

# Containing the Spread of COVID-19 through Food Safety and Quality Standards

**Thokozani Simelane**

Africa Institute of South Africa, Human Sciences Research Council, South Africa

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## **Abstract**

*This paper contends that the adoption of food safety and quality standards by small businesses and informal traders can assist in containing the spread of COVID-19. This is based on the hypothesis that small business owners and informal traders are aware of the benefits of food safety and quality standards and are thus willing to integrate them in their business operations. This hypothesis was tested via data collection in South Africa and Mozambique. The key research question was whether the adoption of food and safety standards by small businesses and informal traders can assist the containment of the spread of COVID-19. The paper has answered this question in the affirmative. It first highlights the benefits of standards and shows levels of awareness of food and safety standards by the small business owners and informal traders of South Africa and Mozambique. It concludes by discussing how the awareness of standards by small business owners can be used to integrate food safety and quality standards into the operations of small businesses and how this can promote the containment of the spread of COVID-19 while increasing the profitability and quality assurance among the small businesses and informal traders.*

## **Introduction**

COVID-19 has irreversibly transformed human perception of health, hygiene and food safety.<sup>1</sup> This has led to the realisation of the importance of consuming safe and healthy food, not only to boost one's immune system but also to prevent the spread of diseases. For instance, food-borne diseases annually affect up to 10 per cent or more of the population in the industrialised nations.<sup>2</sup> This is worse in poorer and developing countries. While one of the precautionary measures for containing the spread of COVID-19 is the practice of good hygiene through sanitising and constantly washing hands, emphasis has also been given to food safety. Many people do not have equal access to safe and healthy food.<sup>3</sup> For poor people, small- to medium-sized enterprises (SMEs), especially informal traders, are the main source of access to food.

Poor people, particularly in developing countries meet most of their household food needs through services of informal traders like spaza shops (reference in South Africa to small corner shops that specialise in selected food items) and local stores, which hardly adhere to food safety and quality standards.<sup>4</sup> Hence, most people within low income brackets use these businesses as their sole means of meeting their daily dietary requirements.<sup>5</sup> With the high unemployment rate in South Africa, which has been exacerbated by the economic impacts of COVID-19, people have resorted to selling cooked meals by the side of the roads as a coping strategy. Of concern is that food is sold in open areas at taxi ranks, under trees next to busy economic spots and dusty roads. With ever-decreasing incomes, consumers view these as alternative sources of affordable meals. It is for this reason that this paper proposes the adoption of food safety and quality standards by these enterprises.

The paper argues that the integration of food safety and quality standards in the operations of SMEs, including informal traders, can support the containment of COVID-19, which is likely to be distributed through the handling and consumption of unhealthy food. The adoption and integration of food safety standards within the small businesses and informal traders will improve not only the safety of food and other items they trade with but has a potential to enhance the quality profile of their businesses.<sup>6</sup> The integration of safety and quality into these businesses is therefore worth considering at this moment of the COVID-19 pandemic, which is widely referred to as SARS-CoV-2.

The SARS-CoV-2 virus, which causes COVID-19, was firstly detected in Wuhan, China, and, at the time of writing (2022), had infected more than 167.2 million people and caused the death of more than 3.464 million people across the world. Of concern is that these numbers are still increasing as the virus is constantly mutating. It initially mutated to B.1.1.7, which was first identified in the United States (US) in December 2020 and was initially detected in the United Kingdom. B.1.351, which was identified in the US at the end of January 2021 and initially detected in South Africa in December 2020. P.1 was detected in US in January 2021 and initially identified in travellers from Brazil. B.1.427 and B.1.429 were first identified in California and B.1.917.2 was identified in India and caused the estimated death of 303 720 people. More recently, Omicron, which was identified in South Africa in late 2021, has since spread across the world. The SARS-CoV-2 virus and its variants have permanently transformed the way people view health, quality and safety of food.<sup>7</sup>

This paper proposes the adoption of food safety and quality standards by small businesses and informal traders as one of the mechanisms of containing the spread of COVID-19. This is based on the assumption that small business owners and informal traders are aware of the benefits of food safety and quality standards and are thus willing to integrate them into their business operations. The key question is whether the adoption of food and safety standards by small businesses and informal traders can assist the containment of the spread of COVID-19.

In addressing this question, an assessment of the levels of awareness of quality and food safety standards was conducted in South Africa and Mozambique. It was hypothesised that there is a high degree of willingness among small business owners in both South Africa and Mozambique to implement food safety standards such as Hazard Analysis Critical Control Points (HACCP) and use this as a tool of compliance to regulations and quality assurance. It was

further hypothesised that standards-generating bodies in the two countries have programmes to assist small businesses and informal traders to implement quality and safety standards. To determine this, an assessment of the extent of the implementation of standards like HACCP and quality standards by small businesses in Maputo (Mozambique), Pretoria, Durban and Cape town (South Africa) was conducted.

The broader aim was to source opinions on the awareness of food safety standards like HACCP and ISO 22000, regulations (national laws and municipal by-laws) and certification processes by the SME owners of Mozambique and South Africa. To measure the extent of the implementation of food safety standards, records of companies certified against ISO 22000 and HACCP were inspected. The following assumptions guided the assessment:

- Standards are a valuable supporting tool for improving trade between countries such that products displaying standard mark are easily accepted by consumers.
- Standards increase confidence among consumers. There is thus a desire among consumers to consume quality products certified against international standards.
- Standards are an indicator of business success. There is thus an interest among business owners to implement standards in their businesses.
- Standards enhance the value of products. This means that products that exhibit standard marks gain demand.
- Companies find it easy to adopt and implement standards, meaning that there is always a willingness to adopt and implement international standards, this being promoted by support businesses obtain from standards-generating organisations.
- With regional cooperation on standardisation, there is an increased realisation of the importance of standards between countries. Such realisation also exists between South Africa and Mozambique as trading partners.

## Methodology

The primary data was sourced from informal traders and small business owners using a structured questionnaire. Visited sites were selected using simple random selection procedure. Two approaches (i.e. questionnaire as an instrument to collect quantitative data and group discussions as an instrument to source qualitative data through expression of opinions) were employed to obtain data from respondents. In Mozambique, interviews took place in Xipamaneni, Malanga and Zimpeto markets (Mozambique) and in South Africa, in the Pretoria Central Business District (CBD), Durban CBD and Port Elizabeth (Gqeberha) CBD.

Primary data collected through interviews was supplemented with inputs from government officials (i.e. the Department of Trade and Industry, the Department of Health, Instituto para a Promoção das Pequenas e Médias Empresas (IMPEME) and the standard generating bodies such as Instituto para a Promoção das Pequenas e Médias Empresas (INNQ) and the South African Bureau of Standards (SABS)).

In each country, a target of 150 participants was set as an acceptable representation of the targeted population size. In each site visited, a sampling saturation point was observed and

considered reached when no new responses were forthcoming. Once this point was reached, interviews stopped.

The responses from Mozambique were obtained from 130 questionnaires, with a saturation point being reached at 120 questionnaires. In South Africa, a total of 145 questionnaires were completed, with a saturation point reached at 130 questionnaires.

## Data Analysis and Interpretation

After data was processed, each questionnaire was verified for consistency and completeness. To test whether objectives were reached and to get insight from results, data was analysed through statistical techniques using a combination of descriptive and inferential techniques. Descriptive statistical measures were sum, average, percentages, ratios and standard deviations. These were calculated using STATISTICA software. Descriptive analyses were performed using Microsoft Excel. The analysis was largely quantitative with statistical inferences performed to demonstrate if there were instances of statistical difference across the samples.

## Results

### Awareness of standards, certification and food safety regulations by small business owners and informal traders

The aggregated data from both countries reflected that fewer than five per cent of business owners were found to be aware of food safety standards (Table 7.1). Respondents interviewed could not tell the difference between HCCP, ISO22000 and food safety procedures and guidelines (Table 7.1). The highest proportion (67%) of those who sold meat were aware of international food safety standards and national standards and guidelines.

**Table 7.1: Awareness of food safety standards and regulations among small business owners**

Sector	Awareness of safety standards	Awareness of regulating standards and laws	National standards	International standards		
				ISO 22000	HACCP	Procedures and processes
Fruits	1(3.5%)	1(3.5%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Vegetables	3(23%)	2(15.4%)	1(7.7%)	0(0.0%)	0(0.0%)	0(0.0%)
Grocery products	0(0.0%)	0 (0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Meat	4(67%)	1 (16%)	3(50%)	0(0.0%)	0(0.0%)	0(0.0%)

Different opinions were expressed on perceived benefits of food safety standards (Table 7.2). These ranged from the appreciation that standards, certification and regulations were important to ensure that products are good for consumption (15%, Mozambique; 25%, South Africa). This represented a significant acceptance of the importance of the benefits standards by owners of small businesses.

Across all perceived benefits there was no significant differences between the two countries on the lack of willingness to adopt food safety and quality standards among the business owners (Table 7.2). This confirmed the formulated hypothesis that there was equally a high degree of willingness among small business owners in South Africa and Mozambique to integrate food safety standards and use this as a tool for compliance with regulations and quality assurance.

**Table 7.2: Opinions about the benefits of applying food safety standards by traders and small business owners of Mozambique and South Africa**

Opinion	MOZ %	RSA %
Standards, certification and regulations are important to ensure that the products are good for consumption	15	25
Important to be aware of standards and regulations as this will ensure that we provide fresh and certified products	12	15
No opinion, never heard anything about standards	20	10
Important for business so that problems with authorities can be avoided	4	10
Do not have knowledge of standards but consider them important	16	10
Standards and certification are not good as we want to sell our products without restrictions	14	20
Standards and certification are not good, for instance onion we buy from South Africa if the government implement standards, we will not be able to produce them	3	5
Standards and certification are good as they will allow us to sell our products in any market	12	20
It will be important to inform people about certification and regulation and inform about their importance	15	25
It is important to have our products certified as this will allow us to sell our product in any market	20	25

### Levels of implementation of standards by small businesses and informal traders

While SMEs in South Africa were found to enjoy support from the government through specialised programmes of standardisation and the application of safety measures, especially within the food sector, in Mozambique SMEs, especially in the informal sector did not enjoy similar support and were thus faced with various challenges. These are summarised as:

- Improper institutional incentives framework,
- Insufficient capital,

- Shortage of quality staff,
- Delays in exporting and importing,
- High transport costs and power crisis.

A strong opinion existed that SMEs in Mozambique are regarded as high risk and inappropriate investments by commercial banks and other investors. Given the higher returns and lower exposure to risk, the banking system considers the purchasing of treasury bonds more attractive than investing in SMEs. Access to financial resources for most SMEs was cited as very difficult in Mozambique.<sup>8</sup> The interest rate is high, and the use of financial services is restricted to a few privileged entrepreneurs.

Five per cent of registered businesses were found to use their own funds for both working capital and investments. The formal financial system is unable to finance the economy and when it does, it is skewed towards large and foreign-owned companies.<sup>9</sup> Scarcity of entrepreneurial capacities was cited as an additional challenge. This made it difficult for SMEs to implement safety standards as they were preoccupied with the survival of their businesses. This presented a grim picture for informal traders to participate in programmes that seek to contain the spread of COVID-19. Despite the awareness of food safety and standards being considerably high, its implementation within the informal sector is of lesser concern as the pressing need of informal traders is to sustain livelihood.

This situation was found to be similar among South Africa's informal traders. Hence SMEs in South Africa were better recognised and supported by the government through institutions such as the Industrial Development Corporation, banks and national empowerment funds. It worth mentioning that many owners of supermarkets and spaza shops were fully aware of the quality standards as well as food safety regulations and requirements.

### **Quality assurance and certification services provided to small businesses and informal traders**

Compared to South Africa's Bureau of Standards (SABS) (a South African standards-generating body), Instituto Nacional de Normalização e Qualidade (INNOQ) (a Mozambican standards-generating institution) provides limited services both across the country and to small businesses. This is due to limited resources and capabilities of the standard generating body. The main services provided by INNOQ are metrology and calibration, testing and certification against ISO 9001 and 14001 (Table 7.3).

A shortage of skilled auditors was cited as a bigger challenge facing INNOQ. On the other hand, the SABS provides a wide range of certification and quality assurance services that range from testing to certification (Table 7.3). These are accredited by local organisations such as South Africa National Accreditation (SANAS) and international institutions such as Raad Voor Acreditatie (RvA).

While there is limited support given to small businesses to help them comply with regulatory requirements, informal traders were found not to enjoy any support from governments. This was similar in both countries (i.e. South Africa and Mozambique).

**Table 7.3: Comparison of certification services offered by SABS (South Africa) and INNOQ (Mozambique)**

SABS	INNOQ
Certification, testing and auditing ISO 9001 ISO 14001 HACCP Mark scheme Consignment inspection Testing and laboratories Acoustics Automotive Radiation protection Chemicals Solar water heating Textile and leather Safety and security Paints and sealants Accredited by SANAS and RVa	Metrology and calibration Certification ISO 9001 Testing Accreditation being sought

## Discussion

Despite the existence of significant interest in implementing quality and food safety standards by the small business operators of Mozambique and South Africa (Table 7.2), generally, there is an obvious lack of support given to these enterprises to implement food safety and quality systems that integrate these standards which have a potential to contain the spread of COVID-19. Such lack of support exposes these enterprises to the spread of food-borne diseases and indirectly to COVID-19.

If implemented successfully through auditable quality systems, standards enhance reciprocal recognition among the trading partner countries. COVID-19 has presented countries with an opportunity to develop platforms to recognise each other’s efforts of containing it. The discrepancies found to exist between South Africa and Mozambique reflect a lack of reciprocal recognition that should exist between the two countries since they are the trading partners. The limited support given to SMEs in Mozambique implies that trade between the two countries will remain constrained due to a lack of reciprocal recognition despite the favourable trade agreement that exist between the two countries.

At cross-border level, Mozambique presents a vibrant economy and trading opportunities that are highly supported by food products imported mostly from South Africa. For South Africa, Mozambique is a prime source of high-quality prawns, cashew nuts and various species of fish. The consumption of different types of food products in Mozambique that are imported from South Africa offers unlimited trade opportunities for South Africa, including collaborating on containing the spread of COVID-19 through food safety and quality standards.

Small businesses contribute substantially to the economy and the society. They are economically more innovative than larger companies. They can respond quickly to changing consumer demands and are receptive to creating opportunities.<sup>10</sup> They can spur economic activities within the economically distressed areas<sup>11</sup> and this means that, at this time of the COVID-19 pandemic, small businesses serve as engines for economic recovery and trade among neighbouring countries.

### **Trade relations between South Africa and Mozambique**

Trade relations between South Africa and Mozambique date back to when South Africa was a major importer of unskilled labour from Mozambique.<sup>12</sup> This has since changed with South Africa being an important source of foreign direct investment for Mozambique.<sup>13</sup> Mozambique has become South Africa's second largest export market with trade having increased exponentially in recent years. Trade relations between the two countries is based on various bilateral agreements. The agreements are wide-ranging preferential arrangements, through which a limited number of Mozambican goods receive tariff preferences from South Africa based on the annualised quota system.<sup>14</sup>

Through this agreement the vibrancy of informal sector and cross-border trade between the two countries has become significant. The small and medium entrepreneurs involved in cross-border trade between South Africa and Mozambique trade with various kinds and volumes of food items, mostly perishable products. This highlights the importance of quality and safety of these goods, which can be attained through standardisation and quality assurance.

With the scale of growth of trade between South Africa and Mozambique the term 'informal' trade, is in fact a misnomer. It obscures the multiple linkages that exist between the formal and the informal sectors of the two countries.<sup>15</sup> While South Africa is a major source of goods that are sold in most informal markets of Mozambique, Mozambique in return is a source of products such as gas, energy and other agricultural products like cashew nuts and prawns for South Africa.<sup>16</sup>

As the global food security and safety has increasingly become critical during the COVID-19 pandemic, Mozambique's natural endowment of underutilised fertile land means that Mozambique has the potential of supplying various types of safe agricultural products to South Africa and the South African Development Community (SADC) region. This will happen if the country's system of standardisation and certification is on par with international requirements. This emphasises the importance of balancing the quality assurance recognition between South Africa and Mozambique's agricultural products through relevant standards like CODEX HACCP. Lack of this recognition limits Mozambican exports to South Africa.

The limited variety products that are exported to South Africa by Mozambique reflects an existence of unbalanced trade that favours South Africa. This is apparently due to a lack of confidence in the quality and safety of Mozambican products. To rectify this, the two countries need to collaborate and encourage small businesses to integrate food safety and quality standards in their operations. This can be endorsed as one of the mechanisms of implementing the African Continental Free Trade Area (AfCFTA).



It is common in Africa to limit small businesses to hair salons, repair workshops, mechanics and food processing and distributing areas.<sup>17</sup> Because of the nature of the environment in which these businesses are operated e.g., under trees, in open areas and in dilapidated buildings, they tend to be classified as informal traders.<sup>18</sup> The reasoning behind this classification is that they cannot be compared to similar international operations as the quality of their products is considered to be inferior<sup>19</sup> and there are several health concerns raised around them, which include the spreading of COVID-19.

Regarding food processing, the bigger challenge for most food processing businesses in Africa is that they do not obtain support that will allow them to grow and compete successfully.<sup>20</sup> Most people participate in these businesses as a coping mechanism with an intention to sustain livelihoods.<sup>21</sup> The impact of this is that, with inferior standards and quality, people, especially those from developed countries, avoid eating food sold by SMEs on streets of developing countries.<sup>22</sup> This is compounded by warnings they get from home and their doctors prior to arriving in Africa. This can be changed by assisting these enterprises to implement food safety and quality assurance measures, which promise the containment of the spread of COVID-19.

Most businesses in Africa are also not certain if their products meet safe and quality requirements.<sup>23</sup> The effect of this is that small and medium businesses including informal traders do not bother to integrate safety and quality in their operations. Hence, integrating safety and quality standards that assures consumers that products are safe from COVID-19 can be an indirect way of promoting regional or continental integration through safety and quality standards.<sup>24</sup> The direct benefits of this could be an increase in trade between neighbouring African countries.<sup>25</sup>

While this is critical for the recently adopted AfCFTA in the continent, lack of a culture of customer complaints and demand for quality in most African countries means the demand of food safety and quality by customers will always remain low.<sup>26</sup> As a result, food-borne diseases, which might include COVID-19 might continue to be a great concern to potential customers, particularly those that has a buying power like tourists.<sup>27</sup> This is the biggest hindrance for growth of small and medium food traders in Africa.<sup>28</sup> Building sound food safety and quality regime is therefore imperative if Africa is to use its informal and small business as sources of foreign currency.<sup>29</sup> The reality is that failure by many African countries to produce products that assure and guarantee safety and quality is hampering Africa's competitiveness. This has serious implications for the AfCFTA with obvious ripple effects on products produced in Africa and industries that are indigenous to Africa.

### **How can standards contribute to COVID-19 containment through compliance with regulations?**

Although no standards have been developed that directly seek to contain the spread of COVID-19, it is well known that standards enhance compliance with regulations through quality and give assurance to consumers<sup>30</sup> that the product is safe. This encourages competition between businesses that have adopted quality standards and those that have not.<sup>31</sup> The additional benefit of standards is that they enforce compliance with regulations of the country.<sup>32</sup> In addition, they assist in:

- attracting and assuring customers of the quality of the products;
- demonstrating market leadership in the business sector;

- creating competitive advantage for business; and
- developing and maintaining best practice within the sector.

With these explicit benefits, standards may contribute directly to the containment of COVID-19 by encouraging small businesses and informal traders to comply with regulations set to curb the spread of COVID-19. This will indirectly promote adherence to food safety guidelines and requirements. Thus, integration of standards into the operations of SMEs and informal traders will enhance the ability of these enterprises to support efforts to contain the spread of COVID-19.<sup>33</sup>

This means that support by the governments and regulatory authorities for small businesses and informal traders to integrate food safety standards into their business operations must be considered. For developing economies, this has the potential to reduce the spread of food-borne diseases which normally happens through unsafe food and unhealthy business practices. Food safety and other quality standards (e.g. ISO 9001) make it easy to comply with food-safety guidelines and specifications.<sup>34</sup>

This, in return, ensures compliance with all regulations stipulated by the country for food safety, which gives the enterprise a competitive edge<sup>35</sup> as products that promise quality and safety are attractive and enjoy high demand. This increases sales potential for the enterprise as it improves the acceptance of the product by consumers.<sup>36</sup>

Calling for the adoption of food safety standards by small businesses and informal traders as a way of containing the spread of COVID-19, may sound inappropriate at this time of economic hardship, as the development of quality systems that incorporate these standards is costly due to documentation and auditing requirements. Despite this, the long-term benefits of assuring the quality and food safety of small businesses and informal traders outweigh the short-term problems.<sup>37</sup> If governments get involved at this level, SMEs would be able to comply more easily with the standards.

The COVID-19 pandemic, as a market shock, has heightened the need to rethink the importance and health benefits of consuming safe and healthy food. It has presented an opportunity to develop standards for the informal sector and bring these into the mainstream of quality assurance.<sup>38</sup> Since the beginning of the pandemic, many countries have been grappling with ways of cushioning their populations against food insecurity during COVID-19 lockdowns, and the pandemic has triggered cross-border trade on various perishable and non-perishable food items.

The main players in this scenario have been small businesses and informal traders. What has transpired is that under nationwide lockdowns and border restrictions, assurance of the supply of food across borders has been provided by the small businesses and informal traders.<sup>39</sup> Meanwhile, the COVID-19 outbreak has also created opportunities in the food and beverage industry to develop mechanisms to limit its spread and other food-borne diseases through quality assurance, safety and quality standards.

Promoting the application of food safety standards across borders is imperative to stop cross-border spread of COVID-19, possibly through unsafe food. This has the potential of strengthening trade between the countries, while sustaining the livelihoods of people.<sup>40</sup> At international

level, standards promote interoperability by providing a competitive edge necessary for the effective worldwide trading of products and services.<sup>41</sup> With these benefits, it can be argued that adoption of international standards between countries creates trust and increase demand for certified products between the trading partners.<sup>42,43</sup>

With emphasis being given to healthy lifestyles under COVID-19, maintaining hygiene through constant washing of hands and sanitising has increased the recognition of quality products. This has further improved awareness of good hygiene in all aspects of food production.<sup>44</sup>

## Conclusion

This paper has assessed the awareness and adherence to food safety and quality standards by small businesses and informal traders of South Africa and Mozambique. As illustrated in this paper, to bolster the confidence in food sold in African markets by SMEs, compliance by informal traders with international food safety standards needs to be promoted,<sup>45</sup> the main ones being HACCP and ISO 22000. Implementing these standards will not only boost confidence among consumers but will ensure the safety of food products that are sold by small and medium traders in Africa. COVID-19 has popularised the importance of good hygiene and safety. This presents an opportunity to expand these two requirements to all businesses as a mechanism for enhancing trade within the African countries, which many countries in Africa wish to see happening under the AfCTEA. Increasing the awareness and implementation of safety and quality standards among neighbouring trading partners like South Africa and Mozambique will strengthen trade and relations between trading partners and this can serve as catalyst for regional and continental integration.

The main question this paper sought to answer was whether the application of food and safety standards by small businesses or informal traders (as they are commonly referred to) can assist in the containment of COVID-19 while increasing the market share of small businesses, especially those that sell food and related products. The paper further attempted to determine the extent to which standards can be used to strengthen trade between trading partner countries and how this can be escalated to the region to promote regional integration.

From data obtained and analysed, it became obvious that trading partner countries need to work together in assisting their small business to adopt and integrate standards in their operations. This requires partner countries to further acknowledge each other's efforts through reciprocal recognition. Generally, standards enhance the compatibility, interoperability, safety, repeatability and quality of the products.<sup>46</sup> Therefore standardisation is a solution for addressing problems such as a lack of market access. By adopting standards, participants get an opportunity to communicate quality and safety compliance through the set guidelines.<sup>47</sup> This helps to maintain focus on quality products and services.<sup>48</sup> As the world is searching for ways of uplifting economies after the COVID-19 shock, promotion of standards in Africa is the best way to implement long-term recovery while contributing to the containment of COVID-19 through safety and quality standards and systems.

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