

Nigeria Agricultural Policy Activity

The impact of COVID-19 and other shocks on agri-food SMEs along the poultry and fish value chains in Niger State, Nigeria

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Introduction and Background

This policy research note summarizes key findings from a study on the impact of COVID-19 and associated policies on SMEs along the poultry and fish value chains in Niger State, Nigeria. We leverage monthly data collected from 66 agri-food enterprises over 9 months (February 2020 to October 2020) to understand how the impact of COVID-19 and associated policies on business operations and employment varies for firms of different sizes (small and non-small) and how these impacts vary across different nodes of the supply chain.

A total of 14 nodes in the two study value chains were selected for the survey. These included feed sellers and fish and chicken hatcheries (lateral supply chain), artisanal fishers, fish farms and chicken farms (upstream) fish and chicken processors and traders/wholesalers (midstream) and fish, chicken, and egg retailers (downstream). The sample of 66 firms was obtained by convenience and snowball sampling. Initial contacts for the survey were selected value chain actors known or referred to the data collector. Data was collected via phone interviews since the survey was carried out during the peak of COVID-19 pandemic. Monthly calls were made to the respondents from May 2020 onwards, with data on their business operations collected for the months of February 2020 to October 2020.

COVID-19 and associated policies in Niger State

Niger State, named after the River Niger, is the largest state in Nigeria. It has a landmass of 76,363 km² with a projected population of 4,687,610 people, based on the 2006 national census (NBS, 2012). Niger State is divided into 25 Local Government Areas (LGAs) with its administrative capital in Minna. Situated in the North central part of Nigeria, it enjoys a strategic position at the center of the country and is home to Suleja, an active commercial center connecting the state to Abuja, the Federal Capital Territory (FCT).

Key Messages:

- The COVID-19 pandemic and associated policies severely affected the operations of small businesses along the poultry and fish value chains in Niger State. The number of small businesses in operation declined in the months after the lockdown period, indicating a medium to long term effect.
- There was a steady decline in the number of regular workers employed by small businesses after the lockdown. This may be an indication of a severe long-term effect of the pandemic and associated policies on business operations.
- Employment of daily laborers was also disrupted. Both small and non-small businesses experienced a decline in the number of daily laborers contracted in all supply chain segments, except for small businesses in the downstream supply chain (fish, chicken, and egg retailers).
- Businesses along the fish and poultry value chains faced increasing challenges during and after the lockdown. Numerous businesses faced financial difficulties in the months after the lockdown.
- No assistance was received by the value chain actors from any of the Government agencies during the period



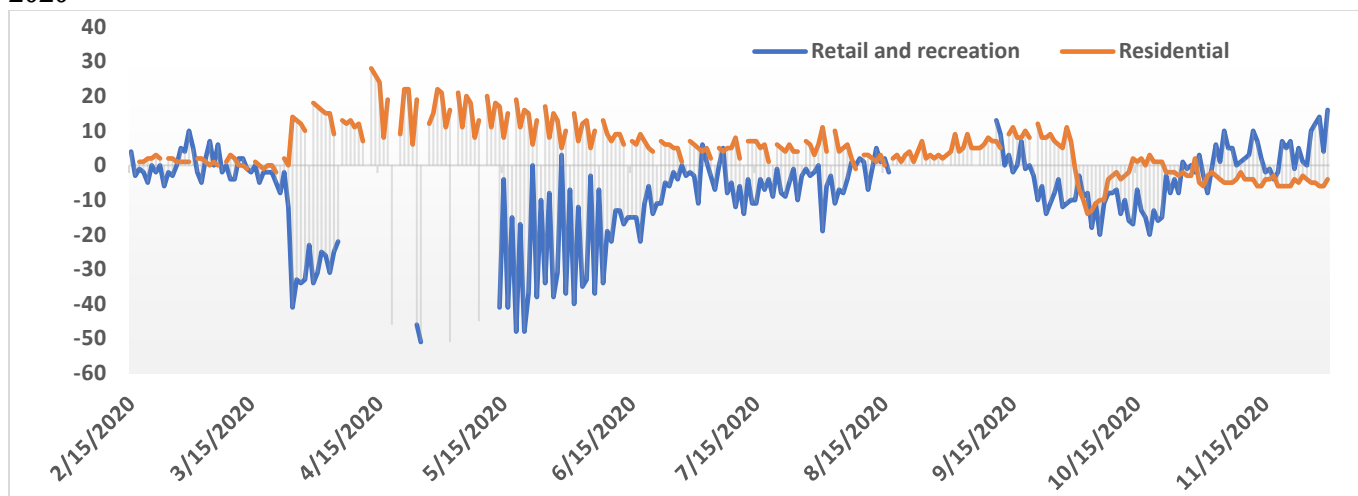
Niger State witnessed the first case of COVID-19 on 10th April 2020, about six weeks after the first confirmed case in Nigeria. The state government imposed a curfew on 24th March 2020 (given the spread of COVID-19 across the nation) which was relaxed on April 5th, 2020. However, when there was a confirmed case in the state on 10th April 2021 a complete lockdown was put in place.

During the curfew period, movement was restricted for 12 hours (from 8 am to 8 pm). All civil servants from levels 1-12 were required to stay at home while those on higher levels continued going to work. All public gatherings including services at Churches and Mosques, government functions and social gatherings of more than 20 people were prohibited. Tuesdays, Fridays, and Sundays were marked as days for people to go out and restock on foodstuff and other essentials. On those days, markets were opened for 6 hours, from 8am to 2pm. However, essential service providers such as farms, distributors of food and perishable commodities, food markets, supermarkets and shops selling food and essential non-food items (groceries) could operate freely on the condition that they wear masks, observe social distancing, provide hand washing facilities, and observe other precautionary measures. Considering that Niger State serves as an entryway to travelers from the north to the southern part of the country and vice versa, both intra and interstate movement of people and vehicles across the state were also banned. Once the curfew was relaxed, the same restrictions were maintained but this time movement was restricted for only six hours (from 8 am to 2 pm). Tuesdays, Fridays, and Sundays remained days for people to restock on essentials. Civil servants from level 1 to 12 were ordered to resume work from 8am to 2pm. However, during the lockdown period, there was no respite. Everybody was confined to his or her place of residence except to perform an essential service, obtain an essential good or service, or seek medical care.

The period of curfew/lockdown as a measure to contain the spread of COVID-19 in Niger State lasted for about 11 weeks from 24th March 2020 to 9th June 2020. During this period, all confirmed cases were limited to nine of the 21 Local Government Areas (LGAs) of the state, namely Rafi, Bida, Borgu, Bosso, Chanchaga, Kontagora, Mariga, Shiroro, and Suleja. Through personal visits, interviews, and group discussions, it was deduced that the degree of restriction and enforcement varied depending on location. The curfew and/or lockdown directives were adhered to only in the main cities of the state. Most villages within the 21 LGAs did not follow any guidelines and people went about their businesses as usual. Enterprises were affected differently based on the size of operation and the location of their farms/shops.

Figure 1 is a Google mobility index (GMI) for Niger State for the months of February 2020 to November 2020. The GMI for Niger State was created using anonymized location data sourced from mobile devices in Bida, Bosso, Chanchaga and Suleja (all of which are major towns in the state). Indexes express % change of visits made, or time spent in categorized places (such as grocery stores, recreation centers, workplaces, and residential areas) compared to baseline days which are normal values for the days of the week. Figure 1 clearly reveals the effects of the lockdown on human movement to retail and recreation centers, and residences (i.e., staying at home). Consistent with the lockdown policies, we note that movement to retail and recreation centers greatly reduced during that period, while staying at home increased. Similar effects were also observed with the GMI of visits to workplaces (not shown). This can be explained by the policies that required all civil servants from levels 1-12 to stay at home. Even when on April 5th, 2020, the initial curfew was relaxed, they were ordered to resume work only from 8am to 2pm.

Figure 1: Niger State mobility index for retail/recreation and residential movement, February–November 2020



Source: <https://www.google.com/covid19/mobility/>

Overview of poultry and fish production in Niger State

Niger State is endowed with over 400,000 hectares of large water bodies, including dams, lakes, reservoirs, and ponds, found along Kaduna and Niger river systems. These present huge potential for fish cage aquaculture and freshwater fisheries development. These water bodies are used for artisanal fishing, and an estimated 50,000 metric tons of fish are harvested annually (Resource Inventory Management (RIM) Survey, 1990). Despite the state recording a fast growth of feed mills (in New Bussa LGA), it has been observed that accessing key inputs for fish farming is a challenge due to the relatively low number of hatcheries and mills (Ebiloma et al., 2018). The reported Artisan Fisheries Production (AFP) in 2019 in Niger State is 43,076 metric tons of *Clarias* sp. (NAERLS and FMARD, 2020).

Niger State is endowed with one of the largest livestock populations in Nigeria, with an estimated 6.3 million livestock (cattle, sheep, and goats) and over 6 million poultry. Niger State is among the top ten states in Nigeria for chicken population (NAERLS and FMARD, 2020). The total number of chickens produced in Niger State in 2020 was 11,216,375; about 5% of total national production.

Impacts of COVID-19 and associated policies on business operations, by scale of business.

- The COVID-19 pandemic and associated lockdown policies affected days of operation for SMEs in poultry and fish value chains in Niger State. These effects were felt particularly strongly in lateral and downstream value chain segments and were more acute for non-small enterprises than small enterprises.***

Table 1 shows the average number of days of business operation for enterprises in our sample during the study period, by scale of businesses. The average number of operating days for both small and non-small businesses in the lateral and downstream supply chains were lower during the months of February, March, and April compared to later months.

Fewer days of business operations in February might reflect the post festivity lull often following major celebrations such as Christmas and New Year and the relatively lower number of days in the month compared to other months. The more significant reduction in average number of operation days in March and April coincides with the lockdown

period when movement was heavily restricted. Non-small businesses were impacted more severely than small businesses. For instance, the share of days of operation by non-small business in lateral supply chains fell from 97% (28/29 possible days) in February to 77% (24/31) in March, while there was no change for small businesses.

Table 1. Average number of days businesses are in operation

	Feb	Mar	Apr	May	June	Jul	Aug	Sept	Oct
Small business									
Lateral supply chain	25	25	23	31	30	31	31	30	31
Upstream	28	31	29	31	30	31	31	30	31
Midstream	29	30	25	31	30	31	31	30	31
Downstream	28	27	22	31	30	31	31	30	31
Observations	29	29	29	29	29	29	29	29	28
Non-small business									
Lateral supply chain	28	24	15	31	30	31	31	30	31
Upstream	28	31	30	31	30	31	31	30	31
Midstream	26	30	19	31	30	31	31	30	31
Downstream	24	20	18	31	30	31	31	30	31
Observations	36	36	37	37	37	37	36	36	37

Source: Field survey, 2020

In April, when the lockdown was fully implemented for the entire month, we see an even greater impact on the number of days of operation of enterprises in our sample. This time also affecting businesses in the midstream value chains. For non-small businesses, the average number of days of operation was much lower at 50% (15/30) compared to 97% (28/29) in February. For small businesses, the reduction is less at 77% (23/30) in April compared to 86% (25/29) in February.

There was also a huge impact on the number of days of operation of enterprises in the midstream supply chain in April, with non-small businesses consistently the most affected. Small businesses days of operation were 83% (25/30) in April compared to 97% (28/29) in February whereas for non-small businesses, the reduction in days of operation was 63% (19/30) compared to 90 % (26/29) in February. The greater impact on non-small businesses may be attributed to the fact that larger businesses are generally located in markets and shopping complexes which during the lockdown period were open for only three days per week (Tuesdays, Fridays, and Sundays) and, even then, only from 8am to 2pm.

The business operations for upstream actors were affected least compared to those in other nodes of the value chain. This is consistent with the categorization of farms as essential services and the prevalence of these activities in rural areas where the policies were less stringently enforced. The latter explanation is confirmed by our analysis of days of operation by geographic location, where we find no major effect on businesses located in the rural areas. All SMEs that remained in operation appeared to have resumed normal operations by May 2020, which continued for the remaining months of the year. Interestingly, the average number of operating days increased to higher levels compared to February which might indicate that businesses increased their days of operation to compensate for lost sales and business activity during the lockdown period.

2. Non-small businesses resumed full operations post-lockdown, but the number of small businesses in operation declined in succeeding months, indicating medium to long-term effects of the lockdown and/or COVID-19 impacts on the economy.

Table 2 presents the share of businesses in operation for the study period. Small businesses in the lateral supply chain appeared to have been affected most severely. While in April all businesses were in operation, even if not for the full month, the number dropped significantly to 44% in the ensuing months of May and June.

Table 2: Share of businesses in operation (%)

Supply Chains	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Small Businesses									
Lateral	13	13	100	44	44	22	22	33	22
Upstream	100	100	100	83	87	100	83	83	80
Midstream	100	100	100	100	100	100	100	100	100
Downstream	100	100	100	100	100	86	86	86	86
Overall	78	78	100	83	83	83	72	73	70
Observations	32	32	32	29	29	29	29	29	28
Non-small Businesses									
Lateral	83	100	100	100	100	100	100	100	100
Upstream	100	100	100	100	86	93	86	93	100
Midstream	100	100	100	100	100	100	100	100	100
Downstream	100	100	100	100	100	100	100	100	100
Overall	96	100	100	100	96	98	97	98	100
Observations	36	36	36	37	37	37	36	37	37

Source: Field survey, 2020

The number of businesses in operation dropped even further in July and August to 22%, as well as in the final month of the study period (October). This contrasts sharply with non-small businesses which seemed unaffected during this period. For the upstream supply chain, even though the impact was not so severe, we also see a substantial drop in the number of small businesses in operation from 100% in April to about 83% and 87% in May and June, respectively. This is consistent with the lockdown period. However, even though businesses seemed to have recovered in July following the end of the lockdown, the number dropped back to 83% in August and September, and as low as 80% in the final month of the study period.

In contrast, the share of businesses in operation was consistently above 85% and reached 100% during the final study month of October. The dwindling percentage of small businesses in operation in the months following the lockdown suggests that they were less able to adapt to COVID-19 and associated shocks and that there are likely medium to long-term effects of the pandemic on small businesses.

Comparing value chain nodes, we note that small enterprises the impact affected all nodes except the midstream. However, for non-small businesses, the impact was only for business enterprises in the upstream nodes of the value

chains. The persistent impacts for upstream actors (for both small and non-small businesses) indicates that though farmers were considered essential and thus protected by the restricted movement policies, they were still affected by the lockdown activities. They were also affected by the restricted operations of other nodes of these value chains that are significant to their operations either as their source of inputs or a market for their output.

3. COVID-19 and associated policies severely affected employment decisions in businesses along the fish and poultry value chains. There was a steady decline in the number of regular workers employed by small businesses in the succeeding months after the lockdown period. This may be an indication of a severe long-term effect of the pandemic and its associated policies on business operations

Tables 3 and 4 present the share of businesses that hired regular salaried workers and daily laborers respectively during the study period. On average non-small businesses were more likely to hire regular salaried workers compared to small businesses while both types of businesses use daily laborers at roughly similar rates. However, while the share of non-small businesses hiring regular workers is relatively constant across the study months, we see an overall steady decline in the number of regular workers employed by small businesses in the succeeding months after the lockdown period.

Table 3. Share of business that hired regular workers (%)

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Small businesses									
Lateral	100	100	100	100	100	89	67	22	33
Upstream	57	57	57	50	50	33	33	33	20
Midstream	0	0	0	0	0	0	0	0	0
Downstream	14	14	14	14	14	0	0	0	0
Overall	45	45	45	45	45	34	28	14	14
Observations	29	29	29	29	29	29	29	29	28
Non-small businesses									
Lateral	100	100	83	100	100	100	100	100	100
Upstream	57	57	57	57	57	57	57	57	57
Midstream	91	91	91	89	89	89	89	89	89
Downstream	60	80	80	88	88	88	100	88	88
Overall	75	78	75	78	78	78	81	78	78
	36	36	36	37	37	37	36	36	37

Source: Field survey, 2020

For daily laborers there appears to have been a decline in the share of both small and non-small businesses hiring post lockdown, but the magnitude of the effect is higher for small business where the reduction in share of businesses hiring daily laborer is between (9% and 50%) for all except enterprises in the downstream whose hiring of daily laborers remains constant across the study months. In the lateral supply chain (feed sellers and hatcheries) for non-small businesses, we see a sharp decline in number of businesses hiring regular workers in the month of April (at the peak of the lockdown period). This may reflect a cost saving strategy of businesses to deal with the shorter periods of operation (and associated lower business activity and revenue) by laying off staff. However, in the case of hired daily laborers for small business, unlike non-small businesses, we see a rise in number of laborers

contracted in the month of April. This may be a response by small businesses to make the best use of the six hours during which markets were open and perhaps make as many deliveries as possible within the limited time frame. Together, Tables 3 and 4 indicate that there were short-term effects and a likely significant long-term effect of the pandemic and its associated policies on employment in Niger State.

Table 4. Share of businesses that hired daily laborers (%)

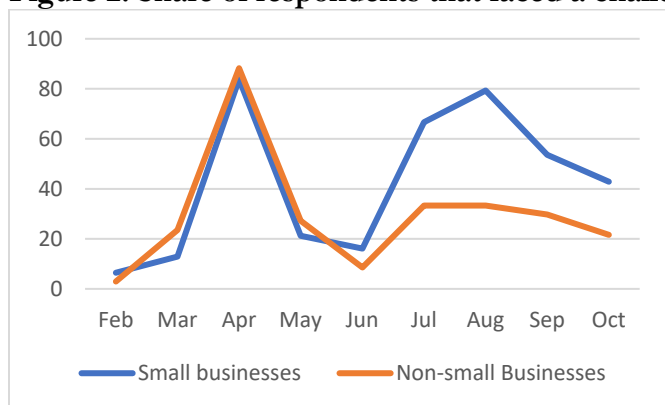
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Small businesses									
Lateral	50	50	88	56	56	11	33	11	11
Upstream	29	29	29	17	0	0	17	17	0
Midstream	14	14	14	0	0	0	0	0	0
Downstream	57	57	57	57	57	57	57	57	57
Overall	38	38	48	31	28	14	24	17	14
Observations	29	29	29	29	29	29	29	29	28
Non-small businesses									
Lateral	33	33	33	0	0	0	0	0	0
Upstream	29	29	29	21	21	21	21	21	21
Midstream	45	45	36	33	22	33	33	33	33
Downstream	60	60	60	38	38	25	29	25	25
Overall	39	39	36	24	24	22	22	22	22
Observations	36	36	36	37	37	37	36	36	37

Source: Field survey, 2020

4. Businesses along the fish and poultry value chains in Niger State faced increasing challenges during and after the lockdown. Despite these challenges, no value chain actor received assistance from any of the government agencies during the period.

Figure 2 presents the share of businesses that faced challenges. The graph reveals a sharp rise in the number of businesses facing challenges during the initial months of the lockdown period (March and April). After a slight decline in challenges faced in the months of May and June, we see an increase in the share of businesses facing challenges in July and later months. The pattern of challenges appears to be similar for both small and non-small businesses during the early months of the lockdown.

Figure 2: Share of respondents that faced a challenge

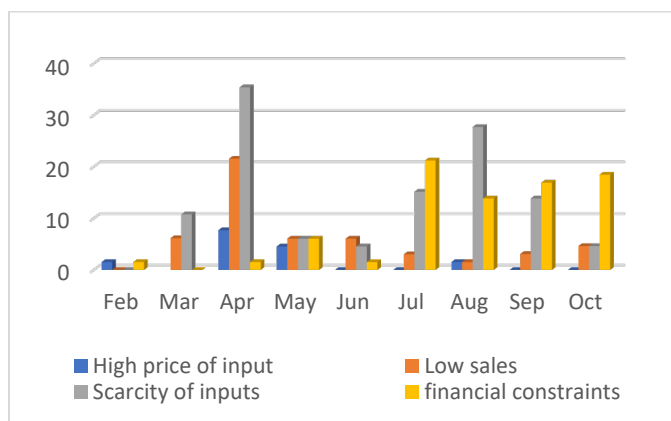


Source: Field survey, 2020

However, a larger share of small businesses (compared to non-small businesses) reported facing challenges in the months succeeding the lockdown period (July to October). The same pattern is observed for enterprises in rural and urban areas and for male and female owned businesses.

Figure 3 shows the nature of the challenges faced by businesses during the period under review. As seen in the figure, in the month of March when the lockdown directive went into effect, the major challenges faced by businesses were scarcity of inputs and low sales. In April (when the lockdown was in full operation for the entire month) we see the share of businesses having difficulty in accessing inputs increase, more than threefold, to 35% (compared to about 10% in March) and 0% in February. This reflects an increased intensity in the challenges that the movement restrictions had on the study enterprises. The second most frequently cited challenge in March and April was low sales. The share of enterprises that reported low sales as a challenge increased from about 5% in March to over 20% in April. Also in April, about 10% of businesses reported high price of inputs as a challenge; up from about 1% in February.

Figure 3: Share of respondents facing different kinds of challenges



Source: Field survey, 2020

Even though share of businesses that reported facing challenges decreased in the months of May and June, we observe a significant rise in number of businesses fraught with scarcity of inputs in the subsequent months (July – September). We also observe a sharp increase in the number of businesses faced with financial problems between

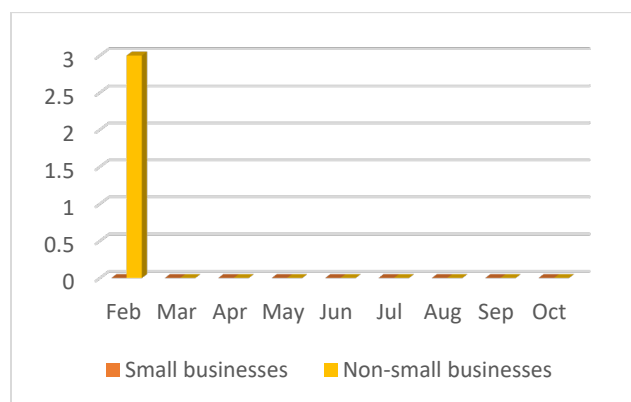
July and October. This coincides with the period when small businesses were shown to report more challenges than non-small businesses. This likely reflects indirect impacts of COVID-19 and associated policies (i.e., reduced business activity, lower demand for products, higher input costs), the cost of any adaptation strategies used (e.g., drawing down on inventory, taking loans or selling on credit), higher input prices and/or changes to procurement opportunities. For example, a small-scale chicken retailer in Bosso LGA reported that he could not obtain birds from his suppliers due to lack of capital. He admitted that he used to get supplies on credit which was no longer feasible since everyone was trying to make ends meet.

A small-scale fish farmer from Chanchaga LGA on the other hand explained that he was finding it difficult to obtain fingerlings and this led to a delay in starting the production cycle. Another fish farmer that operates a hatchery in the same LGA reported that as a strategy they are making efforts to obtain the parent stock collectively (with other farmers) to lessen the financial implications.

Together these results reveal that the nature of challenges faced by agri-food enterprises along the study value chains in Niger State changed over time with some directly linked to restricted movement (during the lockdown) while others (such as increased financial constraints) are indirect effects more in the medium and long-term. How these challenges are addressed could affect the likelihood of these enterprises to recover from the pandemic and the associated livelihood of the enterprise owners and employees.

Despite the challenges faced by businesses, we observe that none of the respondents reported receiving assistance during and after the COVID-19 period. The few non-small businesses (about 3%) that reported receiving assistance received it prior to the COVID-19 pandemic as indicated in Figure 4.

Figure 4: Share of respondents receiving assistance



Source: Field survey, 2020

Conclusions and policy recommendations

COVID-19 pandemic and its associated policies severely affected businesses along the poultry and fish value chains in Niger State. We see consistent evidence of significant disruptions to business activities during the lockdown period which seems to have led to more adverse effects in the ensuing months for many of the study enterprises. The fact that the share of small businesses in operation (compared to non-small enterprise) declined in the succeeding months not only indicates a medium to long-term effect of the lockdown but that this negative effect was more prevalent among small enterprises less able to absorb these shocks. No enterprise in our study received any assistance or support to enable them deal with the COVID-19 pandemic. The steady decline in the number of

workers (regular and hired) employed by businesses in the succeeding months reveals the livelihood impacts of the pandemic and associated policies on those offering services (as labor) for these enterprises. Finally, though considered essential services (and not directly affected by the lockdown policies), farms and other upstream activities were still negatively affected by the lockdown policies due to their dependence on other nodes of the value chains for inputs and or as their output market. Together these results reveal the need for careful consideration of the interconnected nature of food supply chains when developing policies generally but particularly when responding to shocks. They also reveal the need for careful consideration to the needs of small-scale enterprises who are less able to absorb shocks but still did not receive any support during and following the lockdown policies and subsequent decline in economic activity in Nigeria.

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