PIND

FOUNDATION FOR PARTNERSHIP INITIATIVES IN THE NIGER DELTA

PIND 2020
Market Resilience Study

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Findings from this study were shared with a global audience on the BEAM Exchange platform on the 26th of January 2021. It is part of PIND's contribution to the global learning on the role of market systems development in engendering resilient systems in the agricultural sector.

CHAPTER 1

Introduction and Background to the Study

1.1 Objective of the Study

The Niger Delta region of Nigeria is inhabited by over 32 million people, with huge deposits of oil resources. It accounts for over 75% of Nigeria's foreign exchange earnings, unfortunately, more than 70% of its populace live in poverty due to a lack of economic opportunities brought about by dysfunctional and poor performing institutions and systems The paradoxical situation of lack amidst plenty often give rise to different forms of conflict for over a decade between 1995 and the Amnesty signed in 2009 which have functioned to further worsen the operating environment and increase poverty levels. Until that time, all donor and multinational company initiatives had focused on providing direct support to communities to address issues of access to services, but which only exacerbated conflicts between those communities receiving the services and those that did not.

In 2010, following the Amnesty, Chevron Corporation set up the Foundation for Partnerships in the Niger Delta (PIND) as a non-profit foundation with a mandate to address the deep-rooted socio-economic problems in the Niger Delta, rather than just treating the symptoms, by growing networks of international and local partners to collaborate in developing and implementing new solutions and reducing dependence on oil in the region. Subsequently, in 2012, PIND set out to achieve its mandate by designing and implementing development activities that seek to raise the income of poor farmers and enterprises and provide sustainable means of livelihood to individuals in the communities in the Niger Delta. PIND established the Economic Development Centre (EDC) in Warri and adopted an economic development strategy founded on a sustainable market systems development (MSD) based approach (making market systems work for the poor) that guides all interventions and development activities. The market systems development approach relies on a sound initial analysis of market systems to pinpoint the underlying causes of the market weaknesses and designing development initiatives that target the underlying causes rather than symptoms. The market systems analysis is complemented with political economy and sociological analysis to understand the root causes of the problems, activities are then designed to address behavioral aspects through communications and behavior change, while also bringing in relevant economic activities through stronger market systems that go beyond the direct delivery relief that has been the norm for these types of problems before PIND's interventions

PIND's activities were also complemented by the DFID Market Development (MADE) Program in the Niger Delta (2013- 2020) which utilized a similar methodology and worked in related sectors. Together both projects reached over 600,000 farmers and small enterprises with over 50% experiencing more than a 30% increase in income between 2012 – 2019. Over this period, both projects introduced solutions that built and strengthened different supporting market systems that poor farmers and enterprises depend on in the Niger Delta. These include the market systems for the provision of commercial extension services, quality inputs, and improved technologies. Over this period the market actors in these systems have matured and changed their approaches to engaging with the poor, treating them as clients rather than as beneficiaries. The level of interconnectedness of the market systems with strong relationships and more appropriate/ specialized services being offered are signs of increasing maturity and resilience.

1.2: Challenges Caused by COVID-19

Conflicts and crises between individuals, communities, and institutions in the Niger Delta continuously exert pressure on the poor. PIND and MADE's work building new supporting market systems in the region had already led to a strengthened private sector-led commercial extension services[1] which was increasing services to the local communities and addressing constraints in access to knowledge, inputs, and output markets in the region. In February 2020[2], Nigeria reported its first case of COVID-19 and by March 2020[3], the Federal Government and many State Governments, including those in the Niger Delta, announced a series of measures to curtail the spread of the pandemic. Although the measures were to curtail the spread of the virus, observations from field monitoring show that it disrupted the economic activities of both the farmers and commercial extension service providers and further worsened the operating environment for market actors in the region. The measures introduced include:

Total Lockdown with movement restrictions

The first COVID-19 control measure introduced in Nigeria was an initial total lockdown of some states in the country. The measure, although originally intended for the high-risk states of Lagos and Ogun States in South Western Nigeria and the Federal Capital City of Abuja, was enacted by many states in the country including those in the Niger Delta and lasted between the middle of March and end of April 2020. The first few weeks of the lockdown saw a total restriction in movement as people stayed locked indoors, markets were closed and there was a restriction in the movement of any category of people and goods. As a result, farmers, particularly in the cities, could not visit their farms to carry out farming activities. There was severe disruption in the supply of inputs such as feed, seeds, fertilizers, and crop protection products which are essential inputs for production as input manufacturers and distributors were unable to distribute their products. The services of technical and business services providers were also disrupted and as a result, farmers found it challenging to access the support services they had been receiving from service providers. This included information on improved practices through training programs and demonstrations, technical and business advisory support, and linkages to market, finance, and quality inputs.

Within the first two weeks of the lockdown, the government extended waivers to the agricultural sector to allow for the movement of agro-products, inputs, and market actors. They also allowed some markets to open on specific days. This enabled the gradual movement of inputs, products, and market actors who were able to obtain the waivers. Unfortunately, the roadblocks introduced and mounted by security agents constituted bottlenecks that prevented the free movement of agro-inputs and products. This led to a spike in the cost of transporting agro products and inputs, leading to an increase in the cost of inputs and a further worsening of the operating environment for farmers.

During the lockdown and movement restrictions, the government also closed the international borders and ports of entry into the country. This impacted importers of agro-inputs and input manufacturers who import some of their raw materials. Similarly, those who had brought in goods before the lockdown reported finding it difficult to clear and transport the products to their warehouses and distribution points due to the movement restrictions and high cost of transportation. These further worsened the availability of input and prolong the shortage and price hike situation. The availability of inputs like CCPs and vaccines were particularly impacted as some of the major importers ran out of stock when they could not import to replenish.

Public Gathering Limitations:

As the lockdowns were relaxed, the government began to introduce gathering limitations to continue to check the spread of the pandemic. At various times, depending on the rate of increase in the number of cases, different states announced different gathering limits. Public gatherings were first restricted to below 50, then to 20, and then to 5. In most cases, people were not allowed

1 PIND/MADE: reference the service providers study, 2020
2 https://ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria
3 https://www.aa.com.tr/en/africa/covid-19-nigeria-announces-lockdown-of-major-cities/1784358

to gather. This hindered the regular training and demonstration activities carried out by service providers and input companies. Input companies and agro-dealers usually relied on such training to provide information on best practices and promote the sales of inputs to farmers. Most of the scheduled training was canceled while some were rescheduled.

Inter-State Movement Restrictions:

Another measure introduced to check the spread of the pandemic was the closure of state borders and restriction of inter-state movement. This was in effect during the lockdown and for another two months after the lockdown was relaxed (until June). This measure prevented the free flow of inputs between states for farmers who were just entering the planting season, limiting access to inputs. It also prevented buyers/traders from the leading markets in the urban areas to travel to purchase agricultural products from the communities and clusters of production.

Curfews

Curfews were introduced by the government to enforce the lockdown and movement restrictions. They were effected between 6 pm and 7 am and stayed in effect for more than five months after the restrictions were relaxed. Even though it did not prevent the activities of service providers and farmers during the day, it nevertheless, limited the number of hours markets and businesses were open as most business operations had to close some hours before the curfew to allow people to get home before the curfew went into effect.
The curfews also made it more difficult to commute and move goods between states that are up to 500km apart due to the limited hours available for travel. This further disrupted the flow of inputs to most Niger Delta states considering that most of the input manufacturers are located in South-Western Nigeria. Trucks coming into the region spent an extra day to get to most states in the Niger Delta.

Community Restrictions

Going by the responses of the market actors, there were really no community restrictions enacted by the communities and local governments. However, some of the government restrictions were enforced at the community level by local authorities and association heads. The restrictions were mainly around the closure of markets and control and/ or cancelation of market days, which significantly limited market opportunities for farmers.

1.3: Objectives of the Market Resilience Study

The COVID-19 unique challenges coupled with the fragile operating environment in the Niger Delta region necessitates the need to understand how the external pressures are impacting the market systems that PIND has been supporting over the last eight years and how they are adapting to those pressures to ensure that they can continue providing necessary services to their clients to limit the negative impact of the restrictions on the poor. The stronger relationships between market actors enhance their ability to adapt, innovate, and respond to the pressures and contribute to the economic recovery of market actors from crises and create more resilient market systems. This study is therefore intended to assess, report, and present the nature and level of resilience of the PIND strengthened market systems to inform its activities and how it can tailor its support to those market systems, as well as to share the finding with a wider global audience.

Introduction And Background To The Study

The assessment, among other things, is expected to help achieve the following:

- Provide a better understanding of the level of maturity and resilience of the market systems that PIND has been supporting in the Niger Delta by examining the relationships between the market actors and how effectively they have adapted and innovated to address the challenges raised by the crisis; and

- Provide evidential data to enable PIND to better articulate, report on, and present its experience building resilient market systems in a conflict-ridden region to a wider global audience via the BEAM Exchange. This will engender learning and stimulate intellectual discourse that will further enrich the Niger Delta experience.

CHAPTER 2

BUILDING STRONG MARKET SYSTEMS

2.1: Characteristics of Resilient Market Systems

According to the BEAM Exchange, resilience needs to be considered at two levels, the firm/household, and the market systems levels. A market system cannot be said to be resilient when farmers and small enterprises within that system lack access to the services of support market actors, and market systems growth is of little value if it means the poor enterprises are left behind and only a few service providers benefit. As such, the ultimate goal of most market systems projects is to ensure the target beneficiaries are better positioned to access the required support services to increase their productivity and income to pull themselves out of poverty.

Resilient market systems are therefore characterized by the presence of a diverse range of support actors sustainably offering services to meet the needs of different market actors including smallholder farmers and enterprises. The sustainability of the transactions is underpinned by effective and mutually beneficial relationships. Leveraging relationships between market actors within market systems makes them able to adapt and respond to the pressures of external shocks like COVID-19, making the entire system more resilient, and contribute to the economic recovery of all actors from the crises.

Over the past eight years, since PIND's interventions, the market systems for the supply of technical and business support services, quality inputs, and to a good extent improved technologies in the Niger Delta have witnessed the entrance of new actors and improved relationships between them and the range of actors have built business trust between them.

2.2: Building Market Systems - The Niger Delta Context and PIND's Local Commercial Extension Services (LPES) Providers Model

2.2.1: Before PIND's Intervention

PIND's research identified the systemic constraints to increasing productivity by smallholder farmers to include: access to the right inputs, access to technical information, access to productivity-enhancing technology, and access to markets. It was both a supply and demand-side constraint – limited supply of the right inputs and limited knowledge of how to use them by the farmers.

Building Strong Market Systems

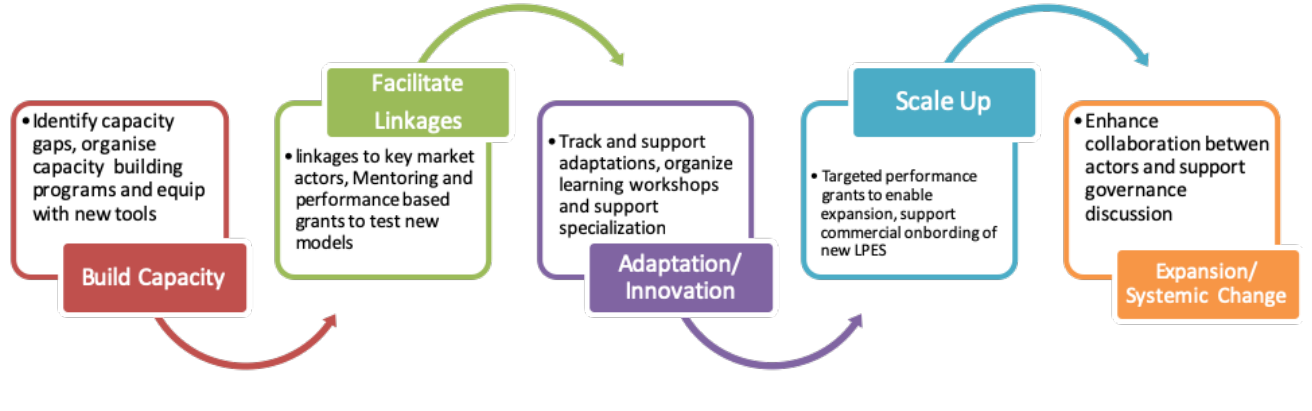
On the supply side, the support market lacked the knowledge and skill to address the underlying challenges that farmers and enterprises face. Input manufacturers were unaware of the huge market potential of smallholder farmers and the high demand for their products by the farmers. Business and technical services providers were either weak or nonexistent, the few skilled ones were largely focused on the donor market for their services and did not recognize the commercial potential of the local services market. The few players in the local services market had very poor value offerings and were unable to engage other market actors with commercial incentives to support farmers. There were very poor relationships between the support market actors and also poor relationships and mistrust between the support actors and farmers.

On the demand side, the lack of interest by farmers and enterprises to pay for support services served as a major disincentive for commercial service providers, as many farmers and enterprises were unaware of the commercial returns to be gained from using quality service providers. Also, the weak state of most of the farmer's groups and fragmented clustering of farmers in sectors like poultry, made it difficult for input and technology providers and financial institutions to recognize the commercial potential that farmers possess as a collective unit.

2.2.2: PIND's Local Commercial Extension Services (LPES) Providers Model

To address the situation, PIND understood it had to begin to take steps to strengthen the market systems to enable it to address the challenges faced by farmers. There was a need to strengthen relationships between market actors, close skills gaps, and align incentives to endanger sustainable relationships and to enable more market actors to crowd-in. PIND, thus designed a series of intervention activities to strengthen access to information on improved practices, quality inputs, improved technologies, and funding and market linkages. PIND also anchored the sustainability of these intervention activities and solutions on a sustainable Local Private Extension Services (LPES) Model. The model lays out a series of logically linked activities required to strengthen the key market systems that poor farmers and enterprises in the Niger Delta depend on for their business activities. These include the systems for information on best technical and business practices and inputs and technology provision.

Figure 1. LOCAL PRIVATE EXTENSION SERVICES STRENGHTENING MODEL



Between 2012 and 2019, PIND, in partnership with the DFID-MADE Project implemented a series of interventions laid out in figure 1 above to strengthen the service market to provide the needed support and services that enterprises and farmers require to improve their productivity. First, PIND carried out an assessment to identify the binding constraints and skills gaps impeding the performance of the local services market and the potential solutions. PIND and MADE then carried out a series of capacity building and mentoring initiatives (Development of training curriculum and manual, organization of TOTs, training in marketing and facilitation skills, training in business diagnostic tools, and institutional strengthening) that address the skills gaps. The service providers

were also equipped with the knowledge, skills, and tools they need to understand and implement solutions to the challenges that farmers face. Secondly, PIND and MADE supported the service providers to build the relationships they need to be sustainable. This was also required to improve the relationship between actors in the sectors. For example, to improve access to inputs, PIND strengthened relationships between farmer groups and input manufactures and retailers, and between input manufactures and retailers and technical services providers. Table 1. Below lays out the series of activities and outcomes implemented by PIND to strengthen the support market for farmers and enterprises in the region. The range of activities enabled the support actors to deepen, expand, and achieve scale.

Table 2: Performance of the Local Private Extension Service Providers Before/ After Project Support

S/N	Outcomes Expected	Key Activities
1	Capacity Building	•Identify binding constraints and potential solutions •Develop training curriculum and manuals •Organize Training of Trainers (TOTs) •Capacitate SPs with diagnostic Tools and Institutional strengthening •Training in Marketing and Facilitation skills
2	Facilitate Linkages	•Facilitate initial linkages to key market actors and partners •Organize mentoring / Refresher training •Provide performance-based grants to test models and buy-down risk
3	Adaptations and Innovations	•Track and support adaptations •Facilitate knowledge sharing and learning events with SPs •Support emergence of Master SPs
4	Scale-Up of Solutions	•Targeted performance grants to enable entrepreneurial SPs to expand •Support commercial onboarding process for new SPs
5	Expansion and Systemic Change	•Facilitate Knowledge sharing/linkages between market actors •Support governance discussions •Enhance collaboration

Types of Local Private Extension Services (LPES) Providers

Over the past eight years, and working with MADE, PIND has supported the emergence of four categories of LPES in the Niger Delta. They include:

- Business Services Providers (BSPs): These are service providers with expertise in providing business development services to enterprises, including farmers, across different sectors and industries. Before the intervention by PIND, there were very few of them operating in the region, offering mainly generic enterprise training services. Since the PIND interventions, many of them have upgraded and diversified their service offering to include business diagnostics & upgrade and Linkages to finance and markets.

- Technical Services Providers (TSPs): This group of LPES provides technical services in sectors where they have technical expertise. They provide information and advisory support to farmers on best farming practices and also connect farmers to where they can purchase quality inputs.

Building Strong Market Systems

Before PIND's intervention, these categories of LPES did not exist in the Niger Delta; currently, over 250 TSPs are operating in Aquaculture as Aquaculture Services Providers (ASPs), in Poultry as Poultry Services Providers (PSPs), and also in the crops sectors as Farm Services Providers. Most TSPs have the requisite sector-specific educational qualification (Vets, Crop Science, Animal and Livestock science, etc.) that qualifies and equips them to function effectively, others build that capacity over time as experienced farmers and/ or by functioning as lead farmers.

- Input Suppliers with Embedded Extension Services: This group of LPES are manufacturers and retailers of inputs (feeds, seeds, crop protection products, etc.) with embedded extension services to farmers as part of their marketing strategy. They include feed producers, Crop Protection Products (CPP) producers, Vaccine manufacturers, agro-dealers, seed entrepreneurs, village-level vaccine dealers. They sell inputs to farmers and also carry out extension services through demonstrations to provide farmers with knowledge on best practices and the effective usage of their products.

- Technology Providers with Embedded Extension Services: These are suppliers of equipment and technologies with embedded extension services to farmers. They include importers, distributors, and local fabricators of technologies used by farmers and processors. The sale and/ or fabricate improved technologies required by farmers and processors to improve their efficiency and productivity.

Working collaboratively in the Niger Delta, both PIND and MADE trained over 2,600 LPES and reached over 600,000 farmers between 2012 and 2019 in the six sectors PIND works in. The training programs were also complemented with monitoring and mentoring visits, all aimed at ensuring that the Services Providers have the requisite skills and tools to improve the quality of their services. Many of the LPES did not exist before 2012; and many of them started as one-man enterprises typically selling to NGOs, government organizations, and the oil and gas companies in the Niger Delta. After the capacity building by PIND and MADE, they began targeting local farmers and SMEs with improved services. Table 2 below is from a survey carried out by PIND in 2019 to track the performance of the LPES Providers. It lays out some of the performance indicators that tell the story of the sort of changes the LPES are experiencing since the support by PIND and MADE.

Service Providers	Outreach (Annual Average)			Types of Services		Employees		
	Before PIND	After PIND	% Change	Before PIND	After PIND	Before PIND	After PIND	% Change
Technical Services Providers	1,040	4,103	295%	Training, Sales of inputs	Training, Sales of input, Linkage to market, Linkage to finance, technology promotion	9	28	211%
Business Services Providers	100	600	500%	Advisory services, generic training	Training, SME Diagnostics & Upgrade, Linkages to finance & market	81	182	125%
Agro-dealers/ Input Companies	7,297	14,189	94%	Sales of inputs	Sales of inputs & seeds, training & demonstration, linkage to market	35	58	66%
Fabricators (Annual sale of new Machines)	12	46	283%	Fabrication of oil palm & cassava equipment	Fabrication of oil palm & cassava equipment, Technology promotion	4	13	225%

Building Strong Market Systems

The data shows that the service providers have either expanded their outreach and/ or diversified their products/ services and clientele base since PIND's engagement and support. From a range of few services, the LPES have evolved their services offerings to more diversified sets, adding new products in their sector and moving into new related sectors where they find the opportunity. For example, a former fish farmer, Peter Michael (Mikings), is now a highly sought-after aquaculture service provider because of his exposure to the PIND model. He has built successful partnerships with local microfinance banks to develop input financing options for aquaculture farmers. Over the last year, this service has been expanded to poultry farmers while plans are being made to expand it further to crop farmers.

Fabricators and agro-dealers who hitherto were not keen on promoting their products and services and with little interest in providing other added services to their clients are now driving demonstration activities as part of their marketing strategy. Business service providers like CAD, DIC, and GSI have increased their portfolio to include linkages to finance and are leveraging the CBN funding schemes to improve their value offerings thereby helping more farmers and enterprises to expand and grow. Ark Shore who before now was donor-focused is now commercially oriented, recording high client retention and referral rate.

It is also important to note that the LPES providers are collaborating and creating linkages between themselves, leveraging each other's competencies and relationships to improve their service offerings and greatly expand their client base. Responses from the service providers and farmers in the course of this analysis clearly show that the service market is now responding to the needs of the farmers and SMEs. The LPES now have great mastery and understanding of the market and the needs of farmers. This has been pivotal in engendering the sort of response by them in the wake of the threats of the COVID-19 pandemic.

CHAPTER 3

Study Methodology

Three sets of respondents were interviewed to investigate the impact of the COVID 19 pandemic on their business and the adaptive measures to navigate the challenges. These include fish processors, farmers, service providers, and input companies. The investigation was done mostly remotely by phone while some farmers were physically reached by the co-facilitators to ensure a wide range of actors were surveyed.

A purposive sampling technique was deployed to ensure that the key market system actors and their beneficiaries are identified and interviewed. Market actors thought to the analysis and/ or present a different enriching perspective were identified and interviewed.
Key Informant Interviews (KIIs) were utilized for most of the assessment using a structured questionnaire with specific sets of questions for the various market actors. This helped to guide and standardize the interviews in addition to ensuring that a greater level of details are obtained from relevant market actors

A total of 82 respondents were interviewed consisting of processors (micro, small and medium), farmers (small, medium), input companies, and service providers including peace actors. The table below shows a summary of the respondents:

Table 3: Distribution of Respondents

S/N	Outcomes Expected	Key Activities
Farmers and SMEs	52	Cross River, Imo, Delta, Akwa Ibom, Bayelsa, Rivers
Processors	9	Ondo, Delta, and Bayelsa
Service Providers	9	Delta, Bayelsa, Ondo, Imo, and Abia
Input Providers	9	
Technology Providers	3	
Total	82	

Limitations to the Study

This was a rapid investigation to evaluate the effects of the government introduced restrictions in response to the COVID-19 pandemic, and the resilience of the market systems to address those effects. In carrying out the assessment limitations were experienced. They included:

- It was a rapid study and the sample size for each of the categories of actors may not have been a sufficient representation of the populations of actors in the market systems. However, PIND ensured to ensure a fair representation of the diverse range of market actors in its sampling.
- The interviews were carried out mainly by phone and other social media platforms. Only in exceptional cases, to reach farmers that do not have access to a phone were physical visits utilized.
- Difficulty in accessing some of the key actors due to their very busy schedules.

CHAPTER 4

Findings At The Macro Level

4.1: Impact On Farmers

A deeper analysis of the responses of farmers and small enterprises interviewed across different sectors provides insights as to how they were impacted by COVID-19. This will help PIND to effectively evaluate and contextualize the effectiveness and appropriateness of the responses by the market system actors. The assessment tried to understand how the farmers responded to the COVID-19 restrictions and challenges and the role of the LPES providers in helping them to overcome the challenges. This section takes a macro view of the impact of COVID-19 on farmers in the Niger Delta, the detailed sector-specific impact and nuances is provided in the sector level section

4.1.1: Impact of the COVID-19 Control Measures

Table 4: Impact of COVID-19 Restrictions on Farmers

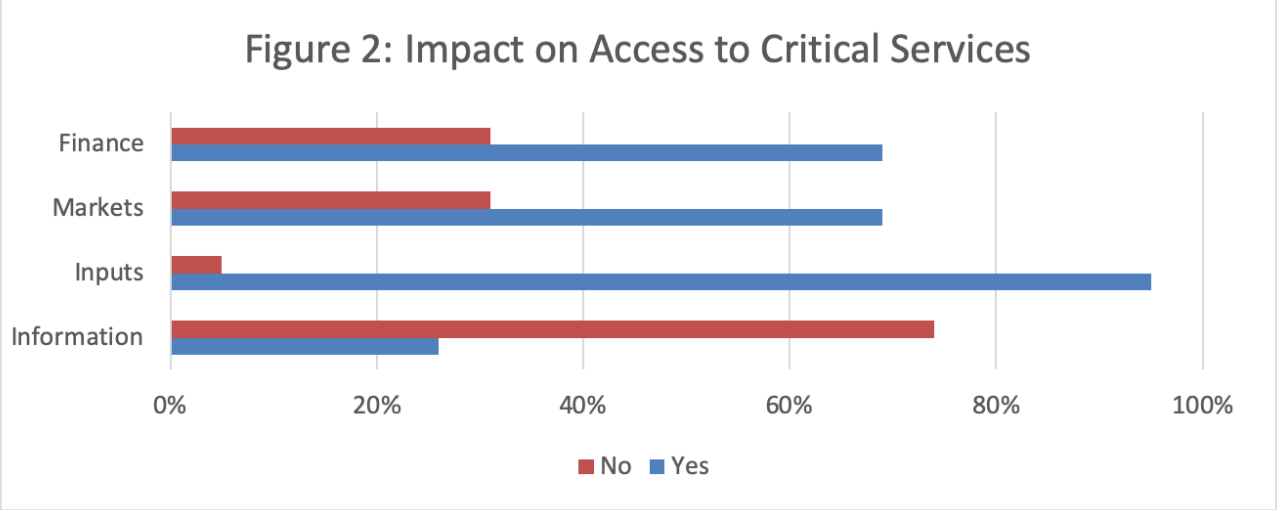
		Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Lockdown and Restrictions	Inter-state Movement restrictions	74%	10%	16%	-	-	100%
	Public gathering limitations	46%	38%	15%	-	1%	100%
	Curfews	31%	23%	38%	8%	-	100%
Since the Lockdown (relaxation of measures)		20%	31%	44%	5%	-	100%

Most of the farmers and SMEs surveyed said they were negatively impacted by the various measures introduced by the government to curb the spread of COVID-19 in the region, however, the extent of the impact differed by type of measure. 84% of the respondents surveyed were negatively impacted by the movement restrictions, with 74% feeling a significant negative impact. Also, 84% of the respondents said they were negatively impacted by the public gathering limitations, though only 46% felt significantly negatively impacted. Fewer farmers (54%) claimed they were negatively impacted by the curfews with only 31% feeling significantly negatively impacted. Since the full lockdown ended and measures were relaxed, 51% felt negative impacts, but only 20% of those were significant.

The impacts also varied by type of service. Figure 2 shows how the restrictions impacted access to critical services by farmers and SMEs.

Inputs: 95% of the respondents felt negatively affected by access to inputs. Input companies could not supply to states outside their production location in the first few days of the lockdowns and when the waivers for the movement of agro-inputs were provided, roadblocks and curfews disrupted the free flow of inputs leading to scarcity and a hike in the price of most inputs purchased by farmers. Also, input distributors and agro-dealers were closed during the initial period of the lockdown, so farmers found it extremely difficult to buy inputs.

Findings At The Macro Level



Market: 69% of respondents felt that the markets were negatively impacted. Buyers could not move around to purchase goods and the control of market days meant that only a few goods could be sold. Also, large buyers from other states could not travel to purchase agro-products due to inter-state border restrictions. Even when waivers were provided to allow the movement of agro-products, the increased transportation costs made the goods expensive for buyers in other towns and states.

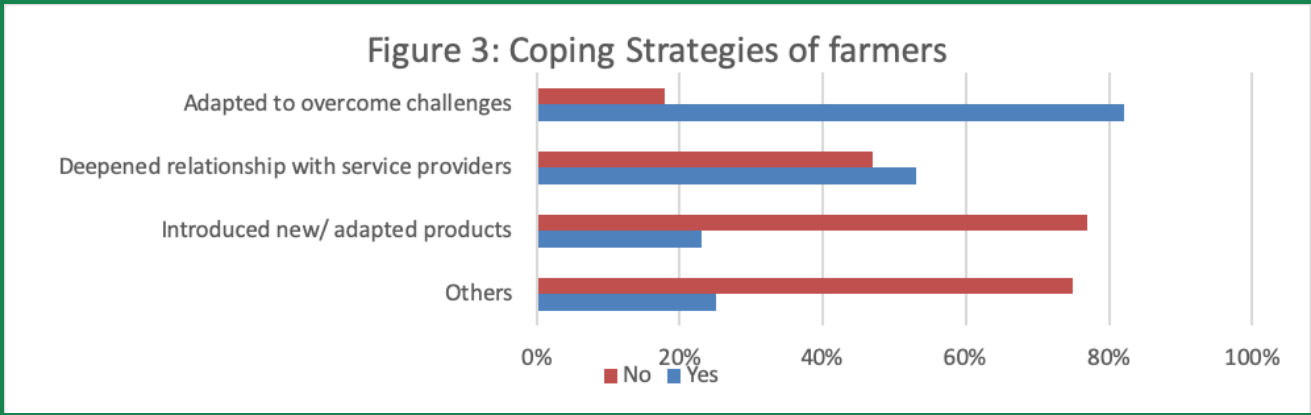
Access to Finance: 69% of respondents were also negatively impacted on their access to finance. The restrictions impacted farmers' access to finance in two ways: First, they could not access loans from agro-friendly lending institutions like micro-finance banks because they were closed all through the lockdowns and the pandemic and restrictions increased the risk rating of farmers. Also, farmers could not access training programs to qualify for some of the CBN loan schemes. Secondly, farmers could not access their funds in banks to purchase inputs and other working capital needs because most banks were closed.

Information: Only 26% of the farmers surveyed witness any disruption to the flow of business information since service providers deployed the use of virtual tools, such as telephone and social media platforms to provide training and information to them. However, some of the farmers noted that training programs were cancelled during the days following the announcement of lockdowns and there was a lag time before the SPs adapted to using online, telephone, and social media platforms. Village-level vaccine dealers and agro-retailer shops were closed, and farmers couldn't get to them to get information.

4.1.2: Response by Farmers

Adaptation to overcome the challenges

Faced with the challenges created by the government measures, the farmers adapted to address them. Some farmers responded that they started selling small quantities to smaller markets. Others began direct marketing to neighbors including home deliveries while some utilized social media to advertise and sell their products. To access inputs, some farmers collaborated with other farmers to bulk purchase inputs. Many farmers reported that they reached out to their existing clients and new ones through phone, social media, and on-site market visits; while others had to source funds to stockpile inputs like feeds, drugs, and vaccines.

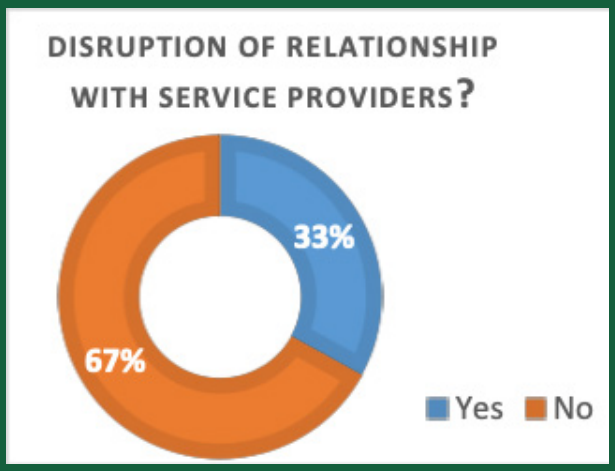


Some aquaculture farmers who witnessed the drop in demand for fresh fish due to the closure of hotels and restaurants adopted the use of newly available fish smoking technology to prevent spoilage and to add value to the fish. They then sold dry fish against waiting for buyers who were not able to come to the farm gate. Others facing labor shortages due to travel restrictions, deployed family labor as workers while others scaled-down production due to labor shortages. One farmer taught some of her family members the practices taught by the service providers so they could support her on her farm. Most cocoa farmers relocated to their farm settlements and engaged farm service providers to support them in their farms. Also, some farmers reported delving into short-cycle crop farming like vegetables while some poultry and aquaculture farmers began to use alternative cheaper feeds.

Many farmers reported deepening relationships with their service providers during the period. There was a wide utilization of phones and social media platforms by the farmers and SMEs to stay informed and engaged with their service providers. Some also reported being supported to access loans by their service providers while some were trained and recommended to access the COVID-19 stimulus loans. There were also reports by farmers being supported by their service provider to access inputs and labor and report of increased relationship between technical service providers and agro-dealers to support farmers to access inputs. Some farmers reported staying in touch with the financial service providers (FSPs) and Fabricators by phone during the lockdown period and having an agreement in terms of payment for service after sales are recorded.

4.1.3: Impact on Farmers' Relationship with Commercial Extension Services Providers

Only 16% of farmers thought their business was slightly negatively impacted because they could not have access to business information, the majority of the farmers (84%) had access to the LPES providers and thus had access to business information so there was no negative impact. Also, 67% of the farmers thought the restrictions did not disrupt the relationship between them and the service providers. The remaining 33% thought the relationship was disrupted because they needed them to be physically available which was impossible during the lockdown.



Findings At The Macro Level

According to the farmers and SMEs, some of the strategies deployed by the services providers to enable them to access business support included virtual training using social media platforms and creating social groups to aid interactions. Linkage to Finance and markets were done via phone and there was constant communication via calls, text messages, and WhatsApp messages between the farmers and their service providers.

4.1.4: Impact on the Farmers Performance

Table 5: Impact of the Restrictions on Farmers' Performance

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Sales	42%	23%	23%	7%	5%	100%
Cost	59%	21%	16%	4%	0	100%
Profit margin	36%	20%	31%	10%	3%	100%

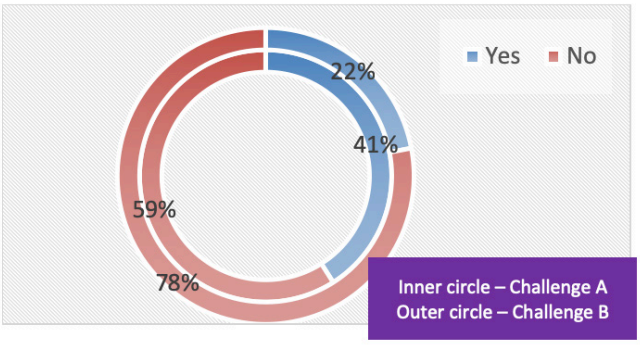
According to table 5 above, 65% of the farmers and SMEs surveyed reported a negative impact on sales as a result of the restrictions. 80% also mentioned that their cost of production increased as a result of the scarcity and increase in the cost of inputs and transportation. However, only 56% experienced a drop in profit margin. This was because prices of some of the products in sectors like cassava, cocoa, and poultry also increased in tandem with the increase in the cost of inputs. It was only in the aquaculture sector that farmers witnessed some lag period before fish prices increased in response to the increase in the cost of inputs, primarily due to the perishability of their product. As a result, some cocoa, cassava, and poultry farmers reported a positive impact on sales because they were able to quickly adjust their sales prices, even as input and transportation costs increased. The price of fish remained stagnant during the lockdown but adjusted after the lockdown was relaxed.

For most of the farmers, sales began to pick up after the restrictions were relaxed leading to improved margins.

Most Pressing Challenges and Response of LPES
Regarding the most pressing challenges during the restriction. As laid out in table 6 below, most of the farmers mentioned access to inputs as their most pressing challenge while finance was the second most pressing with access to market coming close as the third most pressing challenge.

Table 6 and Figure 4: Most Pressing Challenges during the lockdown and LPES Response

		First Challenge	Second Challenge
1	Input	50%	17%
2	Finance	17%	39%
3	Access to Market	17%	35%
4	Labour	8%	2%
5	Access to LPES	4%	4%
6	Others	4%	4%



And as laid out in figure 4 above, 41% of the farmers and SMEs said the LPES providers were able to help them address their first most pressing challenge while only 22% percent of farmers responded that the LPES were able to help them address their second most pressing challenge. This will be

examined deeper in the sections discussing the various categories of LPES.

4.2: Impact On The Commercial Extension Services Providers

Having understood how the pandemic impacted the farmers, the analysis further probed how the local private extension services providers were impacted and the effectiveness of their response strategies to the threats to them and the farmers.
Tables 7 and 8 below provide an overview of how the COVID-19 restrictions impacted the service providers as a whole and the range of services that were impacted by the COVID-19 restrictions. Subsequent sections described how the different categories of services providers were impacted and how they responded.

Table 7: Impact of the Restrictions on the LPES

		Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Initial Lockdown	Movement Restrictions	81%	14%	0	0	5%	100%
	Public Gathering Limitations	57%	14%	19%	0	10%	100%
	Curfews	14%	19%	62%	0	5%	100%
Since the lockdown (relaxation of measures)		5%	28%	48%	14%	**5%**	100%

Table 8: Range of Critically Impacted Services

	Services Critically Impacted by the COVID-19 Restrictions
1	Linkages to inputs
2	Sales and distribution of inputs
3	Training and demonstration of best practices
4	Physical training activities: canceled initially and subsequently frequency and number of participants reduced
5	Physical advisory visits, including farm set-ups
6	Linkages to market
7	Linkages to finance and funding opportunities

4.2.1 Technical and Business Services Providers

Restrictions and Impact on Services
Technical Services Providers (TSPs) and Business Services Providers (BSPs), operate similar business models as they offer their services at a fee to farmers and SMEs. All nine Services Providers (SPs) surveyed under this category said they were impacted by all the measures introduced by the government to control the spread of COVID-19. 88% of the SPs were significantly negatively impacted by the movement restrictions during the lockdown as they were not able to carry out their service delivery which was mainly in person and needed time to adapt to other modes of service delivery. One of the BSPs, who already had an online training platform, thought the restrictions impacted his organization positively as he quickly migrated all his services to the online platform and gained more clients during the period while other SPs were still figuring out their adaptation strategies.

Findings At The Macro Level

Table 9: Impact of the Restrictions on Technical and Business Services Providers

		Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Initial Lockdown	Movement Restrictions	88%	0	0	0	12%	100%
	Public Gathering Limitations	44%	22%	12%	0	12%	100%
	Curfews	0	11	77%	0	12%	100%
	Community Restrictions	66%	33%	0	0	0	100%
Since the lockdown (relaxation of measures)		0%	11%	77%	0%	**12%**	100%

Overall, all the lockdown measures (except curfews) had a significant negative initial impact on the SPs. However, since the relaxation of the lockdown, 11% of the SPs now thinks that the measures have had just a slight negative impact on them. Most of the SPs, 77%, think the impact since the lockdown ended has been neutral with another 12 claiming they have been positive because of the effectiveness of their response strategies and the relaxation of some of the restrictions, particularly the inter-state border restrictions.

In terms of the services that were critically impacted, the SPs noted that the COVID-19 measures prevented them from carrying out physical technical, and business training and diagnostic and advisory visits. The BSPs particularly reported that they were not able to engage financial institutions to conclude funding linkages with banks or to initiate new ones. One of the BSPs that planned business training to prepare some farmers and SMEs for the CBN AGSMEIS[4] loan had to cancel the activity immediately once the lockdown measures were announced. The Aquaculture and Poultry services providers were not able to support farmers to access inputs such as feed, fingerlings, and day-old chicks (DOCs) due to the movement restriction during the lockdown. Market Linkages services to SMEs were also affected by the restrictions as BSPs could not facilitate business relationships between their SMEs clients and large buyers, particularly in those located in neighbouring states.

Impact on their Clients

All the SPs agreed that the farmers and SMEs they serve were impacted by the restrictions, particularly during the lockdown, mostly during the initial period when the SPs were still figuring out their response strategies.

Table 10: Impact of the Restriction on TSPs and BSPs Clients

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Government Measures	77%	23%	0%	0%	0%	100%
Community Restrictions	66%	34%	0%	0%	0%	100%

As shown in Table 10 above, all the SPs surveyed confirmed that their clients were negatively impacted by both the government and community measures implemented to control the spread of COVID-19, and as much as 77% feels that the clients were significantly negatively impacted by the government measures while 66% feels the market control measures implemented at the community level (mainly control of market days) significantly impacted their clients.

Table 11 below lays some of the services that the SPs felt were severely impacted and their impact on the farmers and SMEs.

4 The CBN AGSMEIS is a special line of credit from the Central Bank of Nigeria for agriculture SMEs Agri-Business/Small and Medium Enterprise Investment Scheme for SMEs without collateral.

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Table 11: BSPs and TSPs Services Severely Impacted

	Services Severely Disrupted	Impact on Farmers
1	linkages to input	**Significantly negative:** Delays/outright stoppage of farming activities due to scarcity of inputs and high cost when available.
2	Linkages to market	**Significantly negative:** Poor sales and losses due to lack of buyers and control of market days.
3	Linkages to finance	**Slightly Negative:** Expansion plans were canceled as applications were put on hold. Some farmers could not access their funds in the bank to purchase inputs
4	Business Development Services	**Slightly Negative:** Initially impacted but SPs were quick to switch to other modes of providing BDS
5	Physical training & Advisory Visits	**Slightly Negative:** Access to information initially impacted but SPs were quick to adapt new strategies so the impact was not significant. However, farmers could not attend training they had already paid for

Adaptation/ Response Strategies

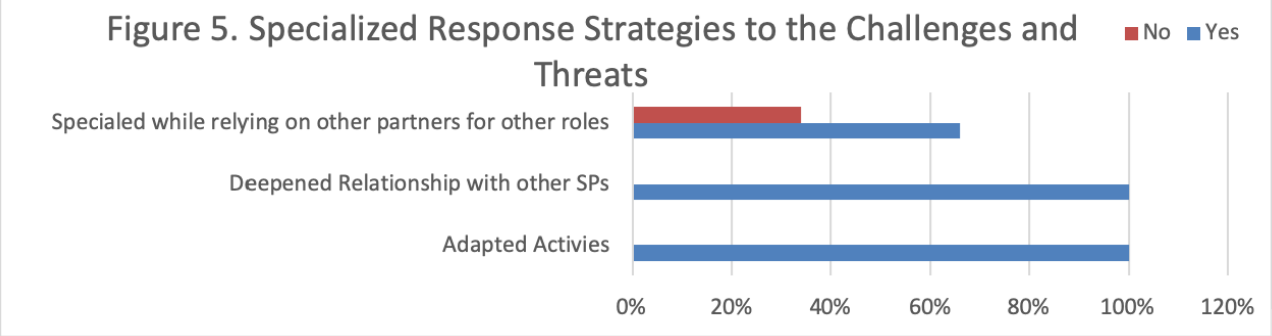
Initial Efforts by PIND to Stimulate Appropriate Response

The initial lockdown measures, severe as they were, were announced when the market actors were not prepared and did not immediately have the appropriate responses for the immediate challenges and threats. PIND's assessment in the first few days of the lockdowns found that farmers were being seriously impacted while services providers were still figuring out what to do. PIND also found that the market actors were not initially really talking to themselves; while some service providers were already implementing adapted responses, others were still struggling to take control of the situation.

To stimulate appropriate and sustainable joint market responses, PIND developed a virtual platform to bring the key market actor (BSPs, TSPs, and input and technology providers) together to share learnings, experiences and facilitate the flow of information that could help the SPs develop appropriate responses. As actors felt comfortable to talk about their challenges and learn what others were already doing, they begin to take steps to respond appropriately, thus engendering more sustainable market-wide responses to the threats.

Adaptation Strategies Deployed by the Technical and Business Support Service Providers

To respond to the challenges and threats, service providers innovated different coping strategies to continue to provide services to farmers and SMEs, driven by the fact that their source of livelihood was also impacted. As figure 5 below shows, all the services reported changing and adapting their activities to respond to the threats and challenges.



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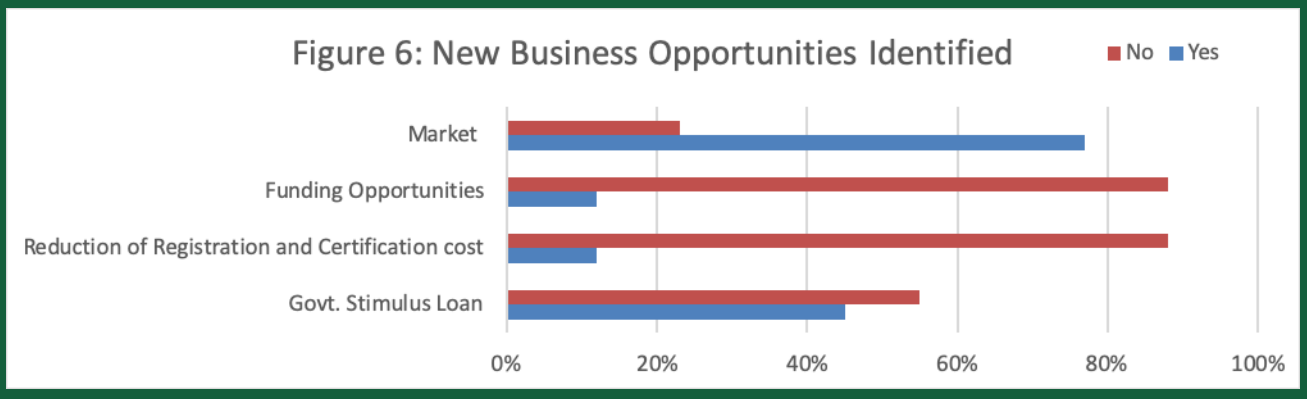
The first adaption was the deployment of phone and social media platforms to provide business information and technical advisory services to the farmers and SMEs. This immediately addressed disruption in the flow of information to farmers. Secondly and gradually they began migrating their training programs to online platforms. Some SPs, like CAD Consulting, had already built the infrastructure for virtual training so it was easy to quickly migrate to a virtual platform. Others needed time to build the relationship and infrastructure required for that to happen. The learning workshop organized by PIND enabled some of them to build that relationship. When some of the restrictions were relaxed, the SPs began to adapt their in-person training to comply with limitations on public gatherings. Classes were reduced from 50 to 20 while demonstrations were organized in large open fields with less than 50 attending to observe the social distancing rules.

Another coping strategy adapted by the SPs was the deepening of relationships with other service providers. This was required to address some of the very critical challenges faced by farmers like access to inputs. Some Aquaculture services providers reported having to engage and collaborate with feed producers and retailers to purchase feed in bulk for farmers in groups. This reduced the transportation cost per bag and thus the cost of feed to the farmers when compared to the price sold by community retailers and distributors who took advantage of the scarcity to hike their prices. All the technical and business service providers surveyed reported collaborating between themselves and also with input and technology providers.

The services providers also collaborated with other service providers to support farmers in locations they couldn't reach, this enabled them to specialize more and deepen their services within their location while partnering with other service providers to play more appropriate roles and serve their clients in their locations.

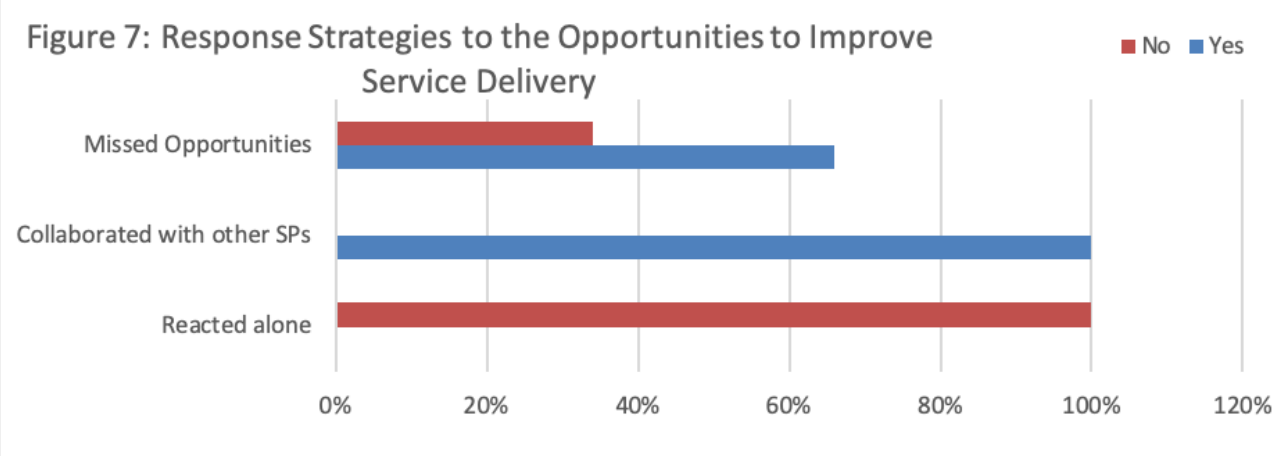
New Opportunities Identified and Leveraged to Improve Response

The data also showed that some of the service providers identified and leveraged new opportunities brought about by the pandemic. Figure 6 below shows that 77% of the service providers reported new market opportunities, gaining new clients during the restrictions while also identifying new buyers for their clients.



Another 45% stated that they supported their clients to apply for the government COVID-19 stimulus loan, while one SP, CAD Consulting, expanded its AGSMEIS CBN loan scheme during the period. Just one service provider out of the 9 surveyed leveraged the further easing of the cost and requirements for business registration and NAFDAC Certification to improve their service offering.

Findings At The Macro Level



According to the graph in figure 7 above, the service providers who identified and leveraged these opportunities did not react alone. They collaborated with other service providers to address the opportunity, for example, DIC Consulting, a BSP, collaborated with another BSP, CAD Consulting, to support his SMEs to access the AGSMEIS loan.

The different coping strategies adopted by the technical and business service providers and the collaborations and deepened relationships between them to jointly respond to the COVID-19 disruptions to ensure continuous delivery of services to farmers and SMEs underscores the level of resilience of the technical and business services market systems

4.2.2: Input Providers

Restrictions and Impact on Service Delivery

As discussed above, through PIND's facilitation, input producers and retailers in the region, have over the past five years, embedded extension service provision as a key component of their marketing strategy. The training and demonstration of best practices and use of their products have seen them gain increased market share in the Niger Delta, thus leading to increased sales. As a result, input providers provide just products (inputs) and one type of service (information on best practices through training programs and field day demonstrations). Against the backdrop, the COVID-19 disruptions were a big test to the continued reliance and sustainability of the extension services model by input providers.

Table 12: Impact of the Restrictions on Input Providers

		Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Initial Lockdown	Movement Restrictions	55%	45%	0	0	**0**	100%
	Public Gathering Limitations	55%	22%	23%	0	**0**	100%
	Curfews	12%	33%	55%	0	**0**	100%
	Community Restrictions	0%	55%	45%	0	**0**	100%
Since the lockdown (relaxation of measures)		12%	55%	22%	11%	**0**	100%

All nine surveyed input manufacturers and retailers surveyed said they were impacted by all the measures introduced by the government to control the spread of COVID-19. The data, in table 12 above, shows that 100% of the input providers were negatively impacted by the movement restrictions during the lockdown, 55% were significantly impacted. This is not surprising considering

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that access to inputs was one of the main challenges faced by farmers during the restrictions. However, unlike farmers, who still found it extremely difficult to access inputs after the waivers were provided, the input producers and some of the retailers were able to obtain waivers to move their products to their key distributors and big farmers. Unfortunately, roadblocks and curfews imposed to enforce the restrictions created bottlenecks leading to an increase in transportation cost and disruptions to the flow of inputs at major points in the distribution system: manufacturers to major distributors to key retailers to micro agro-dealers and then to the farmers. Agro-dealers who are closer to the farmers and also closer to the end of the distribution chain all reported being significantly negatively impacted by the movement restrictions. The smallholder farmers who are at the very end of the distribution chain were significantly impacted.

The input providers were also negatively impacted by the limitations in public gatherings. They were not able to carry out field demonstrations because of the movement restrictions; when the travel restrictions were relaxed, but the gathering limitations introduced, some of them, particularly the input manufacturers, did not find it feasible considering the gathering limitations and the health concerns of their staff. Within the period, two lead firms announced a suspension in field activities for the rest of 2020. However, other lead firms like Saro and BASF saw the opportunity to leverage the structure of farm services providers and agro-dealers that are located closer to the farmer to continue field demonstrations.

Impact on their Clients

All the input providers agreed that their main clients, the farmers, were negatively impacted by the restrictions, particularly during the first few days of the lockdown, when all input distribution points were shut. Subsequently, when waivers were introduced, the bottlenecks created by military roadblocks disrupted the free flow of inputs which led to increased transportation cost, making inputs both scarce and expensive.

Table 13: Impact of the Restrictions on the Clients of the Input Providers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Government restrictions	78%	22%	0	0	**0**	100%
Community Restrictions	55%	33%	12%	0	**0**	100%

As shown in Table 13 above, all the SPs surveyed confirmed that their clients were negatively impacted by both the government and community measures implemented to control the spread of COVID-19 and as much as 78% felt that the farmers were significantly negatively impacted by the government measures due to the twin effect of scarcity and increased in the price of inputs. Only 55% felt the market control measures implemented at the community level (mainly control of market days) significantly impacted the farmers' access to inputs.

Table 14 below lays out the services that were severely impacted and their impact on the farmers

Table 14: Input Providers' Services Severely Impact

	Services Severely Disrupted	Impact on Farmers
1	Provision of inputs	**Significantly negative** Delays/outright stoppage of farming activities due to the scarcity of inputs and high cost when available.
2	Extension services on best practices and use of inputs	**Significantly negative:** lack of access to knowledge on best practice

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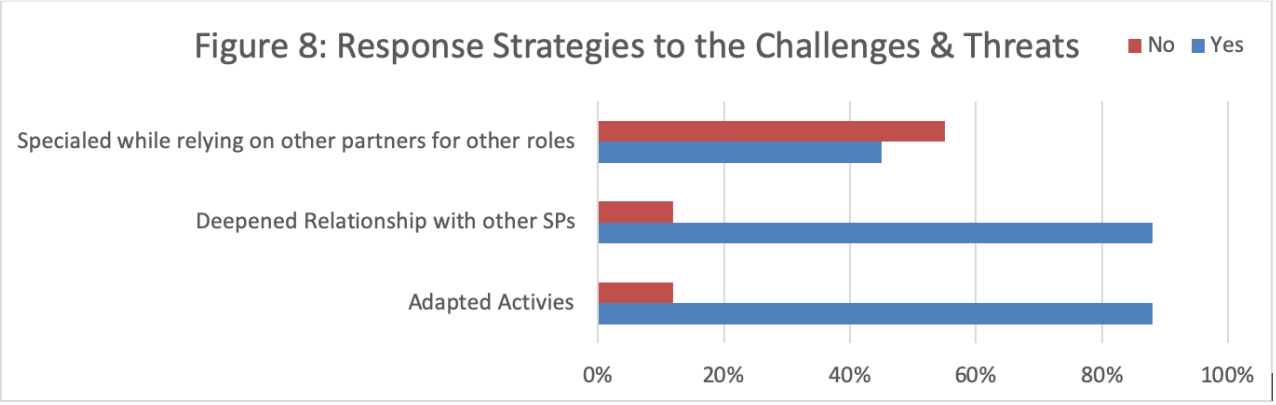
Adaptation/ Response Strategies

To respond to the challenges and threats, the input providers innovated different coping strategies to find ways to improve the flow of inputs to farmers and to keep carrying out extension services more so knowing that their business performance is intrinsically tied to the performance of the farmers. As figure 8 below shows, all but one of the nine input providers reported adapting their activities. The outlier was one of the weak agro-dealers who had to shut down his operations in the middle of the restrictions. It was important to survey input providers with weak extension services to get varying and balanced perspectives from different actors.

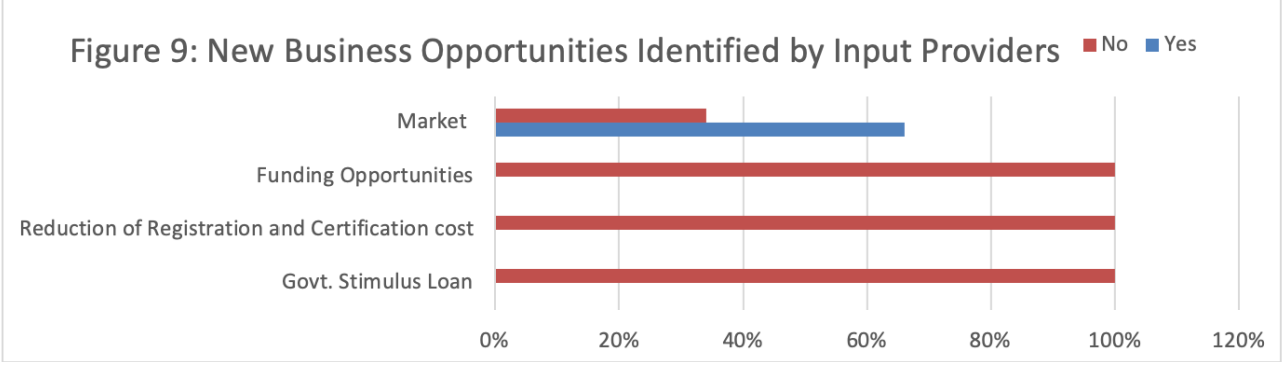


Some of the adaptations deployed by the input providers included reducing the number of farmers participating in farmers engagement activities, taking & fulfilling all orders together during the free days, use of virtual/ online training platforms for the training of lead farmers and farm services providers, and reduction in the number of participants at training programs to 15 from an average of 40, while ensuring social distancing. Vaccine companies started the use of courier services to deliver vaccines to poultry farmer groups. Some of the input providers also reported working with community leaders to organize outreach activities while some feed companies issued credit notes and incentives to their distributors to enable the flow of their products to farmers, made possible by their stronger relationships.

Another coping strategy adapted by the SP was the deepening of relationships with other input providers and other categories of services providers. Lead input manufacturers like Saro and BASF began collaborating more extensively with Farm Services Providers and agro-retailers located closer to farmers to organize outreach activities and improve the flow of inputs. One of the major vaccine companies ran out of stock and had to partner with the national vaccine company to meet the demands of its poultry farmers.

New Opportunities Identified and Leveraged to Improve Response

The data also showed that some of the input providers identified and leveraged new opportunities brought about by the pandemic. However, unlike the technical and business services providers, the input providers did not pursue or leverage opportunities around the traditional business services provision like BDS and funding opportunities. About 66% of them did report identifying new opportunities through collaboration with other LPES to expand their market penetration and thus gained new clients.



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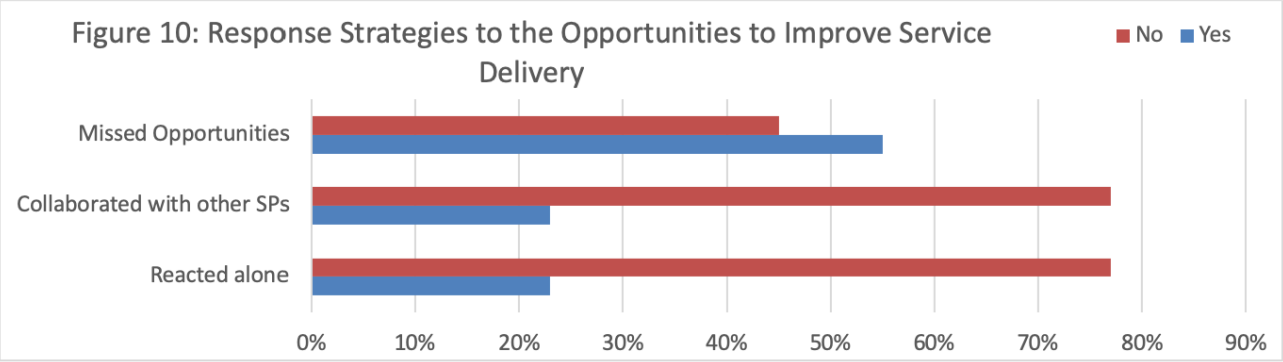
As shown in figure 10 below, the input providers did not react to the opportunities to further penetrate new markets alone, they collaborated with other extension service providers who needed to innovate new strategies to also reach their clients. As a result, lead input firms collaborated with technical service providers and community-based agro-dealers to improve the flow of inputs to farmers.



As with the technical and business services providers, the different coping strategies adopted by the input providers (though not as diversified in term of service delivery as those of the local private extension service providers) and the collaborations and deepened relationships between them and other categories of extension services providers to jointly respond to the COVID-19 disruptions to ensure continuous delivery of inputs and services to farmers show a great level of resilience of the input provision market system.

4.2.3: Technology Providers

Restrictions and Impact on Service Delivery
As with the input providers, PIND and MADE had worked with equipment importers and fabricators to introduce and demonstrate efficient processing and productivity improvement technologies in the Palm Oil, Aquaculture, and Cocoa value chains. They had also worked with the different technology providers to embed demonstration and extension and after-sales services as a key component of those firms marketing strategies. The partnership with PIND has brought about an expanded client base and increased sales for the market actors over the years, though affordability of a few of the technologies, like the SSPE, has remained an issue. The input technology providers provide different types of technologies and were actively demonstrating the technologies and providing and information on their use and after-sales support.

Table 15: Impact of the Restrictions on Technology Providers.

		Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Initial Lockdown	**Movement Restrictions**	55%	0%	0	0	**0**	100%
	Public Gathering Limitations	55%	0	66%	0	**0**	100%
	Curfews	12%	0	100%	0	**0**	100%
	Community Restrictions	0%	33%	34%	0%	**0**	100%
Since the lockdown (relaxation of measures)		0%	0%	34%	66%	**0**	100%

A major equipment importer, one medium-sized, and one small-sized fabricator were surveyed in the course of the analysis. All three respondents said they were impacted by all the measures introduced by the government to control the spread of COVID-19. The data, in table 15 above, shows that all three were significantly negatively impacted by the movement restrictions during the

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lockdown, though only one out of the three respondents said he was negatively impacted by the limits on public gatherings. All the respondents reported that they were not getting patronage and, in some cases, could not access their workshops due to the restrictions and so had to close operations for the duration of the lockdown.
However, following the relaxation of the lockdown, the data showed that impact has been slightly positive for two of the respondents and neutral for one of the providers as activities begin to pick up and demand for technologies gain traction, especially technologies that helped to address some of the pressing constraints caused by the restrictions. Some aquaculture farmers reported investing in the smoking kiln to store and sell their fish as smoked when the restrictions impacted the market for fresh fish. Others invested in extruders to begin the production of fish feed in response to the high cost of branded feed.

Impact on their Clients
All the technology providers agreed that their clients were negatively impacted by the restrictions, particularly during the lockdown. Many of the clients sever challenges with their operations and perhaps prioritized other business needs. Access to finance was also reported as one of the major constraints that impacted the demand for technologies and banks were closed and clients could not access their funds.

Table 16: Impact on the Clients of the Technology Providers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Government restrictions	100%	0%	0	0	**0**	100%
Community Restrictions	100%	0%	34%	0	**0**	100%

As shown in Table 16 above, all the technology providers surveyed confirmed that their clients were significantly negatively impacted by the government measures implemented to control the spread of COVID-19. Two out of the three respondents felt community market control measures impacted their clients negatively.

In terms of the services disrupted and the impact on their clients (farmers and SME processors) Table 17 below provides some insight:

Table 17: Services that were impacted

	Services Severely Disrupted	Impact on Farmers
1	Provision of improved technologies	Significantly negative processors who wanted new processing technologies could not access them neither could they access support to fix broken machines.
2	Demonstration of efficient technologies and spread of information on how to use them	Significantly negative: lack of access to knowledge on efficient technologies and how to use them

One of the major observations from the responses was that even though the processors knew their clients were significantly negatively impacted by the restrictions, the equipment providers tended to suggest that other pressing challenges like access to market for the farmers' products may have been more of a pressing challenge to them than access to technology. This could explain the reason they shut down without exploring innovative response strategies during the period of

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the lockdown. However, some of the processors noted that they stayed in touch with fabricators via phone.

Adaptation/ Response Strategies

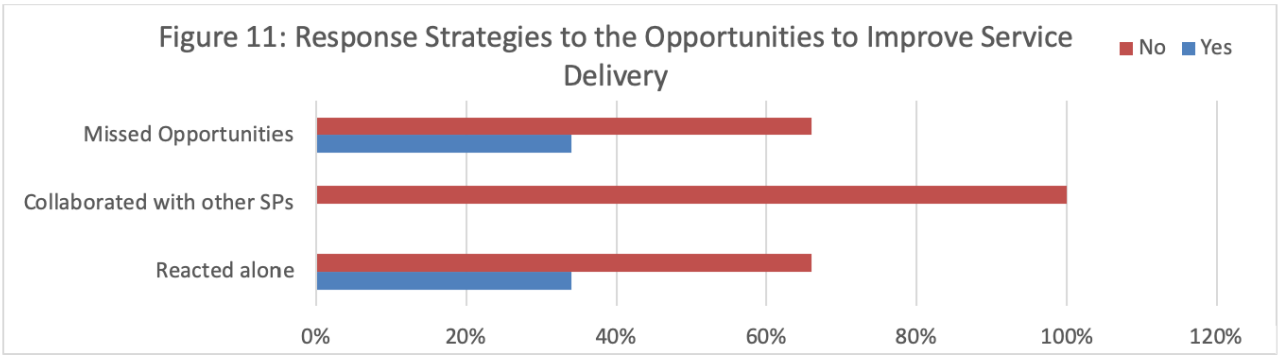
The technology providers, unlike the traditional service providers and input providers, were slow to respond and only began to respond to some of the challenges after the lockdown was relaxed and demand for their technology increased. Two of the three respondents reported that they adapted their activities to respond to the challenges and opportunities.

Some of the adaptations deployed include diversifying to produce new products like plantain chip machines as demand for it increased and in-shop changes, like the provision of hand sanitizers to be able to attract and receive clients. None of the respondents surveyed collaborated or deepened relationships with other equipment dealers or other categories of service providers.

New Opportunities Identified and Leveraged to Improve Response

According to the data, two of the technology providers surveyed reported identifying new opportunities brought about by the pandemic. However, unlike the technical and business services providers, they did not pursue or leverage opportunities around the traditional business services provision like BDS and funding opportunities. The new opportunities identified were around making machines for the production of plantains chips and fish feed due to the high cost of branded fish feed. One of the aquaculture farmers also reported adopting a processing technology to smoke and sell her fish as the restrictions prevented bulk fresh fish buyers from purchasing fresh fish.

In responding to the market opportunities, as shown in figure 11 below, all the surveyed equipment providers reported not collaborating with other technology providers or service providers.



Unlike the technical and business services providers, and input providers, the analysis of the responses by the equipment providers showed that the interactions between the equipment dealers and other market actors have been poor and that relationships and business models have not been fully explored and developed. As a result, the actors were not able to appropriately and jointly respond to the initial shocks occasioned by theCOVID-19 restrictions. Though they were able to respond to some of the needs of their clients individually, lack of joint response suggests the market system is still fragile.

CHAPTER 5

Findings At The Sector Level

5.1. Aquaculture Value Chain

Overview

To understand the impact of the government restrictions on the aquaculture sector, a rapid assessment was carried out to identify the effects on various market actors in the sector and the adaptive measures engaged by them to overcome the challenges. A total of 26 respondents were interviewed to investigate the impact of the restrictions on their business and the adaptive measures to navigate the challenges. These include fish farmers (9), fish processors (9), service providers (4), and input companies (2). KII was carried out with the respondents using a structured questionnaire.

Impact of COVID-19 on the farmers

Farmers were selected and interviewed randomly across urban, peri-urban, and rural communities respectively. This is to ensure inclusiveness and gain a better understanding of the level of impact vis-a-vis the context of the farmers making sure no one is left behind.

The government action across all levels had a significant impact on farmers despite the travel concession given to agro-dealers. There was a limited flow of inputs, market access, and access to aquaculture services. Also, market access is a major factor as the reduction in demand for fresh and smoked fish resulted in a glut because hotels and other formal markets were shut down during the lockdown. Evening activities such as fish barbeque joints were not operational due to the curfew which further contributed to the reduction in demand for fish. Fish prices dropped during this period due to the low demand, greatly affecting the producers.

Half of the farmers expressed their challenge in accessing finance during the period to procure inputs for production to keep feeding their fish while waiting for the market to pick up again. Financial Institutions were not in operation during the lockdown and loans applied for were not disbursed.

The table 18, below, shows the distribution of the farmers' response to the level of impact of the various government control measures on their business. While all farmers were negatively impacted, the movement restrictions and limitation on public gatherings had the greatest negative impact on farmers. The price of fish feed, which accounts for 2/3 of the cost of fish production, increased by an average of about 10% due to the increased cost incurred in importing raw materials by the input companies as a result of the border closure. The increase in the cost of feed contributed to the overall increase in the farmers' production cost. When added to the reduced demand, it forced many farmers out of business.

Table 18: percentage response on the level of impact of the control measures

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Inter-state movement restriction	78%	22%	0%	0%	**0**	100%
Public gathering limitations	78%	22%	0%	0%	**0**	100%
Curfews	67%	33%	0%	0%	**0**	100%

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The table below shows that the various control measures had a significant negative effect on the cost of operation and sales of the farmers by 78% and 67% of the respondents respectively.

Table 19: percentage response on the level of impact of COVID-19 on their business

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Sales	67%	11%	22%	0%	**0**	100%
Costs	78%	0%	22%	0%	**0**	100%
Profit margin	56%	22%	11%	11%	**0**	100%

Adaptive measures employed by farmers during the pandemic

Two-thirds of the respondents adopted measures as a response to the COVID-19 pandemic to enable them to continue in the business. However, 22% of the farmers interviewed could not continue production due to increased production cost and uncertainty on the duration of the pandemic. 56% of the farmers interviewed deepened their relationship and interactions with service providers via various communication channels as shown in the table below:

Table 20: percentage responses on adaptation strategies

	Yes	No
Adaptation of activities to overcome the restrictions	67%	33%
Deepened relationship with service provider	56%	44%

With the support of the service providers, the farmers gained access to new information that enabled them to identify new clients, access movement pass, and also alternative cheaper feed.

The various measures adopted from farmers in response to the pandemic are itemized below:

- 22% of the respondents added value to their fish through the use of processing technology to increase the shelf life and sell at a higher price while one (11%) of the respondents focused on sales of farm produce during the market days;
- 22% of the respondents pooled resources for bulk purchase of raw materials;
- 44% of the respondents made use of phones and other social media to access information and to identify new customers with support from the service provider;
- Increased communication with service providers via phone calls, text messages, WhatsApp, etc by 67% of the farmers.
- In Akwa Ibom state, a cooperative of fish farmers with support from a service provider established a fish market in the state. This enabled farmers to sell directly to consumers through their cooperative. By so doing, they were able to sell at a higher price by eliminating the margin that would have gone to the middlemen, however, the quantity of fish sold per time was smaller compared to selling to wholesalers/retailers.

Impact of the COVID 19 on fish processors

100% of the respondents indicated that they were negatively affected by the COVID 19 pandemic and government restrictions. The total lockdown and the limitation on public gathering had the greatest impact on the processors' activities. Hotels were closed down, no parties and large

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gatherings were resulting in low patronage for processed fish. The medium-sized processors could not ship their products beyond their state of operation to other states due to the interstate movement restriction.
Processors in the hard-to-reach coastal communities were impacted most by the pandemic. The restrictions hindered communication and transportation to those areas and were accompanied by an increase in the cost of boat transportation as the few boats that could move increased their prices. The movement of produce to urban areas was also restricted. Processors experienced a low-profit margin due to limited sales, high transportation costs, and increased cost of available input (fish) for processing.

Adaptive measures employed during the pandemic
Some of the measures adopted by the processors in combating the challenges included building a stronger relationship with service providers in identifying new clients and markets and facilitating access to finance. One of the processors was able to access a soft loan from a microfinance Institution through the linkages provided by the service provider.
One of the processors increased customer relationships by constantly communicating with existing clients. This underscored the importance of keeping a database of clients which, for some, processors, is an eye-opener if a situation like this reoccurs.

Impact on Aquaculture Service Providers and Input Companies
Aquaculture service providers are entrepreneurial individuals who provide various suites of commercial services to farmers and other actors in the aquaculture sector. Such services include technical training and capacity building, linkage to inputs, markets, finance, etc. 100% of the Aquaculture Service Providers interviewed were impacted by the various measures/restrictions imposed by the government. The total lockdown (including the interstate movement) had the greatest negative impact followed by the limitations on public gatherings. The movement restriction disrupted the distribution channel for feed companies; the limitation on public gathering affected training activities by both the service providers and the feed companies. Curfews had the least impact and were felt mainly by the input companies because it contributed to disrupting the movement of feed which is normally done overnight.
The table below highlights that the movement restriction had a significant negative impact on 83% of the respondents while limitations on public gatherings negatively impacted 50% of the respondents.

Table 21: Impact of the COVID-19 restrictions

Control measures	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Inter-state movement restriction	83%	17%	0%	0%	**0%**	100%
Public gathering limitations	50%	33%	17%	0%	**0%**	100%
Curfews	17%	33%	50%	0%	**0%**	100%

Total Lockdown/Interstate movement restriction: This had a significant negative effect on both the input companies and the service providers. Service providers who could not access the movement pass were hindered from providing on-ground farm support and services to clients especially those outside their state of operation. The distribution process for the input companies was disrupted. There were initial difficulties in moving products across the country until an exemption was made available to aid movement. The border closure further affected the importation of raw materials needed by the input companies to manufacture agro-inputs. These contributed to the increase in the price of fish feed experienced in the aquaculture sector.

Limitation on public gatherings: The limitations on public gatherings hindered the service providers and the input companies from organizing physical training and capacity building programs for

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clients, which is an important element in their marketing strategies to provide information on best practices and promote the sales of inputs to farmers. Most of the scheduled training was canceled while some were rescheduled. The few training programs that were organized were restricted to accommodate 15-20 participants (which usually would have been 50-100) in line with the COVID-19 guidelines. The added cost due to the limited number of participants reduced the incentives for service providers to organize physical training.

Curfew: This had the least impact and mainly affected the feed companies who usually move inputs at night. It also disrupted production activities during the night shift. While restrictions such as controlling market days did not directly affect the service providers, it had a significant effect on the clients who are majorly farmers as they could not sell off most of their produce.

How service providers adapted and the impact on helping farmers to respond to the crisis

100% of the respondents tweaked and adapted their business model to navigate the challenges caused by the pandemic and the various movement restrictions imposed by the government. Some of the adaptive measures engaged by the service providers include the following:

- **The use of technology to increase interactions with clients:** This was done via phone conversations, WhatsApp, Zoom, etc. to provide market information, technical advice, and information on practices to adopt. Half of the service providers (including the input companies) were able to deploy virtual training using online platforms such as WhatsApp and Zoom. WhatsApp was widely used by the service providers.

- **Leveraging Partnership:** Another mode of adaptation was leveraging on already established local structures to reach farmers. The feed companies leveraged their distribution channels to improve outreach to farmers. They brokered relationships with distributors/agro-dealers to ensure that farmers could pick up the feed at a particular time since most of them were afraid of opening their shops. Some feed companies issued credit notes to some clients. Three of the six service providers leveraged partnerships with other service providers to reach out to farmers with capacity building, technical support, and linkages to inputs and market in locations they could not access.

- **Introduction of new products and services:** One of the input companies introduced a new brand of fish feed into the market. The feed was developed to meet the needs of the farmers at the time as farmers needed feed that was relatively cheap and also of good quality especially at the finishing stage of production. This enabled the feed company to increase its market share. Other input companies, in collaboration with the distributors and agro-dealers, issued credit notes to some clients to help sustain their production.

- **Logistics Services:** one service provider, in response to the challenges, introduced a logistics service to facilitate access to inputs for farmers and processors both within and outside the aquaculture sector. He was able to secure the exemption for essential services provided by the government which he used in aggregating demand and moving essential agro produce and inputs such as fish feed to farmers.

5.2. Cassava Value Chain

Overview

In the Niger Delta, Cassava is a major agricultural commodity. Understanding the impact of government restrictions on actors in the cassava value chain would shed significant light on the impact of and resilience exhibited by actors in the agricultural sectors in the Niger Delta in the wake of the pandemic.

Before COVID-19 cassava prices had shrunk significantly from their high in 2017 of around N30k/ton (during the major devaluation), mirroring the cycle of boom and bust driven by the demand and supply dynamics in the sector. When prices are high farmers produce more cassava, leading to oversupply and a fall in prices which in turn leads unincentivized farmers to either pull out or produce less and therefore leading to undersupply and consequent price increases driven by scarcity. As of February 2020, the price of Cassava hovered around 15K-18k/ton, which is a carry-over from the 2018/2019 season of low cassava prices.

With the advent of the pandemic, cassava prices skyrocketed by over 150% moving from around N18,000/ton before the pandemic to between N40,000-N45,000/ton at farm gate and have remained high. This has been attributed to the reduction in imports of other substitute foodstuffs (such as rice) due to the border closings and the increasing demand for cassava products by both the food and industrial market and the relative undersupply of the commodity. During the lockdowns, food prices generally went up and the non-availability of imported food products, including products imported from outside of the Niger Delta further pushed the demand for cassava products. With the border closure, including the closure of the ports, the industrial sector also deepened their search for local inputs including Cassava to replace food and industrial products (like starch and glucose). All these on the back of mass production of food products like Indomie noodles, spaghetti, rice, garri, etc. which were distributed out as palliatives and most of which require Cassava as an input[5]. The lockdown instituted by the government in April came as a shock to small-holder farmers in the Niger Delta. The fact that movement restrictions were indiscriminately implemented by security operatives also meant that many farmers could not easily get to their farms. Farmers' access to services and markets was also severely disrupted.

To analyze the impact of COVID-19 on the sector, three sets of respondents were interviewed to better understand how the pandemic may or may not have affected their businesses and to determine adaptive measures adopted to overcome the challenges. This was done using structured questionnaires. A total of 18 respondents were reached virtually consisting of Agro input companies, agro-dealers/Farm service providers (FSPs), and Cassava farmers.

Summary of Respondents

Table 22: Distribution of responses

S/N	Outcomes Expected	Key Activities
Farmers	9 (5 females and 4 males)	Edo, Delta, Abia, Imo, Bayelsa, Ondo, Cross River, and Akwa Ibom
Agro dealers/Farm Service Providers (FSP)	6 males	Imo, Ondo and Cross River, Bayelsa and Delta
Input Companies	3 (SARO, Harvest field, and BASF)	

5 Nigeria: CA-Covid Gives 107,546 Food Palliative Packs to Lagos.Allafrica.com https://allafrica.com/stories/202009250672.html.

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Impact on cassava farmers
The nine interviewed cassava farmers were selected from among farmers who had participated in the PIND cassava intervention across the following states Edo, Delta, Abia, Imo, Bayelsa, Cross River, and Akwa Ibom, to determine the impact of the pandemic and the market actors' responses. The respondents included five females and four males.

Summary of Responses:
The government restrictions negatively affected all the respondents. They occurred during the main cassava planting season in the Niger Delta. Table xx, below, captures the range of responses from the farmers. The initial lockdown had a significantly negative impact on the business of 78% of farmers and slightly negative on 22% of farmers in the areas of being unable to access inputs due to intra and interstate movement restrictions, thereby preventing access to inputs, and increased costs of inputs. Farmers faced difficulties sourcing for inputs and other services, and transportation of agro products became impossible; with the markets locked up, there was difficulty buying or selling agro products.

The public gathering limitations had a significant negative impact on 89% of the respondents with the remaining 11% slight negative impact, as the social distance policy prevented face to face contacts to receive agricultural information, training and demonstration activities, and equally prevented movement and travel necessary for the purchase of inputs. This limited information sharing by service providers. This policy also limited sales of produce because the markets were locked.

The curfews reduced the time spent on the farm because farmers had to go late and return early to obey the rules, this also necessitated increased cost of transportation for farmers who could move, especially because this was the typical planting season for Cassava. 56% of the farmers reported a significant negative impact while 22 % reported a slightly negative impact. However, 22% of the respondents also reported a neutral impact as they were able to navigate their activities within the timeframe of the curfew. 56% of the respondents reported a significant negative impact since after the lockdown mainly with regards to the increased cost of inputs.

Table 23: Impact of the restrictions

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Interstate movement restrictions	78%	22%	-	-	-	100%
Public gathering	89%	11%	-	-	-	100%
Curfews	56%	22%	22%	-	-	100%
Since the initial lockdown	56%	44%	-	-	-	100%

Farmers also reported lower negative effects on their access to information. Only 40% felt negatively affected, while 60% not. Those farmers who responded no to the question confirmed that despite the pandemic they relied on the use of telephone to reach service providers for training and support; social media and neighborhood friends were also sources of information
.
Not surprisingly all respondents reported a negative impact on their access to inputs, as the prices spiked and were sometimes difficult to access due to the lockdown and restrictions. 89 % were negatively affected by access to markets. This was mainly due to the closure of markets and reduced number of off-takers due to the restriction of movement. 89% of the farmers were also negatively impacted with regards to access to finance as most of the banks were shut and the covid19 protocol in place limited easy access to the few open branches. Lenders were also reluctant to provide financial services due to the perceived high risk occasioned by the prevalent uncertainties.

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Table 24: Impact on Critical Services

	Yes	No	Total
Access to information	40%	60%	100%
Access to input	100%	0%	100%
Access to Market	89%	11%	100%
Access to Finance	89%	11%	100%

Community control measures included canceling of market days, controlling the number of sellers on the market days and this affected the cassava farmers business with limited buying and selling, with no place to sell harvested farm produce, no display products to market, hence no buyers/off-takers, thereby heavily limiting patronage. Farmers also had challenges accessing enough labor for land preparation.

The cassava farmers' response to overcome the restrictions included utilizing more family labor for cultivation. Farmers also resorted to the use of organic manure in the absence of fertilizer at the time; hoping that the situation was temporary.

Some of the cassava farmers utilized deepened relationship through making a call to agro-dealers to waybill[6] products, with the high cost of way billing, farmers would aggregate their requirements and have the lead farmer demand the products, make payments through transfer, and call the agro-dealers for guidance and consultations when necessary.

Farmer's response with regards to adaptation is presented graphically as follows:

Table 25: Adaptation Strategies

	Yes	No	
Did you adapt your activities to overcome the restrictions	89%	11%	100%
Did you use deepened relationships with service providers	11%	89%	100%

From the above table, we see that 89% of the respondents adapted their activities in response to the pandemic and the eventual lockdowns and restrictions that followed. As highlighted above these farmers resorted to the use of family labor when labor became scarce for land preparation and harvesting of their farms as well as the use of organic fertilizer which was more easily accessible. Only 11% were able to use deepened relationships with service providers as the restrictions prevented physical contact in many locations, especially during the initial lockdowns. While some farmers continued to engage with Farm Service providers (FSPs) and agro-dealers mostly through phone calls and limited physical engagements, many of the farmers do not have access to smartphones and the use of virtual training was considered quite novel for most.

There were some missed opportunities reported by 65% of the respondents. Notably, an ongoing partnership opportunity with the Niger Delta Development Commission (NDDC) for financing farmers could not continue due to the lockdown. 56% of the respondents confirmed that their businesses were significantly negatively affected by access to business information and support during the COVID-19 restrictions because there were limited physical gatherings for technical and business skills training. The same number of respondents (56%) also confirm that this

6 a list of goods sent by a common carrier, with shipping directions.

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situation affected their relationship with service providers as they were unable to have face to face engagement as was their usual practice before the lockdown and restrictions.

However, some strategies deployed by the service providers to enable cassava farmers to access training and business support was through a phone call, WhatsApp, and Facebook, but mostly by farmers who could afford and are using smartphones or have internet access in their locations. The training was done in households and on phone as against the usual clustering of farmers.

The overall impact of COVID-19 on cassava farmers business is presented graphically below:

Table 26: Overall Impact on Farmers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Sales	44%	22%	11%	-	11%	100%
Costs	67%	11%	11%	-	11%	100%
Profit Margin	33%	44%	22%	-	22%	100%

Due to the lockdown and restrictions prices of input, labor and transportation went up. This was mostly felt by farmers who were just cultivating their plots as the pandemic and the eventual lockdowns happened at the beginning of the Cassava planting season around late March and April. This was however also a period of harvest and sales of cassava planted the year prior. Due to the pandemic, Cassava prices have risen by over 150% and have remained high even after the lockdown in April, while the cost of input rose by around 8-10%. As is the practice, the Cassava planted this year will only be ready for harvest and sale in 2021.

The two most pressing challenges faced by farmers during the restrictions were categorized as follows:

Table 27: Most Pressing Challenges

1st Challenge	Finance	Input	Tech.Services	market	Labor	Total
% of respondents	44%	44%	11%	-	-	100
2nd Challenge	Finance	Input	Tech.Services	market	Labor	
% of respondents	44%	22%	11%	11%	11%	100

44 % of the respondents consider access to finance as the first challenge and second challenge. 44% of the respondents found access to input as their first challenge while 22% identified this as their second challenge. This is irrespective of the specific challenge identified as 1st and 2nd by the respondents. Only 11% of the respondents identified access to technical services as their first and second challenge. 33 % of the respondents indicated that service providers were able to help them address the challenges, while 67% responded otherwise. Further analysis of the data however shows that all the respondents who identified access to technical services as their challenge also answer yes to the question on whether service providers were able to help them address those challenges. Service providers helped to address the challenges through

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engagement on the phone, to respond to questions from farmers, and to guide on basic practices but they rarely provided inputs, only occasionally when many farmers placed demands for certain products which were delivered by waybill after some delay.

Should there be another lockdown, what cassava farmers would do differently include identifying and deepening their relationship with service providers including FSPs and agro-dealers that are closer than the ones they have always known to reduce the distance for the supply of products when needed, even on credit based on trust.

Impact on service providers and input companies
This assessment included three agro-input companies, three FSPs, and three Agro dealers. Before the pandemic, these market actors supported farmers across the region providing demonstrations, training, and other services to farmers. The agro-input firms and agro-dealers embed these services and support farmers with the sale of agro-inputs. FSPs also provide other services like bulk breaking and spray services to cassava farmers and other farmers in the crop sectors.

Summary of Responses:
The below data show the response of the service providers to the initial lockdown and restrictions

Table 28: Impact of the restrictions on service providers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Interstate movement restrictions	78%	22%	-	-	-	100
Public gathering	67%	22%	11%	-	-	100
Curfews	33%	33%	22%	-	-	100
Since the initial lockdown	11%	33%	22	33	-	100

The government restrictions affected all the service providers. Like the response of farmers, Interstate movement restrictions had a significant negative effect on 78% of the respondents and a slightly negative effect on the remaining 22%. This was mainly with regards to their inability to move inputs to clients, delay in stock movement (time lag) for order fulfillment, high haulage cost, drop in sales during the period as farming activities were affected. For public gatherings limitations, the impact was quite similar although one input company identified the impact as neutral as they continued to leverage those activities led by FSP who were mostly close to the end-users of agro-inputs, i.e. farmers.

The curfews had a negative impact on most of the service providers. The curfews did not last for too long and commenced in the evening, so the negative impact was short-lived. However, security officials manning roadblocks demanded tips and bribes to allow movement even for essential services and to allow stock movement across locations.

Interestingly, 33 % of the respondents confirm a slightly positive impact since the initial lockdown with only 11% admitting a significant negative impact. This is due to the Increased rate of activities, although the cost of products and logistics are yet to come down.

All the respondents confirm that the government restrictions had a negative impact on their clients with 56 % indicating this to be slightly negative and the remaining 44% seeing it as significantly negative. 89 % of the service providers also confirm that there were community COVID-19 safety measures in place including cancellation and control of market days which were enforced to prevent the spread of the virus. This was, however, only mostly enforced during the

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initial lockdown in April.

Community control measures also affected all the service providers' businesses. This was slightly negative for 89% of the service providers. This impact was felt in the drop in sales, as farmers could not go to the market to get inputs during the days that markets are closed. Also, banking transactions were delayed, and the movement of inputs affected.

There was also a deepened relationship between the agro-input companies and local service providers, especially the FSPs. Some of the FSPs were able to access input on credit from major agro-dealers and provided spray services to farmers. Two lead input companies, who were unable to carry out any travel due to the restrictions, relied on FSPs for training and demonstrations to promote some of their products among farmers, while the other input company relied mostly on the use of mass media, radio jingles, etc. to convey information and messages to farmers.

Only 33% of the respondents experienced a new market opportunity. 67% of the respondents also confirmed to have collaborated with other service providers including working with FSPs as a last-mile service provision model to reach farmers.

The following table represents the overall impact of COVID-19 on the Sales and clientele base of the service providers.

Table 29: Impact on Service Providers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total%
Sales	-	22%	33%	**33%**	-	100%
Clientele Base	11%	-	56%	**33**	-	100%

The overall impact of the pandemic on sales and clientele base as depicted above is considered by 33% as positive overall. While 22% and 11% of the respondents considered the impact as slightly negative on sales and significantly negative on clientele base leading to reduced sales and the loss of clients respectively, it has been slightly positive for 33% of the respondents both in terms of sales and clientele base indicative of increased demand for products and services. None of the respondents introduced or adapted new products in the market. However, one respondent received support from other development partners aside from PIND. These development partners include Propkom Maikarfi and MEDA for the implementation of activities in the North East of Nigeria.

The following table represents the observed change in the delivery of service by service providers to smallholder farmers and SMEs in the last six years.

Table 30: Change in the Delivery of Services by Service Providers

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total%
Change in Delivery of Services to Smallholders	-	-	-	**33%**	17	100

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From the above table, 50% of the respondents have experienced an increase in their delivery of services to smallholders, with 17% of them observing a significant increase and a 33% slight increase. This is mainly through the use of demos and training in farming clusters and communities as well as leveraging the FSP model which involves working with community-based service providers who are trained and on technical and business skills and who provide basic farm services like spraying, pruning, bulk breaking of agro-inputs, setting up and managing demonstration plots and well as stepping down of technical and business skills training to farmers within clusters.

All the service providers and input companies confirm to have received a positive impact on their businesses because of the solutions provided in partnership with PIND. 44% consider this impact as significantly positive while 56% consider it slightly positive. This is because it has led to increased awareness of the products and solutions in the market, leading to increased outreach and sales of over 100% in the Niger delta for the input companies, and agro-dealers. These service providers have also expanded their client categories as well as their service offerings. Agro dealers who had hitherto focused on only the sale of agro-input alone have now embedded training and demonstrations and agro-input companies now offer services to government agencies and development organizations.

Conclusion:
The Pandemic certainly exerted significant negative pressure on the cassava sector. The lockdown impacted the availability of inputs for farmers and sales of input for the service providers in the sector. The initial lockdown limited the ability of smallholder farmers to capture the opportunity of increased demand for cassava products, especially from the industrial market. Farmers who were cultivating their farms at the time of the lockdown had to cope with the challenge of the increased cost of input and their limited availability. These farmers however demonstrated significant resilience to cope with the impact by resorting to the use of organic fertilizers where the preferred fertilizer was unavailable or costly, leveraging technology to access information from service providers, and strengthening their relationships with Farm Service providers to ensure they did not lose out of the planting season.

For farmers who were due to harvest their plots and had cassava to sell, the pandemic brought an opportunity for increased income as the price of cassava rose by over 150% and has remained high. Although the price of other household commodities went up because of the pandemic, the increase in the price of cassava was largely considered a windfall when compared with the cost of cultivation.

Agro input companies and service providers in the cassava sector also demonstrated remarkable resilience in the face of the pandemic by adapting their services particularly in identifying with the FSP model to ensure continued delivery of services, even when movement was impracticable due to the restrictions. The FSPs who live close to the farming clusters continued to provide the needed services. While some agro-input companies and service providers adopted the use of technology and digital aggrotech platforms like Thrive agro[7] and reliance on the use of mass media and radio jingles in their continued interaction with farmers, some other firms continued to provide in-person support through the use of FSPs during the lockdown and restrictions.

5.3: Palm Oil Value Chain

Overview/ Methodology

The palm oil value chain is comprised of farmers and processors, supported by a number of agro-dealers, millers, fabricators, and farm service providers. The farmer owns or rents the farm that produces fresh fruit bunches (FFB)[8] while the processor buys FFB from the farmer which is processed to extract palm oil for onward sale in the end market[9]. In most cases, processors also own their farms, and depending on the production scale of the processor, they purchase additional FFB from other farmers to process.

7 Thrive agro is a technology driven agriculture platform committed to enduring food security and providing funding for farmers
8 Bunch of fruits from the oil palm tree that is processed to extract palm oil
9 The end market could be the main market within an area where household and food vendors patronize or an off taker who has a relationship with the processors and usually buys in volume

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The processors are supported by millers who charge them a fee to use their processing machine; although, some processors own their processing machine. Fabricators manufacture and service the processing machines for the miller. The farmers rely on agro-dealers to provide information on best management practices and inputs (fertilizer, herbicides) for their farms which improve their yields. They also rely on farm service providers who vary in the roles they play; some are micro-retailers of inputs (seedlings, fertilizer) or laborers or provide advisory support. Other service providers include the equipment sellers that sell technology for harvesting and farm maintenance.

Methodology
The assessment was carried out on three sets of respondents. They include agro-dealers, fabricators, an equipment seller, and processors. Key Informant Interviews (KIIs) were done with 15 randomly selected respondents using a semi-structured questionnaire. The assessment was done virtually via phone. The geographical spread of the respondents is presented in the table below:

Table 31: Distribution of the respondents

Type of respondents	No of respondents	Locations
Agro dealers	3	Imo, Delta and Bayelsa states
Fabricators and Equipment seller	3	Imo, Edo, and Onitsha (works across the Niger Delta) states
Processors	9	Ondo, Delta, Akwa Ibom, Cross River State, Imo, Edo, and Rivers states

Impact of COVID-19 on the palm oil processors

One of the key areas investigated was the effect of the pandemic on the processors' access to critical services and their performance.

Tables 32: Did the COVID crisis affect your access to critical services?

Information		Input		Market		Finance	
Yes	No	Yes	No	Yes	No	Yes	No
22%	78%	44%	56%	78%	22%	100%	0%

The table above shows that government restrictions mainly affected the processors' access to markets and finance. The curb on public gathering led to regulation of main market activities which affected 78% of the processor. The main markets were closed thus processors had to sell in makeshift local markets within their communities. Although palm oil was an essential good, it was challenging for the processors to deliver the product to off-takers and big traders within and outside of the state due to the high cost of transportation and difficulty in getting a pass. This caused a drop in the price[10] of palm oil during the period[11]. In terms of access to finance, all the processors were affected stating that the drop in the price of palm oil limited their cash flow, there was difficulty getting money from the banks due to the covid-19 guidelines and there wasn't support from the government.

Meanwhile, 78% of the processors stated that the restrictions did not affect their access to information and inputs such as fresh fruit bunches. The processors received advisory support and market price information from service providers through phone calls. For one processor, the

10 From 320 per kg to 260 per kg
11 At least March to June

off-taker ordered for palm oil through phone calls. The 22% of processors that lacked access to information required information on loan and market opportunities. Concerning inputs, 56% of the processors stated that they had fresh fruit bunches readily available to process while 44% found it challenging due to the movement restrictions. The processors that did not have a challenge with FFB lived close to farm clusters.

Table 33: overall impact of COVID-19 on the Processors business

	No of respondents	Medium Processors	Large Processors
Sales	Neutral	Slight Negative	Slight Negative
Cost	Slight Negative	Slight Negative	Significant Negative
Profit Margin	Neutral	Neutral	Slight Negative

Table 33 above shows the overall impact on the business of the different categories of processors interviewed. Large processors were affected the most and 67% of the large processors were unwilling to sell in the local markets or retail their palm oil. They stored the palm oil until the lockdown was eased and the price increased then started selling off in bulk; one large processor stated that during the period, he had to borrow money from the cooperative to cover his cost. The medium processors used a blended approach of storing and retailing in small quantities. 1 medium processor was able to send palm oil to customers in other states but stated that the cost of transportation was a major hindrance to his profits. Also, 2 medium processors stated that they purchased FFB from farmers (with no price increase) but were affected by the cost of transportation. The small processors sold their palm oil in the local markets as they had daily wages to cover. The increased cost of labor due to the scarcity of labourers[12] was a major hindrance to their profit. Also, in some areas e.g. Edo state, the cost of milling increased by 100%.

Adaptive measures employed by processors during the pandemic

From the analysis conducted, 100 Percent of the processors adapted their activities to overcome the restriction while 67% of the processors own their processing machine. Some of the measures include:

- 67% of the small processors relocated from township to the rural area to increase ease of accessing FFB for processing and local markets to sell their palm oil;
- 33% of the medium processors did not take their palm oil to the makeshift local market but sold directly from their storage facility at a regulated price; and
- 67% of the large processors stored their palm oil until the lockdown was eased, the price increased, and the regular distribution channels opened.

Impact of COVID-19 on farmers and adaptive measures

100% of the processors interviewed also play the role of farmers. During the investigation, it was evident that farming activities mainly were affected by movement restrictions. For example, the price of fertilizer increased by 36%-43%[13] due to the increase in transportation. The farmers adapted by purchasing a low quantity of fertilizer and complemented it with the use of organic fertilizer (empty fresh fruit bunches). Also due to movement restrictions, farm service providers (laborers that maintain their farm) were unavailable. 44% of the farmers adapted by providing additional Incentives (palliative care) to the FSPs during the period.

12 In some states, the labourer come from other states to support with harvest and farm maintenance
13 N7, 000 to N9,500-N10,000

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Impact of COVID-19 on Commercial Service Providers

Impact on the Millers

44% of the processors interviewed also play the role of a miller; they provided milling services to processors during the period. Some comments on the impact during the period include:

- 75% of the mills had a malfunction which was serviced by the fabricator, in one case, it was not done timely due to the restriction in movement;
- 25% of the millers mentioned that it was a challenge purchasing raw materials that power the mill. The miller was able to adapt by using empty fruit bunches as a substitute;
- 50% of the millers stated that the crisis did not affect the number of the processors that visited the mill although there were not as regular due to movement restriction; and
- The millers did not increase the price of their services.

Fabricators and equipment seller

The government and community restrictions had different effects on commercial service providers. The fabricators and equipment sellers depend on interstate movement for potential clients to visit the facility to inspect machines and order them; then travel to install the machines. Due to the interstate restrictions, this was not possible for the two fabricators. One fabricator was affected by the curfew; he mentioned that for at least 2-3 months he did not open his shop because beating the curfew was a challenge. Although, when required, he traveled to carry out physical maintenance for his client. The other fabricator, who resides in the rural area with his staff, was more active. Although buying raw materials from the town and other states was a challenge, the fabricator had to work on machines that had materials available. He found that the prices of raw materials increased by over 90%. He noted that before the pandemic started, there was already economic downtown. The equipment seller locked his shop during the pandemic and moved to his village for at least two months due to safety precautions.

Agro dealers

The three agro-dealers interviewed faced different challenges and responded accordingly. The government restrictions had a significant negative impact especially the public gatherings. Their role involves carrying out demonstrations to farmers as a marketing strategy to sell products. Although they were allowed to open their shops in Imo state, in Bayelsa state, there was total lockdown. Meanwhile, the agro dealer in Delta state had to postpone training due to the restriction on public gathering.

The government restriction on inter-state travel affected their sales because they were not able to transport goods and services out of the state. In some cases, the curfew restriction made it challenging to move from one local government area to another to support farmers.

How service providers adapted and the impact on helping farmers to respond to the crisis

- 67% of the agro-dealers provided advisory support and information about the availability of inputs through phone calls;
- 67% agro-dealers strengthened relationships with other Farm service Providers and small agro-dealers across different communities to support the sales of inputs including seedlings;
- 33% of the agro-dealers carried out 1-on-1 engagement with farmers/processors on their farms during the lockdown, and when the restrictions were eased, 67% of the agro-dealers commenced physical demonstrations and training to a limited number of farmers following the Covid guidelines; and
- 50% of the fabricators mentioned that on request, they provided physical maintenance for his client while the other stated that none of the clients required servicing during the period.

Conclusions on how the deepened market system helped the processors and farmers to respond

The investigation showed that the resilient market system enabled the farmers and processors to respond to the pandemic and were positioned to sustain their productivity and income. Although the service providers could not solve all the challenges the farmers and processors faced, they were able to support them in key areas. The relationship amongst the agro-dealers was key in ensuring the farmers had inputs to use in their farms. Some agro-dealers continued to open shops where possible and provided advisory support to the processors to enable improved productivity and yield. Other important aspects include price information which was regularly provided and enabled the processors to make better decisions in their sales. The investigation showed the fabricators were available to provide services to the millers, although it was not prompt due to the restrictions. In general, this ensured the availability of palm oil in the markets for sale and income for the farmers and processors.

5.4: Cocoa Value Chain

Overview

The cocoa value chain is comprised of farmers, aggregators, and exporters. The farmers are mainly supported by the agro-input suppliers and the farm service providers who provide quality information, inputs, and technologies that the farmers require for improved productivity. The restrictions enacted by the government to curb the spread of the coronavirus had a slight adverse effect on the farmers in accessing inputs and labor necessary for their activities; as well as the farm service providers and input suppliers. Most of the inputs required by farmers, which include crop protection products (fungicide, pesticide, herbicide, and fertilizers) and also technologies for the pruning of the trees, spraying of crop protection products (CPPs), and weeding are supplied by the input companies, agro-dealers and technology promoters. The productivity of cocoa farmers depends on the appropriate and efficient use of these CPPs and technologies in their farm, so the farm service providers support the farmers in training them on how best to use the products and also offer technology services to them.

As a result of the pandemic, the input companies and technology companies found it difficult to move these products to the farmers through the agro-dealers. This increased the logistics cost and transactional cost in reaching farmers which led to scarcity and increases in the cost of these products. Another important input for the farmers is labor and with the reduced movement of people, labor became scarce.

Methodology

The study was carried out on three sets of respondents (input suppliers, Farm Service Providers (FSPs), and farmers) to investigate the impact of the restrictions on their activities/businesses and the adaptive measures employed to ensure that they remain in business. Key Informant Interviews (KIIs) were done with 16 randomly selected respondents (three input companies, four farm service providers, and nine cocoa farmers) using a semi-structured questionnaire. The assessment was done virtually via phone conversations. The geographical spread of the respondents is presented in the table below:

Table 34: Distribution of the respondents

Types of respondents	No of respondents	Location
Input company (Harvestfield, Saro, and BASF)	3	Lagos & Ibadan (working in Ondo, Edo, Cross River & Abia)
Farm Service Provider	4	Ondo, Edo, Cross River, and Akwa Ibom
Farmer	9	Ondo, Edo & Cross River

Findings At The Sector Level

Impact on the cocoa farmers

The overall impact of the pandemic on the farmers was found to be positive. Overall, the price of cocoa beans went up by 17% due to a 6% drop in international supply. The cost of inputs increased due to logistics costs of getting inputs to the farmers. However, the period of the restrictions allowed many farmers to do more work on their farms, with some farmers temporarily relocating to the farm settlements. So overall, farmers spent more time on production and the benefits from the increase in prices of cocoa beans exceeded the slight increase in the costs of production.

The main negative effects were due to public gathering limitations, with two-thirds of the farmers citing a significant or slightly negative impact. Otherwise, the farmers were primarily neutral on the impact to travel restrictions, while those who relocated to their farms because of the curfew felt it had a slight positive impact.

Table 35: Percentage responses of farmers on the impact of the Government restrictions

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Inter-state movement restriction	0%	0%	100%	0%	0%
Public gathering limitations	22%	45%	33%	0%	0%
Curfews	0%	0%	44%	56%	0%
Since the initial lockdown	0%	11%	78%	11%	0%

The majority of the farmers interviewed (67%) claimed that they had difficulty accessing inputs from the open market due to the controls on market and market days. There was also a scarcity of labor for farm activities due to the restriction in movement and public gatherings. However, 87% of the farmers said they received support from the farm service providers in form of information, inputs, and labor (pruning, spraying, and weed management) services.

All of the farmers claimed a neutral effect on their businesses as regards access to information, market, and finance. 89% of the respondents affirmed that they received farm information from service providers via virtual means (phone calls and SMS). The period of the pandemic was not the main season for harvest and sales of cocoa beans, so the closure of markets did not affect sales of cocoa beans. Information was available to the farmers through the FSPs.

Major challenges faced by the farmers during the pandemic were the high cost of inputs and labor services. This increased cost of both inputs and labor resulted in higher costs of production by between 5% - 8%. The price of cocoa beans also increased (a 17% increase) which helped to cushion the effect of the increase in the cost of production. From the responses from farmers as shown in the table below, it seems to suggest that even though 67% of the respondents had a negative effect on their business as a result of the increase in the cost of production, the overall impact on profit margin was either neutral (67%) or slightly positive (33%).

Table 36: Percentage responses on the overall impact of the crises on sales, cost, and profit margin.

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Sales	0%	22%	56%	22%	0%
Cost or production	0%	67%	33%	0%	0%
Profit margin	0%	0%	67%	33%	0%

Findings At The Sector Level

Adaptive measures by farmers in response to the covid-19 restrictions

All the farmers interviewed adapted their activities in response to the pandemic in different ways, with some employing two or more different strategies. Table 37 below shows the percentages of respondents who employed different adaptive measures to cope with the pandemic.

Table 37: Percentage responses on the adaptive measure to mitigate the impact of the covid-19 pandemic

	Adaptive measures	Percentage response
1	Temporarily relocated to the farm settlement to do more farm management activities.	45%
2	Engaged more or deepened relationship with the service providers for critical services	45%
3	Used more family labor for farm activities in the absence of laborers	22%
4	Used already purchased agro-inputs	22%

Impact on Farm service providers

The initial lockdown restrictions had a slight or significant negative impact on all the service providers for gatherings and curfews. However, this lessened in the period following the initial lockdown, with only half of the respondents stating a slight negative impact on their activities/business. The restrictions led to the cancellation of scheduled activities (training and demonstrations), limited access to agro-inputs to supply to farmers (clients), and increased logistics costs to reach farmers. The Inter-state restrictions had no impact on the FSPs as they did not need to move beyond their state.

Table 38: Percentage responses of FSPs on the impact of the Government restrictions

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Inter-state movement restriction	0%	0%	100%	0%	0%
Public gathering limitations	25%	75%	0%	0%	0%
Curfews	75%	25%	0%	0%	0%
Since the initial lockdown	0%	50%	50%	0%	0%

All of the respondents experienced an overall slight positive impact on their business due to the pandemic. The FSPs gained more clients during this period (even though few clients were lost due to distance), partnered with input companies (Saro and BASF) who provided training and inputs for demonstrations, breakbulk from input companies, and sold to farmers, and increased income. 100% of the respondents got new business opportunities through partnership with input companies; half partnered with both Saro and BASF; while the other half partnered only with Saro. The partnership with input companies was the major contributor to increase outreach and income.

Findings At The Sector Level

Table 39: Percentage responses on the overall impact on sales and clientele base

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Sales	0%	0%	0%	**100%**	0%
Clientele Base	0%	0%	50%	**50%**	0%

Adaptive measure by FSP in response to Covid-19 restrictions

All of the respondents said they adapted their services in the light of covid-19 to be able to reach their clients (farmers). The table below presents the different adaptation measures employed by the FSPS in light of Covid-19.

Table 40: Percentage responses on the adaptive measure by FSPs to mitigate the impact of the covid-19 pandemic

	Adaptive measures	Percentage response
1	Used phone calls and SMS platforms to reach their farmers	100%
2	Rescheduled their planned engagement with farmers based on the government guidelines on movement	100%
3	Leveraged retailers to supply inputs to farmers in distant communities	25%
4	Partnered with input companies	100%

Impact on input companies

Three input companies were selected and interviewed. These are Harvestfield Industries Limited, Saro AgroSciences Limited, and BASF. Their businesses were impacted negatively by the covid-19 pandemic with 100% of the respondents saying that the control measures by the Government had a slightly negative impact. There were disruptions in promotional activities, inability to move products to distributors, agro-dealers, and retailers increased cost of imported products (most of the products are imported) and increased cost of transportation and haulage.

Harvestfield and Saro said that market controls or market cancellations had a negative impact on their businesses. Farmers could not go to markets to buy their products which led to a drop in sales. The closure of banks also restricted banking transactions. The lockdowns and curfews did not allow them to move their stock to meet the demand from their clients. BASF did not experience these impacts because they only wholesale and rely on companies like Harvestfield and Jubailli to get the product to the farmers.

Adaptive measures in response to covid-19 restrictions

100% of the respondents said they had to adapt their strategies to be able to deepen the relationship with farmers, promote their products, and improve sales. Saro AgroSciences and BASF continued field activities amidst the pandemic, working with trained Farm Service Providers in the Niger Delta as shown in the table below. These adaptive measures ensured that Saro and BASF enhanced their presence in the Niger Delta, reached more farmers, and are experienced increased sales, especially for Saro who sells their products directly.

Table 41: Percentage responses on the adaptive measure by input companies to mitigate the impact of the covid-19 pandemic

	Adaptive measures	Percentage response
1	Use of virtual means to support field activities	100%
2	Collaboration/partnership with FSPs to continue field activities	66% (Saro & BASF)
3	Secure waiver for agro-inputs from the government to enable distribution of inputs	33% (Harvestfield)
4	Reduce the number of participants/proper planning	33% (Saro)

Conclusion

The operating environment for the support market actors in the cocoa sector was impacted by the pandemic. The initial shock of the restrictions and lockdowns resulted in the cancellation of some of the planned activities of the input companies and FSPs. However, these actors adapted their strategies by leveraging virtual platforms like phone calls and SMS to still reach out and provide support to their clients (farmers). The input companies (Saro and BASF) continued field activities in partnership with locally-based Farm Service Providers. These FSPs organized training and demonstration programs for the farmers, albeit in smaller numbers. They also provided inputs through the input companies/agro-dealers for the farmers and farm services (pruning, spraying, and weed management) to farmers which cushioned the impact of scarcity inputs in the open market and labor services.

The majority of the farmers interviewed confirmed that they engaged with their service providers during the pandemic. The farmers utilized the pruning, spraying, and weed management services of the FSPs to mitigate the issues of scarcity/high cost of labor services. Also, the farmers accessed inputs from the FSPs who could breakbulk inputs for the farmers.

5.5: Poultry Value Chain

Overview

The poultry value chain comprises different categories of farmers involved in the production of birds and eggs. The actors are supported by several poultry service providers, processors, input companies, and Village Level Dealers (VLDs) whose services/ products are essential for the optimal performance of the farmers. The government restrictions enacted to address the COVID-19 pandemic created significant adverse impacts on the poor and marginal poultry farmers for growing, saving, and selling their products but also to the poultry service providers and input companies. The poultry sector uses inputs that come from around the country, including day-old chicks, feed, and veterinary inputs. Poultry farmers' profitability is dependent on good production practices and the effective utilization of inputs, especially feed and vaccines, so service providers invest time and energy in building the knowledge of the farmers.
Since many of the inputs for the production of poultry feed are largely imported (maize and soya), the border closures affected the supply of feed leading to increases in prices at the national level. The increase in the prices of the feed also led to an increase in the prices of chicken and eggs at the local markets in the Niger Delta.

Methodology
This study was conducted on three sets of respondents (poultry farmers, service providers, and input companies) to investigate the impact of the restrictions on their businesses and the adaptive

measures employed to ensure that they remain in business. Key informant interviews (KII) were carried out with the respondents using structured questionnaires. The assessment was done virtually through phone conversation. A total of 14 respondents were interviewed consisting of 10 poultry farmers, 3 service providers, and 1 input company.

The table below shows a summary of the respondents:

Table 34: Distribution of the respondents

Types of respondents	Number	Location
Farmers	10	Abia, Imo, and Delta
Service Providers	3	Delta, Imo, and Akwa Ibom
Input (feed) companies	1	Ibadan
Total	14	

Ten poultry farmers and three service providers were selected from across Imo, Delta, Abia, and Rivers states. The input company (Zygosis Nigeria Limited) is based in Ibadan and supplies vaccines and drugs into the Niger Delta region.

Impact of the restrictions on poultry farmers

The government restrictions affected farmers' access to essential inputs, markets, support services, and finance. The restrictions hindered the free movement of essential inputs such as day-old chicks (DOCs), feed, drugs, and vaccines from the input companies to the farmers. Increases in the cost of transportation and scarcity led to hikes in the price of inputs. The feed price went up and supply dropped drastically. The total closure of the Nigeria border also led to a scarcity of raw materials such as maize and soya beans required for the production of feeds. All of the farmers interviewed were significantly affected. The price of feed went up by 7%-10% while the price of DOCs doubled.

The ban on social gatherings and the closure of fast-food restaurants reduced demand for poultry products. Occasions such as weddings, birthdays, and other social events and ceremonies could not be held. Birthdays and weddings are normally associated with cakes, which has eggs as one of their important ingredients. Chickens are mostly used as protein for refreshments during these ceremonies. Reduction in these gatherings reduced the demand for eggs and chicken.

The responses from the survey show that 75% of the farmers had challenges accessing finance during the lockdown. Financial Institutions were not in operation and loans were not disbursed. However, 25% of the farmers interviewed were able to access the CBN AGSMIES and COVID 19 loans through their service providers.

The ban on social gatherings also affected the business of the service providers as well as the input companies as service providers could not hold physical training on best poultry services for farmers.

The curfew only had a slightly negative effect on some poultry farmers, as most of their activities are done during the day, though 40% of the farmers claimed it affected their sales as some customers had less time to shop.

Findings At The Sector Level

Table 43: percentage response on the level of impact of the control measures

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	
Interstate movement restrictions	100%	0%	0%	0%	0%	100%
Public gathering	50%	50%	0%	0%	0%	100%
Curfews	0%	40%	60%	0%	0%	100%

Adaptive measures employed during the pandemic

Farmers adopted the following measures during the pandemic

- 33% of the farmers resorted to the use of social media platforms to advertise and sell their produce.
- 50% of the farmers targeted the market days to sell their produce and others took advantage of the periods the restrictions were eased.
- 25% started direct sales around their neighborhood to advertise and sold their produce.
- 75% of farmers leveraged service providers to access inputs from the input companies.
- 100% of farmers reported increased communication with service providers via phone calls, text messages, etc.

Impact on Commercial Service Providers and Input Company

All four service providers including the input company interviewed revealed that their businesses were impacted by the precautionary measures imposed by the government to help curtail the spread of the deadly disease. Input dealers could not get their products across to their customers. Products were stuck on the highways. Field staff of input companies and service providers could not move around freely to deliver their services as they had done before the outbreak of the pandemic.

The curfew imposed had the least impact on the farmers and mainly affected the feed companies who usually move inputs at night. It also disrupted production during their night shifts.

Adaptive measures employed by service providers during the pandemic
All of the service providers tweaked their approach and adapted their business models to enable them to overcome the challenges caused by the various restrictions imposed by the government. The input company (Zygosis Nigeria Limited) and one of the service providers (Chuuvak Agro Services) interviewed said they took advantage of the waivers for free movement of agro products. This is to enable actors in the agricultural space to move freely and carry out their business activities.

During the lockdown period, the exemption of actors in the agricultural sectors from the restrictions afforded service providers the opportunity to deliver products such as vaccines, feeds, and DOCs to the farmers on their farms for a fee. Others resorted to the use of technologies to increase interactions with their clients and reduced their visits to the field. All service providers interviewed used social media platforms such as WhatsApp, Zoom, Facebook, and phone calls to reach out to their clients.

They also organized training programs for not more than 20 farmers at a time. Input companies relied more on phone calls to reach clients and couriered inputs to customers in dire need of inputs which increased the cost of the inputs to farmers.

All of the respondents collaborated with other service providers in the region to reach clients in locations where they could not reach as a result of the restrictions.

Findings At The Sector Level

New Business Opportunities and positive impact
None of the service providers benefitted from the various government stimulus package offerings, such as the COVID 19 loan, NAFDAC registration, palliatives, etc. However, half of them provided their clients with information on how to access the stimulus packages to reduce the impact on their businesses. They provided information on various loan schemes such as the CBN COVID 19 loan and Agri-Business/Small and Medium Enterprise Investment Scheme (AGSMEIS). They also provided online training to farmers on how to access the loans.

Market and client base
75% of the respondents (service providers) experienced an increase in their client base. However, it did not translate to an increase in income for a few of them. This is because farmers had less money to spend on services. The remaining 25% (input company) of the respondents did not experience a decrease or increase in their client base but saw an increase in the demand for their products which they could not meet due to the restriction of movements.

Table 44 percentage response on the level of impact of COVID 19 on their business

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive	Total
Clientele base	0%	0%	25%	**50%**	25%	100%
Sales	0%	100%	0%	**0%**	0%	100%

Conclusion

The findings show that government restrictions negatively impacted the poultry sector in the region. The impacts cut across the various actors in the sector, ranging from farmers to service providers and inputs suppliers. Most of the actors interviewed adapted/ tweaked their business models to overcome the restrictions.

For the farmers interviewed, 80% said their businesses were impacted negatively (significantly) by the pandemic. Another 80% confirmed that they benefitted from the support of the service providers either through linkages to input, market, and finance or training. The support was delivered virtually, however, some of the training was conducted physically with a limited number of participants attending at a time with social distancing well observed. However, while support from the service providers helped to reduce the impact, overall, the pandemic resulted in high cost and scarcity of inputs (DOCs, feed, and vaccines), high cost of transportation, and low patronage, which led to poor performance by the farmers.

The service providers adapted by leveraging virtual platforms to deliver training and other business support services to poultry farmers. They deepened collaboration with service providers in other locations to enable them to reach more farmers with support services. Despite the innovations by service providers limited access to inputs and markets were found to be the major challenges that the farmers faced during the pandemic.
The input companies were not left out, despite the exemption of agro products from the restrictions, the input company interviewed said they experienced delays from security personnel's while conveying their products to various locations for delivery. They also leveraged courier services to deliver products to their esteemed customers. Apart from the restrictions, the shortage of raw materials for production was one of their major challenges during the pandemic.

5.6: MSME Sector

Overview

The measures enacted by Government at different levels have had a severe impact on the Micro, Small, and Medium Enterprise (MSME) landscape in the Niger Delta. Activities in the sector are being driven by Business Service Providers who work in partnership with financial institutions, large corporate buyers, chambers of commerce, and other public and private stakeholders to provide the support necessary for the development of the MSMEs. The MSMEs include those in production, processing, marketing, construction/fabrication, manufacturing, catering/confectionaries, fashion, entertainment, and other forms of businesses. The inputs and raw materials required by the MSMEs are either imported or sourced from a varied range of sources that cut across different sectors. They also required technical and business development support to improve their business performance and become competitive within their respective industries. These supports are majorly provided by business service providers who invest their time in diagnosing and implementing upgrading plans and strategies for the MSMEs, facilitate linkages to finance to access funds needed for growth and market opportunities for the MSMEs to sell their produce.

As a result of the pandemic, most of the businesses were closed down for a period of three to five months due to the restrictions in movement and public gatherings. Also, the cost of inputs and raw materials increased significantly, market access to buy and sell reduced, there was general low patronage and also access to information and business support services were limited.

Methodology

Two sets of respondents were interviewed (Business Service Providers (BSPs), and MSMEs to investigate the impact of the restrictions on their activities/businesses and the adaptive measures employed to ensure that they remain in business. Key Informant Interviews (KIIs) were conducted with nine randomly selected respondents using a semi-structured questionnaire. The study was done virtually via phone conversations. The geographical spread of the respondents are presented in the table below:

Table 45: Distribution of the respondents

Types of respondents	Number	Location
Business Service Provider	3	CAD (Rivers), ZAL (Bayelsa), DIC (Delta)
Micro, Small, and Medium Enterprises	6	Bayelsa, Delta, Imo, Ondo, and Rivers

Impact on the MSMEs:

The overall impact of the pandemic on MSMEs was significantly negative. There was limited flow (scarcity) of inputs/raw materials, high cost of raw materials/inputs, high cost of transportation, scarcity of labor, poor market access to sell products, difficulty in receiving orders and specifications from clients, and general poor patronage. A breakdown of how government restrictions affected the enterprises is presented in the table below:

Findings At The Sector Level

Impact on the MSMEs:

The overall impact of the pandemic on MSMEs was significantly negative. There was limited flow (scarcity) of inputs/raw materials, high cost of raw materials/inputs, high cost of transportation, scarcity of labor, poor market access to sell products, difficulty in receiving orders and specifications from clients, and general poor patronage. A breakdown of how government restrictions affected the enterprises is presented in the table below:

Table 46: Percentage responses of MSMEs on the impact of the Government restrictions

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Inter-state movement restriction	83%	17%	0%	0%	0%
Public gathering limitations	33%	17%	50%	0%	0%
Curfews	50%	50%	0%	0%	0%
Since the initial lockdown	0%	50%	50%	0%	0%

Access to critical services was also impacted by the covid-19 crises. All of the respondents faced poor access to inputs, 67% of the respondents had issues with market for their products and 67% had disrupted access to finance for their businesses. Low demand for products led to very poor sales for an average period of five months due to the lockdowns and restrictions on gatherings and events.

Those who produce perishable goods were particularly severely impacted and resorted to selling to their neighbors or clients within their vicinity. Those in the manufacturing or construction businesses could not import raw materials from outside the country and so had to suspend operations.

All these factors had a significant negative impact on the cost of production, sales, and profitability. To put this in perspective, most of the businesses could not record profit for five months.
Table 47 below presents an overview of the impact of the pandemic on businesses in terms of sales, cost of production, and profit margin.

Table 36: Percentage responses on the overall impact of the crises on sales, cost, and profit margin.

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Sales	50%	33%	17%	0%	0%
Cost or production	83%	17%	33%	0%	0%
Profit margin	50%	17%	33%	0%	0%

Adaptive measures by MSMEs in response to the COVID-19 restrictions

A greater proportion of the MSMEs interviewed (67%) were able to adapt their strategies to at least continue in business. The remaining 33% of the MSMEs interviewed were those in the manufacturing or construction industries who could not open their workshops within the periods of the lockdowns. The table below highlights some of the adaptive measures by businesses.

Findings At The Sector Level

Table 48: Percentage responses on the adaptive measure to mitigate the impact of the covid-19 pandemic

	Adaptive measures	Percentage response
1	Used home deliveries to deliver goods to clients	67%
2	Got a license to move around and deliver products to clients	17%
3	Moved to the farm to process fish and deliver to clients	17%

Impact on Business Service Providers

The activities of the business service providers were negatively impacted with two-third of the respondent experiencing a significant negative impact and one-third experiencing a significant positive impact. There was limited interaction and engagement with stakeholders like financial institutions and large buyers, cancellation of MSME upgrading activities already scheduled to hold physically, the unwillingness of some clients to pay for services due to poor turnover, and loss of clients. The breakdown of the responses about the different measures by the government are presented below:

Table 49: Percentage responses of BSPs on the impact of the Government restrictions

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Inter-state movement restriction	67%	0%	0%	0%	33%
Public gathering limitations	0%	0%	33%	0%	67%
Curfews	0%	0%	67%	0%	33%
Since the initial lockdown	0%	0%	67%	0%	33%

The restriction in movement (lockdowns and curfews), and physical gathering provided an opportunity for all the interviewed (100%) BSPs to explore the use of virtual platforms for engagement with stakeholders. This reduced cost of reaching clients significantly.

For BSPs that were not so prepared or used to using virtual platforms, there were many challenges during the initial period. This resulted in the cancelation of some agreed activities like the Warri Business Linkages and Investment Forum by Dorbudee Integrated Consult (DIC) and other support to businesses due to the lockdowns and restriction on gathering.

Table 50: Percentage responses on the overall impact on sales and clientele base

	Significant Negative	Slight Negative	Neutral	Slight Positive	Significant Positive
Sales	0%	67%	0%	**0%**	33%
Clientele Base	0%	67%	0%	**0%**	33%

Findings At The Sector Level

As shown in the table above, 67% of the interviewed service providers reported a decrease in sales and clientage base while 33% experienced an increase in sales and clientele based. In general, the BSPs gained and lost clients during the period. For those with a robust virtual platform or online presence, the gain in clientele base was more than their loss. Also, more than a third of the MSMEs were not digitally ready for an online engagement, especially micro and small businesses. Poor turnover and profitability of the businesses also affected their access to business support services.

With the easing of the lockdowns and curfews and the introduction of social distancing rules, training activities became more expensive due to the covid-19 protocol which limited the numbers of attendees to training programs.

Adaptive measures by business service providers in response to the COVID-19 restrictions

- All the respondents collaborated with other BSPs in delivering some of their support during this period. The BSPs leveraged the technological skills of other BSPs to begin virtual engagement with clients while also networking among themselves to provide physical training for their clients in locations where they could not travel as a result of the inter-state lockdowns.
- All the interviewed service providers used virtual platforms, emails, and phone calls for engagement with stakeholders and to provide support to enterprises
- CAD Consulting Limited and ZAL Consulting (business service providers) saw more opportunities to leverage funds for enterprises through the programs initiated by Government like the CBN Agro-SME Investment Scheme (AGSMEIS), Covid-19 intervention fund, and Anchor Borrowers' Scheme. For CAD, registration of businesses and (National Agency for Food and Drug Administration and Control (NAFDAC) certification became easier.
- CAD Consulting Limited migrated/digitalized the Nigerian Agricultural Enterprise Curriculum (NAEC) training modules and the AGSMEIS training to an online format for easy delivery of the capacity building activities for MSMEs.
- CAD set up two professional studios in their office for quality virtual training delivery
- Dorbudee Integrated Consult (DIC) adhered to covid-19 protocols in delivering support to enterprises.

Conclusion

The government restrictions affected the business environment for SMEs in the Niger Delta. None of the interviewed businesses recorded a net profit since April 2020, with most businesses closed for an average period of five months. Half of the MSMEs interviewed said that they benefitted from the support of the service providers either through training, access to finance, or National Agency for Food and Drug Administration and Control (NAFDAC) registration. These supports were delivered virtually by the service providers. However, while support from service providers helped to alleviate the impact, overall the pandemic resulted in high cost & scarcity of inputs, high cost of transportation, and poor patronage, which resulted in poor business performance by the interviewed enterprises.

The service providers adapted their strategies by leveraging virtual platforms to deliver training and other business support to MSMEs. They also deepened collaboration with NIRSAL MFB on the CBN AGSMEIS program. Despite the innovations by BSPs, limited access to inputs and access to markets were found to be the most challenge that the MSMEs faced during the pandemic to be limited for not properly addressed due to the limitation of the BSPs to influence the movement of inputs, goods, and services during the pandemic.

CHAPTER 6

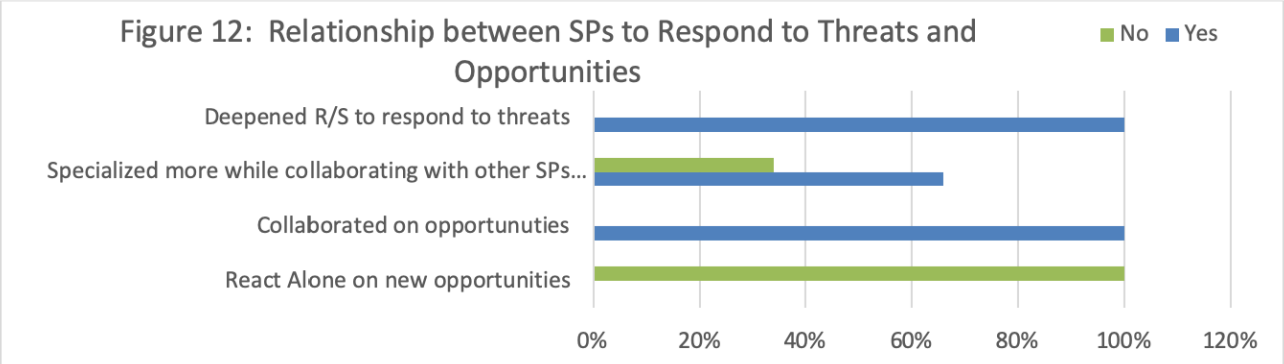
Summary Of Market Responses/ Adaptation Strategies

This section summarizes the market systems response/ adaptation strategies to COVID-19 by supporting markets to meet the needs of smallholder farms.

6.1 Commercial private extension services (Technical and Business Services Providers)

Market Systems Level – Deepened Collaboration and Joint Response

The data shows that the technical and business services providers collaborated effectively in adapting different coping responses to both the threats and opportunities brought about by COVID-19. Figure 12 lays out how they collaborated to respond to the threats. All the SPs responded that they had to deepen their relationship with other SPs to adapt effective responses to the threat, 66% of the nine SPs surveyed said they found themselves specializing more while relying on other SPs to play more appropriate roles. This was evidenced in the way they quickly migrated their training advisory services to online platforms when physical training became difficult; they had to depend on each other's skills and resources to build the capacity for this to happen. During the inter-state travel restrictions, the SPs found themselves providing physical support and referring clients to one another in states where they could not visit. BSPs found themselves depending on TSPs and Input providers to help their clients address issues around access to inputs while they focus on finance and market linkages.



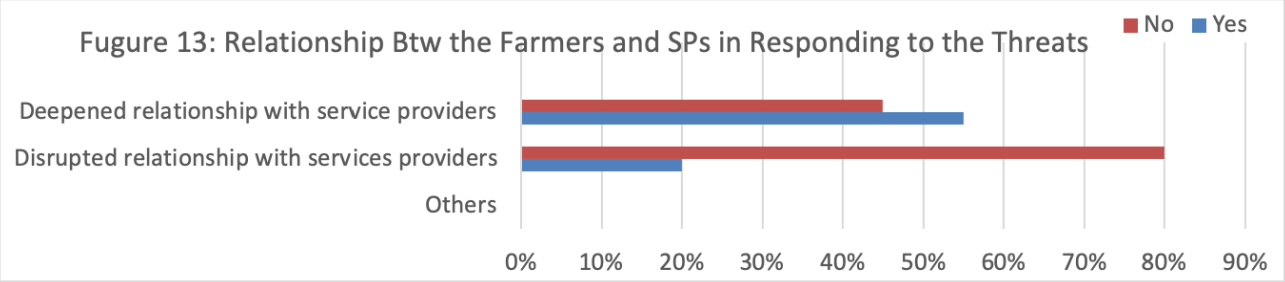
The Technical and business services providers also reported that they collaborated and did not react by themselves in responding to the opportunities brought about by the COVID-19 pandemic. They shared information on the COVID-19 stimulus loan for SMEs, CAD Consulting with virtual training platform for the CBN AGSMEIS scheme trained SMEs from other SPs to prepare them to access the scheme.

Ability to Meets the Needs of Farmers and SMEs

Technical and business services providers operate mainly in the poultry, aquaculture, and MSME sectors. The analysis also looked at how farmers in those sectors interacted with the SPs and the effectiveness of the relationship in addressing the COVID-19 related challenges they face.

Figure 13 below shows how the farmers viewed their relationship with the service provides in the face of the pandemic induced challenges. 55% of the 34 farmers surveyed deepened their relationship with the SPs to adapt their coping responses and 80% felt the pandemic did not disrupt their relationship or access to the service providers.

Summary Of Market Responses/ Adaptation Strategies



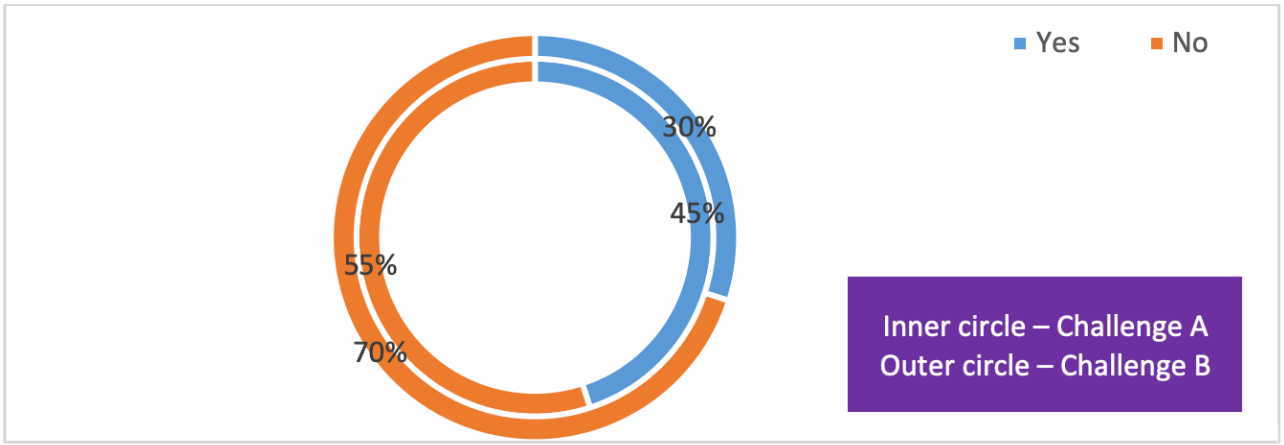
Looking at the effectiveness of the relationship in addressing their challenges, 80% of the farmers surveyed reported that they did not witness any disruption in access to business and technical information while noting that the first most pressing challenge was access to inputs while the second was access to finance with market access coming a close third.

Table 51: Ranking of Most the Most Pressing Challenges Faced by Farmers and SMEs

		First Challenge	Second Challenge
1	Input	50%	17%
2	Finance	17%	39%
3	Access to Market	17%	35%
4	Labour	8%	2%
5	Access to LPES	4%	4%
6	Others	4%	4%

The farmers' responses in figure 14 below show that 45% of the farmers agreed that the SPs were effective in helping them address their first challenge which was mainly around access to inputs. This is quite significant considering the difficulties surrounding the flow of inputs during the period of the restrictions. Furthermore, just 30% of the farmers felt that SPs were able to address their second most pressing challenge which was mainly access to finance. Again, this is significant considering that access to finance has been a major binding constraint faced by farmers across Nigeria and many financial institutions including microfinance banks were shut and had suspended lending during the period of the restrictions. A few service providers leveraged the government funding scheme to support farmers to access funding.

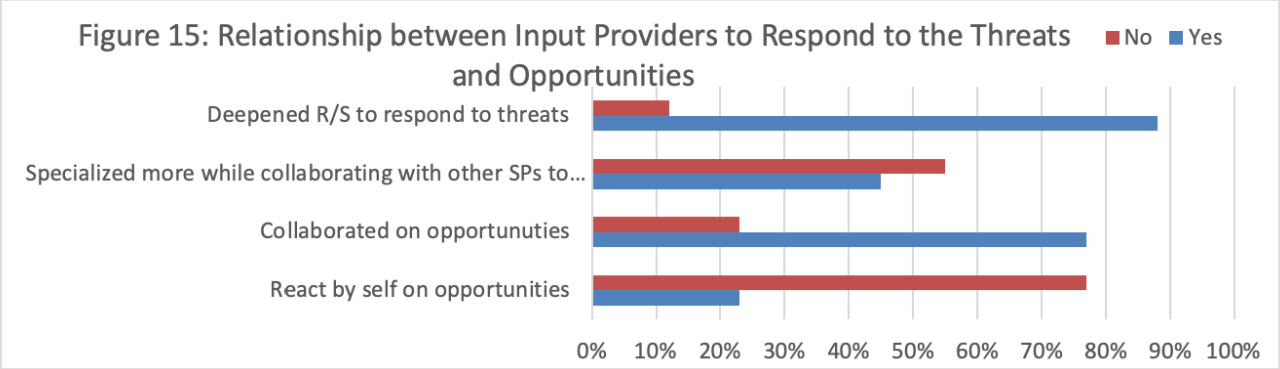
Figure 14: Ability of the LPES to address the most pressing Challenges



6.2: Input Provision Market System

Market Systems Level – Deepened Collaboration and Joint Response

The data shows the input providers collaborated effectively in adapting different coping responses to the threats and challenges brought about by COVID-19. As shown in Figures 15 below, 88% (8 of 9 respondents) of the input providers responded that they had to deepen the relationship with other input providers and SPs to adapt effective responses to the threats, 45% (4 of 9) of the those surveyed said they found themselves specializing more while relying on other market actors to play more appropriate roles. This was evidenced in the way lead firms in the crops sectors collaborated with community-based farm services providers and agro-dealers to continue demonstration activities to farmers on best practices and to improve the flow of inputs through the FSPs to the farmers. During the inter-state travel restrictions, the lead firms like Saro and BASF found themselves depending more on FSPs to carryout field demonstrations while focusing more on the challenges around inputs production and distribution.

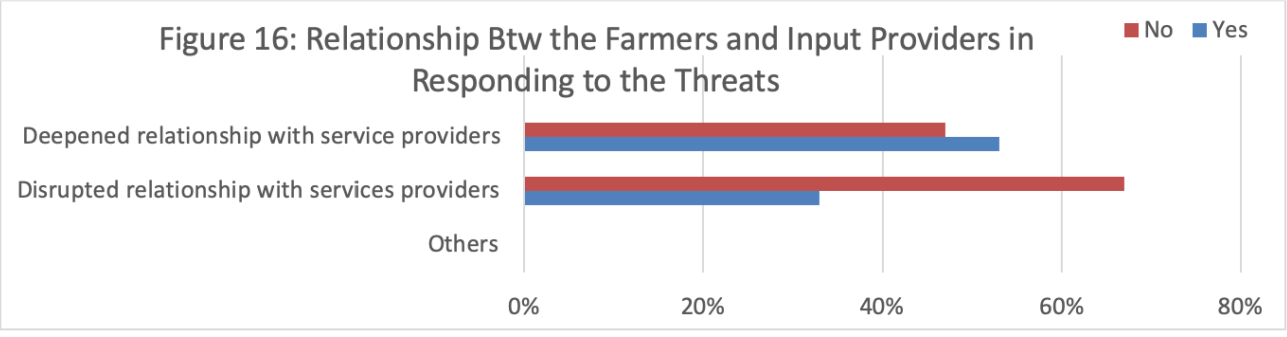


Unlike the technical and business services providers, the input providers did leverage much of the funding and BDS opportunities opened by the government to support farmers as they were outside their business focus. However, they reported that they collaborated and did not react by themselves in responding to the market opportunities to serve new clients. Agro-dealers and technical service providers collaborated with lead input companies to provide inputs to farmers in locations that are new to the lead firms, expanding their geographical coverage.

Ability to Meets the Needs of Farmers and SMEs

Input providers work in specific sectors but are found in all value chains that PIND intervenes in. This includes the aquaculture, cassava, cocoa, palm oil, and poultry value chains. The study thus used the farmers' consolidated datasheet for the analysis.

Figure 16 below shows how the farmers viewed their relationship with the services in the face of the pandemic induced challenges. 53% of the farmers deepened their relationship with their service providers to adapt their coping responses and 67% of the farmers felt the pandemic did not disrupt their relationship and access to the service providers, including input providers.

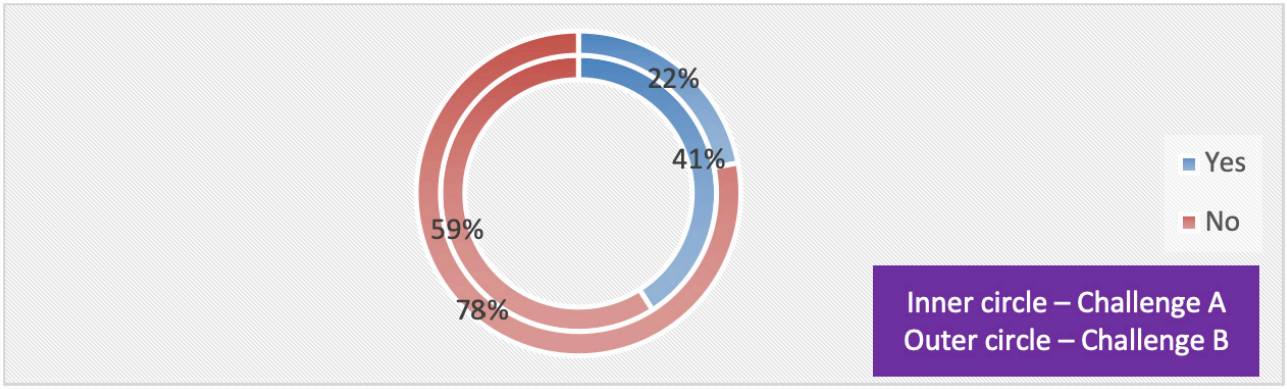


Summary Of Market Responses/ Adaptation Strategies

Looking at the effectiveness of the relationship in addressing their challenges. Figure 17 below shows the responses of the farmers to the ability of the service providers to address their most pressing challenges during the pandemic. The analysis in Table 51 shows that farmers view their first most pressing challenge to be access to inputs while the second was access to finance with market access coming a close third.

The farmers' responses in figures 17 below show that 41% of the farmers agreed that the SPs were effective in helping them address their first challenge was mainly access to inputs. This is quite significant considering the difficulties surrounding the flow of inputs during the period of the restrictions. Furthermore, just 22% of the farmers felt that SPs were able to address their second most pressing challenge which was mainly access to finance. This is not one of the focus areas of the input providers, however, one of the lead firms reported providing credit note to some farmers through a technical service provider to enable them access feed. It is important to note that the farmers did not view access to information as a challenge underscoring the effectiveness of the strategies deployed by the input providers to ensure the continuous flow of information to farmers.

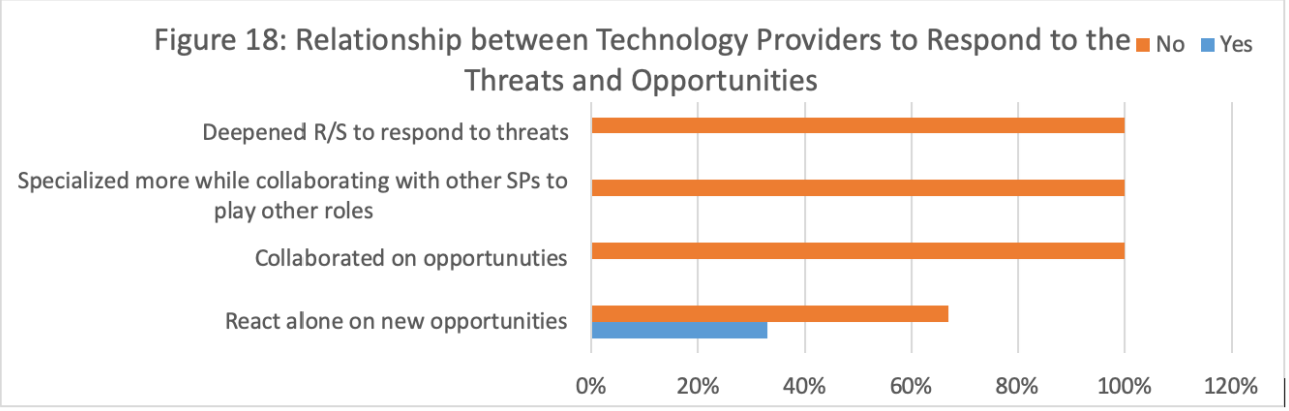
Figure 17: Ability of the Input Providers to Respond to the Most Pressing Challenges Farmers Faces



6.3: Technology Provision

Market Systems Level – Deepened Collaboration and Joint Response?

The data did not show much collaboration between the technology providers in adapting coping responses to the threats and challenges brought about by COVID-19. Referring to Figure 18 below, all the three technology providers surveyed responded that they neither deepen their relationship with each other nor collaborated to respond to either the COVID-19 threats or opportunities. This is not surprising considering that all the equipment providers surveyed had reported that they had to shut down operations amidst the pandemic and only began to respond after the restrictions were relaxed.

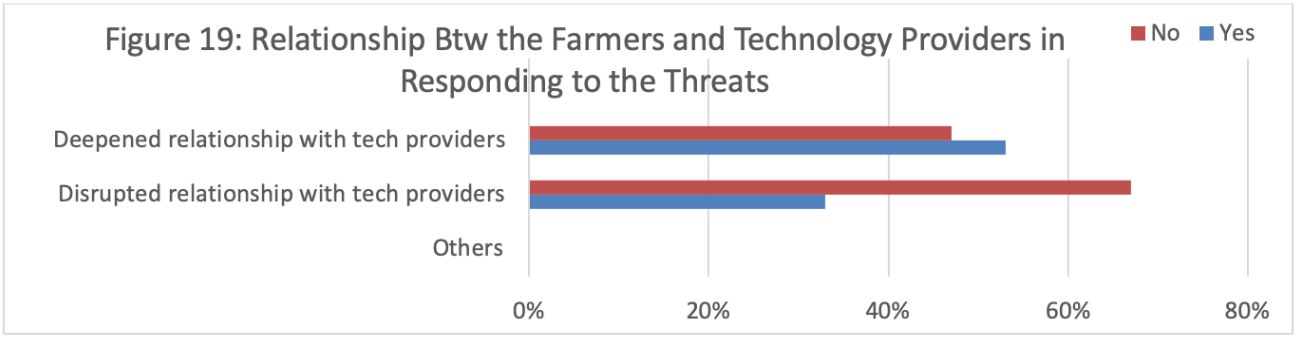


Summary Of Market Responses/ Adaptation Strategies

Unlike the technical and business services providers, the technology providers, just like the input providers did leverage much of the funding and BDS opportunities opened by the government to support their clients as they were outside their business focus. However, two of the three technology providers surveyed reported that they did collaborate with other technical service providers to respond to the opportunities to fabricate fish feed and plantain processing technologies. While the data does not reveal much collaboration between the input providers, it did reveal some interaction between them and other categories of service providers.

Ability to Meets the Needs of Farmers and SMEs

Technology providers support processors and farmers in the Palm Oil and Aquaculture sectors and farmers in the Cocoa sector. Whereas most of the farmers' and processors' responses in figure 19 tend to show that they deepened their relationship with the LPES and did not witness any disruption regarding their relationship with the service providers, the reference was mainly to the input providers and traditional service providers. There was just one mention of technology providers in the responses in the farmers and processors' data set and technology was not mentioned as one of their top five needs during the period of the restriction. As a result, the analysis could not ascertain the effectiveness of the response strategy by the technology providers.



CHAPTER 7

Conclusions

7.1: Key Findings

In 2010, the Niger Delta was just coming out of a long period of conflict and the local market systems were extremely weak. Due to risks, few leading input suppliers were present in the region, preferring to operate in safer regions. Most local service providers were used to contracting with international donors or multinational oil companies as their main clients, rather than targeting local smallholder farmers and small local companies. In the succeeding 10 years, PIND and MADE's interventions have helped to develop a much deeper market system for the supply of technical and business support services, quality inputs, and improved technologies in the Niger Delta. These market systems have witnessed the entry of new actors, the development of a wide range of products focused on servicing SHF and SMEs, significant development of the capacity of local service providers, and much improved relationships between the various actors in the market systems based on business trust between themselves. Already the deeper market systems were greatly expanding the range of goods and services available to the SHF and SME and were innovating their approaches. Then came the COVID 19 pandemic and the response by the government to drastically curtail the movement of goods and people and meetings, which risked greatly setting back much progress and putting many SHF and SMEs at risk. This rapid assessment was therefore commissioned to evaluate the resilience of these developing market systems and how they have been able to help the SHF and SME to weather the threats posed by the response to the pandemic. It looked at resilience from the ability of the market system actors to jointly respond to external shocks (COVID-19) and to continue providing services to make smallholder farmers and enterprises more resilient.

The most important finding is that the government's restrictions had significant initial negative impacts on SHF, SME, Input providers, and technical and business service providers. But the market actors responded to those impacts.

From the analysis of the responses by service providers, farmers, and SMEs in the technical and business services market system, it is obvious there were effective and deepened relationships between the market actors. After a short period of adaptation, that the system was able to continue the free flow of market information and training while also helping the farmers and SMEs to address some of their most pressing challenges, including access to inputs, finance, and output markets.

The analysis of the responses by the input providers and farmers and SMEs in the inputs supply market system also shows there was effective and deepened relationships between the market actors (major input companies and local service providers) and that they were able to enable the flow of market information to farmers while also helping them to address their most pressing challenges, particularly around access to inputs.

On the other hand, the analysis of the responses of the technology providers and farmers and processors in the technology supply market system to reveal weak relationships and a lack of joint response by the technology providers during the pandemic. While there is some evidence of the interaction between them and other market actors, it has not been strong enough to strengthen the resilience of the system. Also, farmers and processors did not seem to need the services of the technology providers in the middle of the restrictions though the data was not sufficient to draw a firm conclusion. In general, the technology market system did not demonstrate much resilience, there is therefore a need for better and more effective strengthening of the relationships in the market system. This will require a review and strengthening of the alignment of incentives, value propositions, and improved coordination of actors in the sector.

7.2: Implications for donor programming and support

- Playing a role as a facilitator to stimulate engagement and speed adaptation: PIND's experience shows that there is a role for donor projects to act as facilitators to stimulate engagement between market actors and to speed up the adaptation and uptake of a joint, appropriate, innovative and more market-wide response to external shocks like COVID-19. More specifically, the Project's efforts should be geared towards:

  Improving linkages between different categories of input companies and the local private extension services providers to ensure the continuous flow of information between the actors.
  Ensuring effective coordination between the local private extension services Providers
  Promoting new communications media and channels to support a more market-wide adoption of effective adaptation strategies.

- The project can also invest in carrying out analysis and reporting on it to make sure that all key stakeholders and market actors understand the nature of the impact and the need and benefit of a joint response.

- Targeted efforts are required to engender a stronger and resilient services market. PIND's role in the response as a facilitator on the ground, to bring together the service providers within its network and the input suppliers and output marketers to help to stimulate the uptake of new relationships was only possible because the local private extension services market now existed. It did not exist at this scale and depth seven years ago. It required continuous investment by PIND to get the market to its current level of maturity.

Other Insights from the Analysis.

- When faced with the threats, the service providers were able to collaborate with the input suppliers and output marketers to innovate and provide joint responses to the threats to their businesses. The threat forced input providers to find new service providers and deepened the relationships.

- The main benefits to the smallholder farmers and SMEs, in terms of value-adding services from the service providers, are now available, but which were not before. Farmers now have access to a suite of services to help improve their productivity and expand their operations. Beyond training and demonstrations, farmers now know where to go to access finance, quality inputs, and markets.

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