Value chain & product	ISO Certification
Bonagui Ltd	Conakry area	Juice, Coca-Cola	ISO 9001 :2008 & ISO 22000 :2005
Sobragui	Conakry area	Beer, juices	In project
Nestlé	Coyah	Condiments	
Water companies	Coyah	Mineral water	
Capri Zone	Sonfonia	Fruit juice	
Sencery oil mill in Dabola	Dabola	Peanut oil	
Mitty Spring Water	Dalaba	Mineral water	
Kankan Fruit Juice Factory	Kankan	Fruit juice	
FABAL	Coyah	Mineral water and alcoholic drinks	
GIVE	Coyah	Mineral water and alcoholic drinks	
Aicha Industry	Coyah	Mineral water, yogurt	
SOGECIL	Conakry area	Mineral water, fruit juice, alcoholic drinks	
SAPRI	Sonfonia	Fruit juice	
TAFAGUI	Conakry	Vegetable oil, tomato, milk, canned meat	
AMACIF	Conakry	Sweets	
SOGUIPAH	Yomou	Vegetable oil, soap	
Taiba Mill	Massayah	Flour	None
Mill of Africa	Sonfonia	Flour	
MOSMART	Forecariah	Palm oil	
Grand Mill of Conakry	Kagbelen	Flour	
SPELGUI	Bountourayah	Cashew nuts	
Macenta Tea Factory	Macenta	Tea	
Bagnan Sugar Factory	Faranah	Sugar	
EMACIF	Sonfonia	Sweets	
NICOM Guinea	Kagbelen	Bite cola juice	
NUTRIMEX	Kouria	Poultry	
Dembele Bassoumana and Brother	Kankan	Vegetable oil, animal feed	
ADAA Group	Kagbelen	Instant coffee, powder juice, milk	
Agroa-Industrial of Dubreka	Dubreka	Powder fruit juice	
American Beverage	Dubreka	Fruit juice	
Superior food company Guinea	Matoto	Fruit juice	
GENERAL DRINKS	Conakry	Soft drink	ISO 22000

Source: Guinea Ministry of Industry and SMEs.

Quality management has been extended to total quality management, whose purpose is the “satisfaction of staff, customers and shareholders while respecting the environment of society” Todorov (1997) cited by [36]. Indeed, any company consists of owners (or shareholders), staff (workers, employees, executives, managers) and customers. Establishing trust between these partners and the company is vital, hence the standards to which the stakeholders refer.

### 1) Economic challenges

According to the researchers [37], Guinea’s economy relies heavily on agriculture and other rural activities. Besides that, the country is rich in minerals, with gold and bauxite reserves. The country’s gross domestic product stands at \$10.91 billion, as per the 2018 report of the World Bank. The 2018 World Bank report shows that the GDP per capita of Guinea is 878.60 USD, with its gross national income being 30.58 billion PPP dollars. The rapidly expanding agri-food industry comprises micro, small and medium-sized agri-food enterprises. The rise of new ways of processing, distributing and consuming food places them at the heart of food value chains. Today, they ensure the connection between cities and the countryside by developing processed food products using local products and entirely for urban and rural markets. The role of small and medium size agri-food enterprises is mostly

in terms of their contribution to food and as providers of activities and jobs in rural and urban areas, especially for women. They distribute income to as many people as possible and provide food at affordable costs for a population with limited purchasing power.

In addition, the lack of equipment and quality control, difficulties in accessing financing, advice and specialized training still hinder their development. Agro-industrial companies focus more specifically on a more affluent urban clientele and the export of processed food products. In Guinea, in 2020, the production of the agri-food industry decreased by 2.9%, compared to 6.8% in 2019. This slowdown is due to the impact of the Covid-19 pandemic, which has forced industries to work part-time with reduced staff.

### 2) Challenges of technological change

The competitiveness of companies worldwide is possible through acquiring new, more sophisticated product quality control equipment. According to the manager’s views, in the Guinea Republic, in the agri-food sector, product quality control equipment is often old or missing, old-fashioned, and has been amortized for years. Innovation or technological change is essential for companies wishing to develop and maintain a competitive advantage to ensure their survival and sustainability. [38]. They believe that innovation can be the

implementation on the market of a new product, the introduction of a new recovery or manufacturing process or an organizational model in the company. This rise of companies leaves Guinean agri-food companies with no choice but to seek to comply with other agro-food industrials in the sub-region or around the world. However, we must deplore the cumbersome certification process of companies and their various local agri-food products. Added to this are the cumbersome administrative procedures. But also, the high cost of the various quality compliance equipment. The quality control managers (agri-industrial entrepreneurs) need more funding to expand their activity. In a recent study, [39] mentioned that this lack of financing confirmed the financial market and the problematic financing of Guinean SMEs. These risks make it more likely that some Guinean agri-food companies' products will not meet international standards.

### 3) *Challenges of the communication strategy*

Quality is a unifying theme for improving the company's internal and external communication. Indeed, this theme is mobilizing the various stakeholders within the company because they pay great attention to the improvement of quality, often linked to the quality of work, which contributes to the improvement of internal social dialogue and the mitigation of technical problems within the company. Establishing a dialogue with consumers to gather their appreciation of the products they receive and their recommendations on the characteristics of possible new products represents the other side of this quality challenge: communication.

Due to various legal obligations, but also to respond to increasingly demanding consumers, shareholders or citizens, companies must use two forms of communication: public information and "organizational transparency." The information of the public is materialized, particularly the labelling, which informs on the composition and the precise characteristics of products or services proposed and contributes, by the same token, to making a contract of purchase. Nevertheless, it also covers all events or hazards concerning the organization that is likely to impact the public (interruption of a service rendered, degradation of the environment, endangerment of others, facts and decisions that may interest shareholders.) [40].

The transparency of an organization defines as the quality that makes it functioning decipherable and understandable for individuals outside it [41]. It has many facets, including traceability which makes it possible to follow the evolution of a product or its constituents since their origin. This traceability of products is a crucial component in the event of a problem to find suspicious products or batches that may cause possible malfunctions and, conversely, assess their potential effects. A more progressive approach to transparency may consist of providing the public and consumers with all the relevant elements of assessment in order to make their choice or form an opinion. However, this form of transparency has its drawbacks. Indeed, recipients can only sometimes judge the information provided. Competition may use the latter to its advantage to engage in industrial espionage or create suspicion by exploiting unfounded risk assumptions [41].

Individuals today desire to understand better the conditions

for developing products and services offered by companies and the functioning of organizations that can directly or indirectly impact their daily lives. They sometimes even wish to intervene and participate in decision-making processes, mainly through various associations of consumers, users, residents, environmentalists, and alternative movements. They are broadening what is known as the public space presupposes their capacity to listen and understand the risk problem so as not to block any decision-making. In their study, [42] concludes that there needs to be more understanding regarding the process of product quality improvement and that practitioners and academics should focus more on the system level. For them, involving the customer in the process of quality improvement, improvement is more likely to succeed than leaving him on the sidelines.

In Guinea, our surveys of agri-food companies that have deigned to accept our collaboration let us understand that communication is at the center of their concern because they allocate 30% of their annual budget to the communication department to be up to date. According to the General Managers of these companies, they have several communication channels set up to be closer to customers. These channels allow them to gather feedback from customers, authorities and other sources on their products placed on the market. Similarly, other General Managers, logistic managers, and quality managers deplore the high cost of setting up a reliable communication system because they say it will take a whole technical team to promote reliable communication in the company.

Given companies' size and financial difficulties, they prefer to do without a high-level communication system. However, they are full of praise for the company's sound internal or external communication system. We also went through some communication channels to ensure the reliability of the statements of these companies visited. It emerges from our observation that the response time of the communication officers is prolonged, a maximum of Forty-Eight hours (48 hours) to hope to receive a follow-up to a request without counting the other times for the request to be processed. In other companies, we have yet to have an answer despite the many attempts through their communication channels (Emails, social networks, telephone.).

In the Republic of Guinea, consumers need to catch up, as consumer protection bodies are only visible in writing and not in fact. This abandonment has pushed several groups to set up social networks and communication systems to denounce the abuses of industrialists. We conducted another coordinated survey of the managers of these "whistleblowing" platforms. It emerges from our interview that in Guinea, manufacturers do not communicate about their products, do not disclose the components of the different products, and further, they despise consumers by scandalizing insulting remarks towards them. That State of affairs is why each consumer is free to publicly denounce a company that is not in order in these communication platforms, with supporting evidence. We have seen consumers' feedback on certain agri-food products (national or international) on these platforms. However, if it must be said, the return or explanations of some companies accused of this or that exaction. For the quality of a product to be recognized, an effective internal and external

communication system should be in place. The observation is bitter in the Republic of Guinea in the agri-food industries regarding effective communication in most agri-food industries.

#### 4) *Challenges of access to external markets*

As specifications of a product, quality represents the first condition for access to the market and even simply the product's existence. Quality thus becomes a commercial argument confirmed and formalized by Certification and widely displayed by companies through advertising and promotional campaigns often based on quality and obtaining this or that ISO or such national or international Certification.

Quality is the basis of companies' competitiveness to resist foreign competition in local markets and to find export opportunities. In the current context of exacerbated global competition, quality within the agri-food industries has become an imperative for competitiveness, sustainability, and development.

## IV. DISCUSSION

### A. *Challenges Facing Guinean Agribusiness Entrepreneurs*

#### 1) *Financial Challenges*

The question of financing companies in general and agri-food companies, in particular, is on the lips of researchers in economics and management. While for some, companies in developed countries have better access to finance, it is quite different in developing countries. In Sub-Saharan Africa, 90% of companies are Small and Medium Enterprises and contribute to employing more than 65% of the population, but also contribute to a GDP of 20% to 50% [43]. In Guinea, SMEs employ 96% and contribute 43% to GDP [39].

From our field study, agri-food companies cite the lack of bank loans at reasonable rates and with reasonably long maturities as one of their significant constraints. One can note that modern laws and regulations govern Guinea's financial sector. It largely escapes the control of direct interest rates and credit rationing; it includes well-run private institutions, most of which have reputable foreign investors, and a Central Bank oversees it with a reputation for professionalism and integrity. Interest rates are by market forces subject to the intervention of the Central Bank to achieve growth and monetary inflation objectives. There is no credit allocation or directed credit, and there is an active and growing market in microfinance. Despite these very favorable characteristics, there are few loans to agribusiness sectors due to high risks.

To the question of how do they finance themselves? The answers vary from one company to another. Of the food companies surveyed, 20 out of 31 registered with the administrative authorities, 85% depend on internal and family financing, 5% on crowdfunding and 10% on bank financing. Notably, this 10% of bank financing is primarily large companies, which have also worked on the market for a long time. This lack of financing for Guinean agri-food companies is due to several factors. Believe our respondents' answers are on the banks' side. For them, 90% of agri-food companies are young, part of the SME category, and need more qualifications to obtain a bank loan. For some Guinean bankers, agribusinesses represent an enormous risk, which

cannot promote their access to financing. Among these risks are, for example, the non-certification of ISO and the non-recognition of products by Guinean quality control services, but also the risks related to production cycles, lack of sufficient raw material due to climate change places and state conflicts among farmers.

Further, they add that the competition is tough and only the certified company succeeds. In its report, APiP-Guinea points to the lack of funding as one of the leading causes of mortality among Guinean companies in general.

#### 2) *Qualified human resources challenges*

Product quality has human stakes because it contributes to the safety and protection of the consumer and the actors in that situation. It does not cause damage to those who make the product or those who use it [44]. Regarding human resources, agri-food companies constantly need more qualified quality management personnel. Therefore, it is why they did not follow the standard in the production process. Their product is less competitive in the country and worldwide. However, of the 102 participants from 25 agri-food companies, only twenty (20), or 19.61%, said they had a quality manager; of 19.61%, 10% are expatriates. They claim that the cost of ex-pats is enormous and affects their financial bottom line. The other eighty-two (82) participants say they do not have to deal with a quality manager because the company general manager, product compliance monitor, and logistics manager play several roles simultaneously.

#### 3) *Administrative challenges*

According to the testimonies of Guinean agri-food entrepreneurs, the administrative challenge is negatively affecting Guinean agri-food companies. It is due to the cumbersome administrative procedures. From the company's registration to the operation, it is an ordeal. Then, the very high cost of these different approaches. All stages of the process require the involvement of a team from the Directorate-General and HACCP (Hazard Analysis Critical Control Points) responsible for food safety.

- 1) Create PRPs (Prerequisite Programs).
- 2) The steps prior to the hazard analysis are to: Define the characteristics of the raw material and finished products, Define the intended uses, and Create production diagrams. This step describes the production steps and control measures.
- 3) Hazard analysis consists of identifying and determining acceptable levels, assessing hazards, and evaluating existing control measures.
- 4) After validation of the control measures: Develop the PRPO (Operational Prerequisite Programs); Develop the HACCP plan.
- 5) Finally, updating and verifying the process.
- 6) According to our analysis, standards development poses a difficulty in harmonizing policies and designing collective approaches and organizations, especially when situations are disparate.

#### 4) *The importance of ISO certification for an agri-food company*

Certification means third-party Certification of products, processes, systems, or people [45]. In today's competitive environment, where customers are more conscious about product quality, the importance and adoption of quality



improvement initiatives are increasing daily. The literature has a broad list of such initiatives, including advanced manufacturing technology, total quality management (TQM), total preventive management, just-in-time, Six Sigma, and Lean Manufacturing [46]. These methods allow the company to maximize its profits by reducing the cost of non-quality because if a company does not produce quality products or services, it goes without saying that it generates a cost of products that do not conform to the customer's request.

Indeed, to achieve the objectives of continuous improvement of the quality of products and customer services, agri-food companies are forced to equip themselves with quality management tools that require regular questioning of their effectiveness in meeting customer expectations and needs. Among these management tools, we have cause-effect analysis, the Ishikawa diagram, the PDCA (Plan, Do Check, Act) or kaizen, and Six Sigma. However, organizations worldwide have adopted/implemented either a particular QM system or a combination of these QM systems to meet their company objectives, including improvement in their business/organizational performance [47].

According to the survey data, leaders of agri-food industries in the Republic of Guinea are aware of the importance of ISO certification in improving the performance not only of their operating system, profitability, improving the image of the company, the trust of customers and shareholders but also and above all the quality of the goods and services offered to clients. Quality issues are paramount as they prerequisite product competitiveness and access to regional and international markets.

Other types of Certifications exist at the national, sub-regional and regional levels. If we take the African case as an example, there is the African Organization for Standardisation (ARSO). At the national level, Guinea has its national quality policy set by Law L93/040/CTRN of October 15, 1993, on standardization and Certification of conformity to standards, which is monitored throughout the territory by the Guinean Institute for Standardization and Metrology. At the sub-regional level, the ECOWAS Quality Policy was adopted by Additional Act A/SA.1/02/13 of February 28, 2013. It adopted the ECOWAS Quality Policy (ECOQUAL) and its implementation framework Bayili, J (2017). On the continental level, we have the draft of the African Quality Policy that was presented to the STC - CIM and adopted on September 3, 2021.

ISO certification in an agri-food company allows it to:

a) *Protect the brand:*

Obtaining Certification means affirming one's commitment to food safety. It gives customers, suppliers and other relevant actors in the food chain more confidence.

b) *Have a competitive advantage:*

This standard offers an undeniable advantage over the competition, as it makes it possible to control food quality and have a policy that aims to prevent failures.

c) *Know how to communicate in an emergency:*

In the event of an identified danger, it is possible to determine a common crisis communication procedure with the various actors.

d) *Have a higher level of regulatory reliability:*

Being certified simplifies compliance with applicable

regulations.

e) *Be more efficient:*

Following the principles of the management system makes it possible to improve its performance in terms of health safety: a practical and tailor-made approach makes it possible to anticipate the costs related to failures.

f) *Reduce costs*

The ISO 9001:2015 version emphasizes reducing non-quality costs and undesirable effects in producing the product or service.

g) *Engaging staff*

ISO 9001 requires a commitment from management to live in a management environment with leadership at stake. The prominent role of management is to guide, anticipate and mobilize staff by distributing tasks to allow each employee to find his place in achieving the company's objectives. The first resource of any organization is its staff; then, it is evident that a satisfied employee will produce a quality product or service to satisfy customers.

## V. CONCLUSION, RECOMMENDATIONS AND LIMITATIONS

### A. Conclusion

In the last few decades, Guinean agri-food companies have grown in number as the business environment has gotten better. However, the findings of the present paper reveal that most local agri-food industries need more staff training in the quality management system, problems with financing, a lack of quality control materials, and a lack of support from the authorities. Because of this, local consumers are buying more imported and less locally processed food. For these customers, the quality standards of the imported food products are met in the production process because the suppliers have at least one ISO certification or international recognition.

The quality of a product is a determining criterion for its access to the national, regional, and international markets. It is essential for the competitiveness of products within a country and in foreign markets. In the context of globalization and the increasing participation of the economy and global trade, it is often quality that differentiates competing suppliers in a supply chain. According to iso.org, ISO 9001 is a standard that establishes the standards for a quality management system; it assists companies and organizations in being more efficient and enhancing customer satisfaction. However, Guinea's agri-food industries play a critical role in the Guinean economy. Also, the government needs to pay more attention to the place and role of the agri-food industry in food value chains, especially in terms of how it helps create jobs, ensure food security, and reduce poverty in rural and urban areas.

In 2008, the World Bank's Development Report emphasized the need to invest in agriculture and agribusiness to accelerate growth and reduce poverty. Also, agriculture is essential to development because it positively affects things other than GDP growth. [48] show that growth in the agricultural sector has potent effects on a country's poverty reduction. Our survey results show that most agri-food companies in the Guinea Republic use good practices (BPH,

BPA, GMP, and HACCP) to ensure the quality of their products. The observation shows that another problem is that most small and medium-sized businesses (SMEs) that process local goods do not care about quality, except for a few that want to export their goods. These companies embark on the transformation without knowing the requirements (normative, legal, and regulatory) in the matter and, in most cases, do not master the transformation techniques.

The quality manager at the Guinean Institute of Standardization and Metrology said that, despite the government's efforts over the past few years, there still needs to be a solution to creating a culture of quality in all social and economic sectors. The results of this paper show that setting up an effective quality management system is still a significant concern for the agribusiness industries in the Guinea Republic. Therefore, to improve the quality of agri-food products in Guinea, it has become necessary for the government to regulate the sector, set up a control system in the different quality control departments of the country, and train workers on how to keep food safe.

### B. Recommendations

This study recommends to all levels of decision-making in Guinea, particularly the State, banks, and agri-food entrepreneurs, the implementation of a clear and complementary strategy between the four actors of the sector: micro-, small, medium, and large agri-food companies. Financial intermediation, incentives for the private sector, the integration of local producers and industrialists into value chains, the strengthening of processing capacities and the transfer of food technologies are all necessary actions to strengthen the agri-food industry. Moreover, it's a place in the food economy in particular and in the national economy in general because agri-food processing has strong knock-on effects on the economy and an ability to create added value for a country.

### C. Limitations

We face various institutional and entrepreneurial situations because of the limitations of this present study. Data collection during surveys and interviews took more time than expected due to poor collaboration and most institutions and companies' ignorance of the subject matter. For the subsequent studies, it would be preferable to focus on the total amount of credit facilities granted to the agri-food sector by the Guinean banks or local authorities.

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Authors declare that there is no conflict of interest.

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