FARMERS' HUB VALUE CHAIN AND PROCESSING NEEDS ASSESSMENT

Assessment of Production, Post-Harvest, Processing and Market Needs of Smallholder Farmers in Ebonyi, Edo, Kogi and Niger States

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Foundation for Sustainable Smallholder Solutions

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ACRONYMS

ADP	Agricultural Development Programme
EFInA	Enhancing Financial Innovation & Access
FAO	Food and Agriculture Organization of the United Nations
FARO	Federal Agricultural Research Oryza (rice variety series)
FGD	Focus Group Discussion
FSSS	Foundation for Sustainable Smallholder Solutions
LGA	Local Government Area
MFI	Microfinance Institution
NEMA	National Emergency Management Agency
PICS	Purdue Improved Crop Storage
PPD	Postharvest physiological deterioration (cassava)
TME	Tropical Manihot esculenta (cassava variety series)

EXECUTIVE SUMMARY

The Farmers' Hub, Value Chain and Processing Needs Assessment was conducted by the Foundation for Sustainable Smallholder Solutions (FSSS) to assess how an integrated Farmers' Hub model combining agricultural services and value-chain processing can address production, post-harvest and market constraints facing smallholder farmers. The assessment covered ten farming communities across seven Local Government Areas (LGAs) in Ebonyi, Edo, Kogi and Niger States.

A total of 213 smallholder farmers, comprising 117 men and 96 women, participated in 11 structured Focus Group Discussions (FGDs). Participants were drawn from farming populations in the selected communities. Farming was the main occupation for 97% of participants, and women represented 45%. Data were collected using a structured Farmer Needs Assessment tool on KoboToolbox and analysed in Stata.

Cassava and rice were the main crops, reported in nine (82%) and eight (73%) FGDs respectively. Maize, soybean, cowpea and millet were largely reported in Niger State. All 11 FGDs reported rainfed production and declining soil fertility over the past five years; six (55%) reported that the most recent harvest fell below expectations.

Access to production support was poor. None of the 213 participants reported receiving extension or advisory services during the last season, while all 11 FGDs reported using farmer-saved seed.

Only 12% of participants could afford improved seed and 16% fertiliser. In more than half of the FGDs, some farmers travelled over 20 kilometres to purchase inputs. Post-harvest losses were reported in all 11 FGDs, with poor storage identified as a cause in eight (73%). No assessed community had improved storage. Eight FGDs (73%) reported that farmers were compelled in most seasons to sell quickly at low prices, while ten (91%) reported buyer rejection or price reductions based on quality, principally colour, dirt and moisture.

Demand for Hub services was consistent. An input shop and cassava processing machine were each requested in ten (91%) FGDs, followed by a rice mill in eight (73%) and a financial service point in seven (64%). Cassava processing ranked first for its expected effect on income, losses and selling prices. All 11 FGDs indicated willingness to pay a reasonable fee for a Hub service that improves the price received for produce.

The findings support a Hub model that brings inputs, production support, processing, storage, finance and market services closer to farmers. The combination of unmet service needs, post-harvest losses, quality-related price penalties and willingness to pay provides a clear basis for an integrated, location-specific Hub model.

The report recommends six core Hub services, with the final mix determined by each location's crop profile, production volumes, processing opportunities, market conditions and farmer priorities.

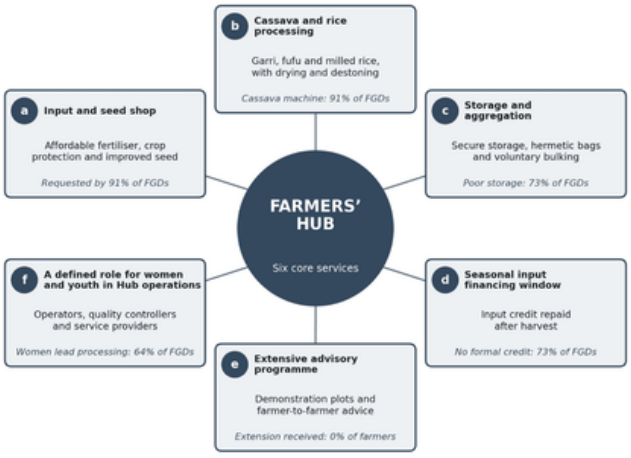


Figure ES.1: *Six core services of a proposed Farmers' Hub*

Below is a summary of key findings from the assessment:

Indicator	Result	Section
FGDs growing cassava / rice as a main crop	82% / 73%	3.1
FGDs reporting harvest below expectation	55%	3.1
Participants receiving extension services last season	0%	3.2
Participants reporting improved seed / fertiliser as affordable	12% / 16%	3.2
FGDs where some farmers travel over 20 km for inputs	55%	3.2
FGDs reporting post-harvest loss	100%	3.3
FGDs reporting distress sales in most seasons	73%	3.3
FGDs reporting quality-related rejection or price reduction	91%	3.5
FGDs reporting no access to formal credit	73%	3.6
FGDs willing to pay a fee for a Hub service that improves prices	100%	3.6
FGDs requesting an input shop / cassava processing machine	91% / 91%	5.1

Table ES.1: *Summary of key finding.*

1.0 INTRODUCTION

Cassava and rice are important staple crops for smallholder farmers in Nigeria and were the main crops reported in the communities covered by this assessment.

Nigeria is the world's largest cassava producer. Analysis of FAOSTAT data shows that the country produced about 60 million tonnes of cassava in 2020, with an average yield of 7.8 tonnes per hectare (Adebayo, 2023).

Evidence from earlier analysis of Nigeria's cassava sector also shows that increases in output have been driven mainly by expansion in cultivated area rather than higher yields. Rice has followed a similar pattern. Between 1990 and 2019, the area harvested nearly tripled, while yields remained below two tonnes per hectare (Peterson-Wilhelm et al., 2022).

Production is only one part of the problem. Farmers also lose produce after harvest and have limited access to agricultural services. FAO estimated that about 14% of food produced globally was lost between harvest and retail in 2019, although losses differ by crop, location and stage of the supply chain (FAO, 2019). In Nigeria, the Federal Ministry of Agriculture reported about one extension worker for every 10,000 farmers, compared with an FAO benchmark of one for 800 to 1,000 farmers (Voice of Nigeria, 2021).

Findings from earlier FSSS assessments point to similar problems. In Northern Bauchi, about 87% of respondents reported having no access to extension services, while roughly 75% of households could not access formal credit (FSSS, 2025a). In the Kano Basin, all FGDs reported that agricultural inputs were available but unaffordable (FSSS, 2026).

FSSS has used the Farmers' Hub model to bring inputs, training, demonstration, aggregation and extension services closer to farming communities. This assessment looks more closely at the needs of farmers in selected communities, including the challenges they face in production, processing, storage, finance and access to markets.

It also examines the services and facilities farmers would like to have closer to where they farm. The findings are intended to guide decisions on the services and facilities that may be suitable for Farmers' Hubs in the assessed communities.

2.0 METHODOLOGY AND PARTICIPANT PROFILE

2.1 Study Design and Coverage

The need assessment adopted a structured community approach. FGDs were held with groups of smallholder farmers, and for most questions enumerators recorded the number of participants selecting each response. This design permits analysis at two levels: the community level, in which each FGD is treated as one record, and the participant level, in which responses are pooled across all 213 participants. The community level is used as the primary unit of analysis because the Hub is a community-level investment.

Data were collected using a Farmer Needs Assessment tool , which comprised of 18 thematic sections and seven crop modules (rice, oil palm, cassava, maize, cowpea, soybean and millet). Crop modules were administered only in FGDs where the crop was grown. The instrument was deployed on KoboToolbox with skip logic, numeric constraints and a standard consent statement. Data were cleaned and analysed in Stata using a scripted routine that retained consented records only, removed duplicate submissions, checked the consistency of profile tallies against the number of participants, and converted land and crop quantities to standard units where the reported unit permitted. The assessment workflow is summarised in Figure 2.1.

The assessment covered ten communities in seven LGAs. Ebonyi. The communities represent three production settings: the cassava and rice systems of Ebonyi (Ikwo and Ishielu LGAs); the cassava-led systems of Edo and Kogi (Etsako Central, Etsako East and Ajaokuta LGAs); and the mixed grain and legume systems of Niger (Lavun and Wushishi LGAs).

State	LGAs	Communities	FGDs	Participants	Women
Ebonyi	Ikwo, Ishielu	3	4	60	18 (30%)
Edo	Etsako Central, Etsako East	4	4	60	35 (58%)
Kogi	Ajaokuta	1	1	15	6 (40%)
Niger	Lavun, Wushishi	2	2	78	37 (47%)
Total	7 LGAs	10	11	213	96 (45%)

Table 2.1: *FGD coverage and participants by state*

2.2 Participant Profile

Women accounted for 96 of the 213 participants (45%). Female representation was highest in Edo (58%) and lowest in Ebonyi (30%). Farming was the main occupation for 97% of participants. Livelihood diversification was most pronounced in Niger, where 50% of participants also engaged in trading and 27% operated a business (Table 2.2).

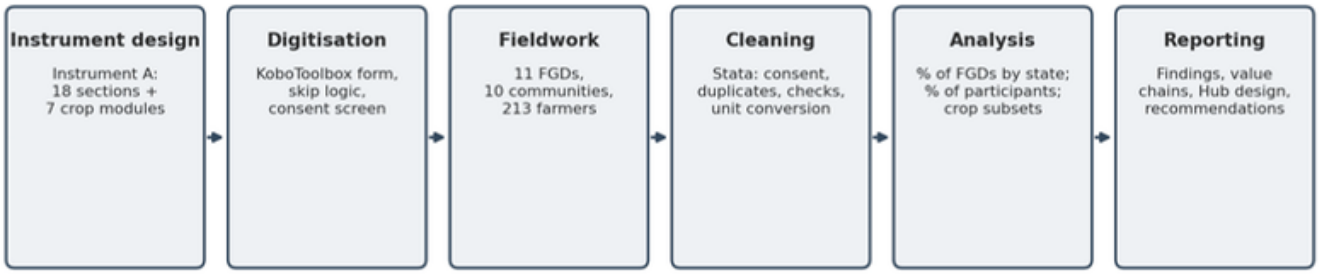


Figure 2.1: *Assessment workflow*

Indicator	Ebonyi	Edo	Kogi	Niger	All states
Women	30%	58%	40%	47%	45%
Aged 18 to 35 years	18%	68%	60%	72%	55%
Aged 36 to 60 years	82%	40%	27%	19%	43%
Farming for more than 20 years	97%	0%	100%	94%	69%
Farming for less than 10 years	2%	83%	0%	0%	24%
Farming as main occupation	100%	90%	100%	100%	97%
Also engaged in trading	0%	5%	0%	50%	20%
Member of a farmer group or cooperative	3%	12%	100%	65%	35%

Table 2.2: *Participant profile by state (% of participants)*



Figure 2.2: *Location of the assessed LGAs and communities*

The age and experience profile differed markedly between states. Participants aged 18 to 35 years constituted 72% of the Niger sample and 68% of the Edo sample, compared with 18% in Ebonyi. Similarly, 83% of Edo participants had farmed for less than ten years, whereas more than 90% of participants in Ebonyi, Kogi and Niger had farmed for over 20 years. Edo therefore combines a young and relatively inexperienced farming population with a low level of organisation, which has implications for the training component of the Hub.

Membership of farmer groups was generally low, at 35% of all participants. It ranged from 100% in Kogi and 65% in Niger to 12% in Edo and 3% in Ebonyi. Where groups existed, they were predominantly cooperatives; savings groups (esusu or adashe) were reported only in Niger. Weak collective organisation was also recorded in Northern Bauchi (FSSS, 2025a), indicating that Hub management structures cannot assume the presence of established farmer groups.

2.3 Farm and Land Characteristics

Land was predominantly inherited, as reported in ten FGDs (91%). Purchased land was reported in three of the four Ebonyi FGDs, while Edo participants relied more on community land (75%) and rented or leased plots (50%), suggesting less secure tenure among Edo's younger farmers.

Farm size could not be standardised, as seven FGDs (64%) reported land in local plots, which ranged from approximately 450 to 900 square metres in Ebonyi. Where hectares were reported, as in Kogi, the average holding was 1.45 hectares, comparable with the 2.1 hectares recorded in Northern Bauchi (FSSS, 2025a).

All 11 FGDs reported rainfed production. Supplementary irrigation was reported in two FGDs (one each in Ebonyi and Niger), and no community relied mainly on irrigation. This dependence on rainfall is examined further in Section 3.7 in relation to reported changes in rainfall patterns.

3.0 KEY FINDINGS

This section presents the cross-cutting findings of the assessment. It follows the crop from the field to the market, beginning with production and seed systems and moving through input access, post-harvest handling, processing and marketing. It then turns to finance, climate and soil conditions, and the roles of women and youth.

3. 1 Crop Production and Seed Systems

Cassava and rice were the dominant crops across the assessed communities. Cassava was identified as the community's main crop in six FGDs (55%) and rice in four (36%). When participants reported the crops they cultivate themselves, cassava was recorded in nine focus groups (82%) and rice in eight (73%).

The same pattern holds among individual farmers, as Figure 3.1 shows. Rice was grown by 128 of the 213 participants (60%) and cassava by 105 (49%).

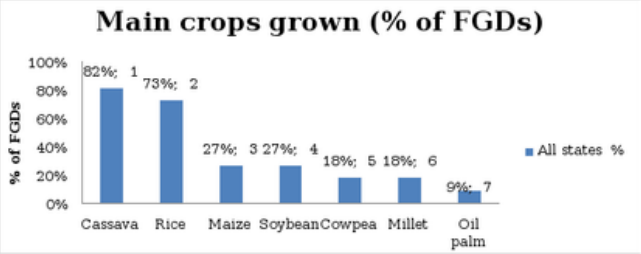


Figure 3.1: *Main crops grown (% of FGDs and % of participants)*

Farmers' Future production intentions also also followed the same pattern. Rice and cassava were each named by seven FGDs (64%) as the crop farmers most wished to expand, while no focus group chose maize, cowpea, soybean or millet.

Crop diversity was greatest in Niger, where maize, soybean, cowpea and millet were grown in both FGDs; outside Niger, these crops were reported in only one Ebonyi FGD. These results indicate that Hubs in Ebonyi, Edo and Kogi should be designed around cassava and rice, whereas a Hub in Niger would require multi-crop capacity.

Harvest performance in the last season across multiple groups was accessed as weak. Six FGDs (55%) reported harvests below expectation, including four (36%) in which the harvest was less than half of what was expected. The Kogi FGD reported the poorest outcome, while only one Niger FGD reported a harvest above expectation.

Seed systems were largely informal. Farmer-saved seed was used in all 11 FGDs, certified or improved seed in five (45%), and only one FGD obtained seed from an agro-dealer. This is consistent with evidence from six African countries showing that smallholders obtain about 90% of their seed from informal sources (McGuire & Sperling, 2016). Reliance on saved seed did not, however, indicate reluctance to adopt new varieties. In eight FGDs (73%), some participants had changed variety in the past three years, principally for higher yield and earlier maturity (seven of eight FGDs in each case), and no FGD attributed the change to extension or NGO advice. High yield was the trait sought in all FGDs, followed by short maturity (55%) and pest resistance and market demand (36% each).

3.2 Access to Inputs, Extension and Mechanization

Participants identified financial constraints as the principal limitation on production. Lack of fertilizer and lack of finance were each cited by nine FGDs (82%) as common production problems, followed by high input cost (64%) and high labour cost and lack of machinery (27% each) (Figure 3.2).

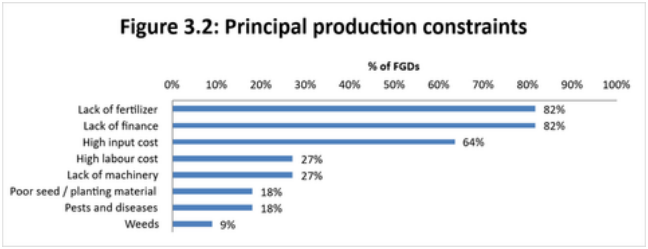


Figure 3.2: *Principal production constraints (% of FGDs citing each among the three most important)*

No FGD included poor soil, drought or flooding among its three main problems, although all reported declining soil fertility when asked directly (Section 3.7). This suggests that soil decline is experienced primarily as an increased need for fertiliser.

Input use exceeded affordability for all major inputs (Figure 3.3). Fertiliser was used by 61% of participants but described as affordable by 16%, and improved seed was used by 45% but described as affordable by 12%. In Niger, all participants used fertiliser, yet none described it as available nearby or affordable. These findings are consistent with market reports from the period, which recorded open-market prices of ₦43,000 per bag of NPK and ₦40,000 per bag of urea in Niger State (ThisDay, 2024), and an average price of about ₦60,500 for a 50 kg bag of NPK nationally (BusinessDay, 2025).

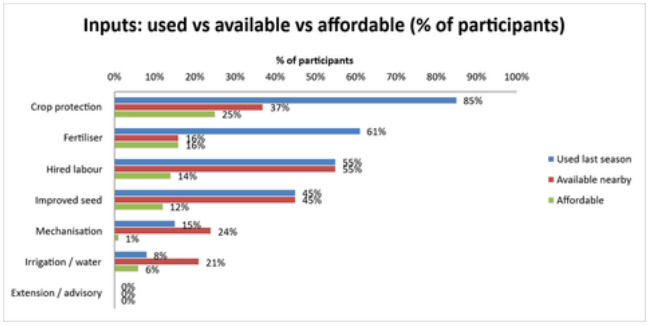


Figure 3.3: *Use, availability and affordability of inputs and services (% of all participants; Kogi did not record figures)*

Extension coverage was absent. None of the 213 participants received extension or advisory services during the last season, and no FGD reported regular contact with an extension agent.

This exceeds the national shortfall reported by the Federal Ministry of Agriculture (Voice of Nigeria, 2021) and indicates that farmers are adopting new varieties and applying agrochemicals without technical guidance. Mechanisation was similarly limited, having been used by 15% of participants and described as affordable by less than 1%.

Distance further constrained access. In six FGDs (55%), some farmers travel more than 20 kilometres to obtain their principal inputs, and no FGD reported an input source within two kilometres. Consistent with this, ten FGDs (91%) identified an input shop as the service that would save the most time if located closer.

3.3 Post-Harvest Handling, Storage and Losses

Produce was generally disposed of soon after harvest. In nine FGDs (82%), some participants sold immediately after harvest, and storage was reported in four (36%), two of which were in Niger. Where produce was stored, it was kept within the household (82%). No community had access to improved storage or warehousing, and in three FGDs (27%) some farmers had no storage at all.

Post-harvest losses were reported in all 11 FGDs. The magnitude of losses varied within communities: losses of 21 to 30% were reported in four FGDs (36%) and losses above 30% in two (18%), one each in Edo and Niger (Figure 3.4). These levels exceed the global average loss of about 14% between harvest and retail estimated by FAO (2019).

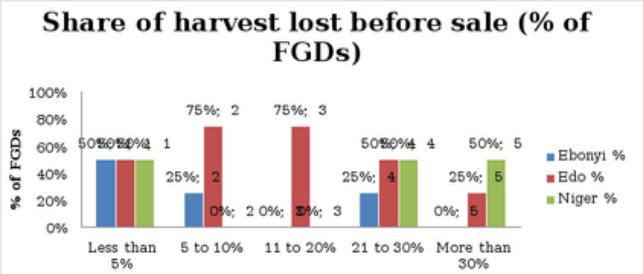


Figure 3.4: *Share of harvest lost before sale, by state (% of FGDs; Kogi reported losses of 5 to 10% only)*

Poor storage facilities were the most frequently cited cause of loss (73%), followed by pests and rodents, mould and moisture, and delayed processing (55% each) (Figure 3.5). Lack of space was the leading storage constraint (91%), and all four Edo FGDs reported the absence of any storage facility. Eight FGDs (73%) reported that some farmers are compelled in most seasons to sell produce quickly at low prices because they cannot store it. Such distress sales depress farm-gate prices at the point of peak supply.

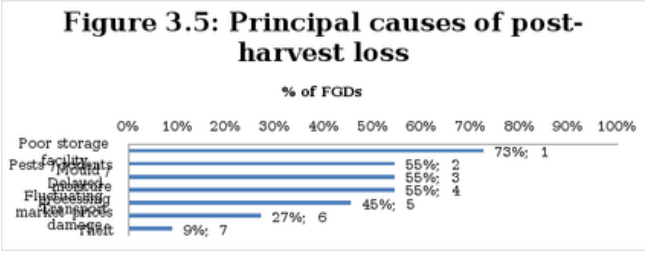


Figure 3.5: *Principal causes of post-harvest loss (% of FGDs)*

Evidence from north-western Nigeria indicates that improved storage can reduce this vulnerability. Cowpea farmers who adopted hermetic storage bags were found to have higher food security and a lower incidence of poverty than non-adopters (Adomi et al., 2023). For cassava, however, storage is not a practical solution because of the perishability of the roots, and processing is therefore the relevant intervention (Section 4.1).

3.4 Processing and Value Addition

Processing was practised in all 11 FGDs, but largely through third parties. Local processors were used in ten FGDs (91%) and commercial processors in five (45%). Six FGDs (55%) reported that some participants processed part of their own crop, and none processed through a cooperative. Among the six FGDs where some participants did not process at all, lack of equipment and the cost of using it were each cited by four (67%), and two Edo FGDs reported that buyers preferred unprocessed produce.

Access to processing varied considerably. In four FGDs (36%), including the Kogi FGD and two in Ebonyi, the nearest processing facility was more than two hours away, while one FGD each in Ebonyi and Niger could reach a processor in less than 15 minutes. Processing was typically paid for per bag (45%) or per basin (36%), at ₦1,000 to ₦2,499 per unit in eight FGDs (73%) and ₦2,500 to ₦9,999 per bag in Niger. These rates provide a price benchmark for Hub services.

Problem	Ebonyi	Edo	Kogi	Niger	All states
High cost	75%	100%	0%	100%	82%
Long waiting time	0%	75%	0%	50%	36%
Distance	50%	25%	0%	50%	36%
Poor machine quality	0%	50%	100%	0%	27%
Machine breakdown	0%	25%	0%	50%	18%
Lack of electricity or fuel	0%	0%	0%	100%	18%

Table 3.1: *Problems with current processing services (% of FGDs)*

High cost was the most common complaint regarding existing services (82%), followed by long waiting times and distance (36% each) (Table 3.1).

Both Niger FGDs also reported a lack of electricity or fuel. The products farmers wished to produce were predominantly those already familiar to them, namely garri, fufu and milled rice, with higher-value products such as high-quality cassava flour and branded rice requested mainly in Niger.

3.5 Market Access and Buyer Requirements

Beyond processing, what farmers earn depends on how they sell, and marketing channels across communities are usually short and informal. Village markets and local traders were each among the main outlets in seven FGDs (64%), and no focus group sold through a cooperative, institutional buyer or exporter.

Within these channels, prices were usually negotiated (64%, including all Edo FGDs). However, three of the four Edo focus groups reported that farmers never know the prevailing market price before selling, which weakens their bargaining position. Relationships with buyers were also loose. Spot sales were reported in eight FGDs (73%), and no focus group had a written contract with a buyer; in five (45%), some farmers had no regular buyer at all. A similar pattern was recorded in Northern Bauchi, where about 70% of farmers marketed their produce independently (FSSS, 2025a).

Selling collectively could strengthen farmers' position, but it was rare. Only two FGDs (one each in Edo and Niger) reported any experience of selling collectively, and both reported better prices, lower transport costs, easier negotiation and faster payment. Even so, in all ten focus groups that responded, some farmers preferred to sell independently. The absence of a group and distrust of others handling their produce were each cited by three FGDs (30%). Aggregation through the Hub and the formation of groups will therefore need to be introduced progressively and supported by transparent procedures.

Quality was another significant source of lost value. In ten FGDs (91%), buyers had rejected produce or reduced the price on quality grounds. As Figure 3.6 shows, the most common reasons were colour (90% of those focus groups), dirt (70%) and moisture (40%). Participants were aware of what buyers expect, identifying cleanliness and freedom from foreign matter (82%) and colour (55%) as the attributes buyers value most. Research on rice markets in Abuja, Kano and Lagos has similarly found that consumers discount local rice for broken and uneven grains. The same study attributes these defects largely to poor milling (Peterson-Wilhelm et al., 2022). Most of the reported defects can therefore be addressed through clean drying, destoning, sorting and appropriate storage.



Figure 3.6: *Quality issues behind rejection or price reduction (% of the ten FGDs affected)*

These marketing weaknesses are compounded by farmers' narrow commercial networks. Their regular relationships were limited to input dealers (73%), processors (64%), and traders and transporters (55% each). No FGD reported regular contact with an extension agent, financial institution, insurance provider, government agency, research institute, seed company or farmer organisation. The Hub could therefore serve as the principal link between farmers and these institutions.

3. 6 Access to Finance and Willingness to Pay

Weak market positions also leave farmers with little capital, and in most communities farming is financed almost entirely from personal resources. Own savings were used in all 11 FGDs, family and friends in five (45%) and cooperatives in three (27%). No focus group borrowed from a bank or received government or NGO finance. Borrowing for farming in the past 12 months was reported in six FGDs (55%), mainly for inputs and labour, and in Niger also for household needs during the season.

The principal constraint was access to formal credit, which eight FGDs (73%) reported was unavailable to some farmers. High interest rates were cited in five focus groups (45%). In addition, all Edo FGDs reported that some farmers did not know how to apply for a loan, and the Kogi focus group cited lack of collateral. These findings are consistent with national data showing that 26% of Nigerian adults remain financially excluded, predominantly farmers and dependants, and disproportionately women in rural areas (EFInA, 2023).

Closing this gap matters for production. Access to credit was named by ten FGDs (91%) as the support most likely to increase output. Research on Nigerian cassava farmers has also shown that credit access significantly increases productivity (Awotide et al., 2015).

Despite these financial constraints, willingness to pay for Hub services was high. All 11 FGDs stated that they would use a Hub service charging a reasonable fee if it improved the price received for their produce. No focus group indicated that it would use the Hub only if services were free. Payment per quantity processed was preferred by nine FGDs (82%), consistent with current payment practices. Membership fees were acceptable mainly in Edo and Niger, and group payment only in Niger (Figure 3.7). Although the lowest price was decisive for seven focus groups (64%), quality (55%) and speed of service (36%) also mattered. Reliability will therefore be as important as price in retaining users.

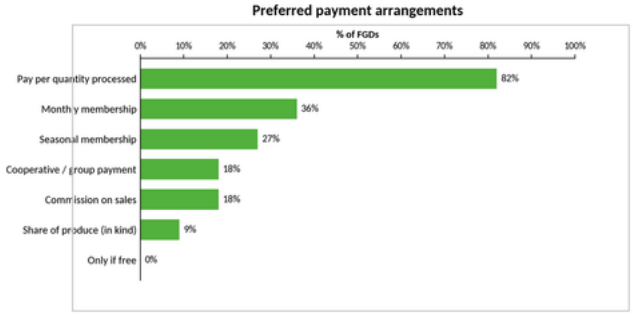


Figure 3.7: *Preferred payment arrangements for Hub processing services (% of FGDs)*

3.7 Climate and Soil Conditions

Alongside these economic pressures, farmers face a changing climate. All 11 FGDs reported changes in weather over the past five years that affect farming. The most frequently reported change was earlier cessation of rains (82%), which was reported by every focus group in Ebonyi and Edo. Reduced rainfall (64%) and longer dry spells (55%) followed, as shown in Figure 3.8. For rainfed cassava and rice, early cessation shortens the growing season at the stage when yield is determined, which is consistent with the below-expectation harvests reported in Section 3.1.

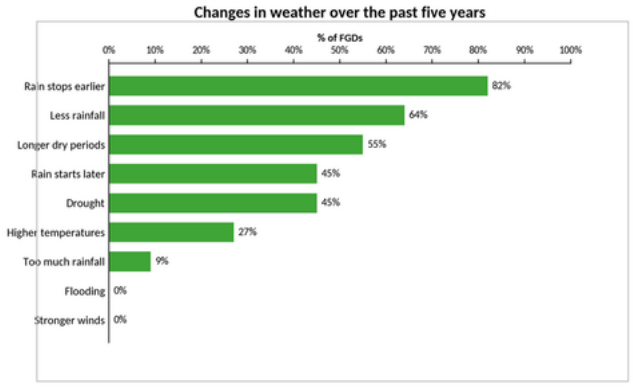


Figure 3.8: *Changes in weather reported over the past five years (% of FGDs)*

Analyses of Nigerian Meteorological Agency data have shown that rainfall onset and cessation are highly variable and follow different trends across locations (Fuwape & Ogunjo, 2018). This underlines the need for location-specific advisory services.

Soil conditions are also deteriorating. Declining soil fertility was reported by all 11 FGDs, and none reported improvement. This result is similar to that recorded in the Kano Basin, where 90% of focus groups reported fertility loss (FSSS, 2026). Intercropping (73%) and crop rotation (55%) were the main practices in use, whereas practices that restore organic matter, including mulching, cover cropping and composting, were reported only in Niger.

One FGD each in Edo and Kogi reported no climate-smart or regenerative practice. Given the unaffordability of fertiliser, low-cost soil fertility management represents an important gap, and it is one that climate-smart agricultural approaches are designed to address (Lipper et al., 2014).

3.8 Information Channels, Gender and Youth

Addressing these gaps will depend on reaching farmers through channels they trust. Fellow farmers were the principal source of agricultural information, cited in all 11 FGDs and identified as the most trusted source in ten (91%). By contrast, no focus group received information from an extension agent. Communication was predominantly face to face, and no FGD used SMS or WhatsApp for farming information. Basic mobile phones were more common than smartphones (82% of FGDs), and the Kogi focus group reported no phone ownership. Demand for digital information was nevertheless high, with agronomic advice requested by all FGDs and input information by ten (91%). Advisory services should therefore rely on voice, SMS and radio and be linked to farmer-to-farmer learning.

Many of the farmers these services would reach are women. Women made up 96 of the 213 participants (45%), and they undertook most of the post-planting work that the Hub would support (Figure 3.9). Men led land preparation in seven FGDs (64%), whereas women carried out most of the processing in seven (64%) and most of the marketing in six (55%). Household food processing was undertaken by women in all focus groups, and in Edo and Kogi women were responsible for most processing and marketing in every FGD. This pattern is consistent with FAO estimates that women constitute about 43% of the global agricultural labour force (cited in ISF Advisors, 2025).

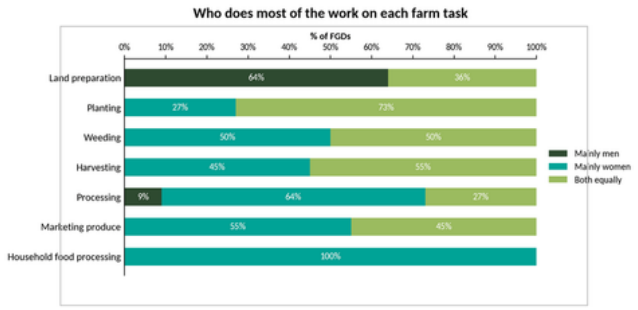


Figure 3.9: *Division of labour by farm task (% of FGDs)*

Women also face particular barriers to services. Lack of information was the most common barrier to women's access to agricultural services (55%), and it was reported in all Edo FGDs. In Edo, three focus groups (75%) also stated that services were not designed for women.

In Ebonyi, time and household responsibilities were cited in all FGDs. These findings align with the FSSS gender study across ten states, which identified persistent barriers to women's access to improved seed and to decision-making (FSSS, 2025b). Joint decision-making on crop choice was reported in six focus groups (55%). In Edo, however, three FGDs (75%) indicated that spouses decide how income is spent and where produce is sold. Encouragingly, all ten focus groups that responded stated that a Hub would create useful opportunities for women.

Youth present a similar opportunity. Young people aged 18 to 35 made up 117 of the 213 participants (55%), and they represented a substantial share of participants in Niger (72%) and Edo (68%). Most Edo youth were new to farming, making them suitable candidates for Hub training and service provision roles. In Ebonyi, by contrast, 82% of participants were aged 36 to 60 years, and the Hub will need to encourage youth participation in an ageing farming population.

4.0 VALUE CHAIN ANALYSIS

This section presents the results of the crop modules, which were administered only in FGDs cultivating each crop. The analysis identifies where value is lost along each chain and the corresponding implications for Hub design.

4.1 Cassava

Cassava was grown as a main crop in nine FGDs: three in Ebonyi, four in Edo, one in Kogi and one in Niger.

All nine FGDs reported low prices at harvest as a major post-harvest problem, and seven (78%) cited the cost of processing. These two constraints are linked by the perishability of the crop. Harvested cassava roots undergo rapid postharvest physiological deterioration, which typically occurs within 72 hours of harvest (Zidenga et al., 2012). Farmers must therefore either sell immediately, when market supply is high, or process within a short period. Where processing is distant or costly, sale at low prices is the only option. Accordingly, the cost of processing was the leading constraint to processing more cassava (89%), and price fluctuation was cited as a marketing constraint in all nine FGDs. Adebayo (2023) similarly observes that cassava prices fall in the rainy season when many farmers harvest at the same time.in Edo, while local varieties were grown in six (67%), and in four FGDs (44%) some farmers could not identify the variety they planted. Most FGDs harvested at 8 to 12 months (78%), although some farmers in Kogi and Niger left roots in the ground for more than 18 months, a practice commonly used to defer sale. Demand for processed products was concentrated on garri (all nine FGDs) and fufu or akpu (89%), while high-quality cassava flour, chips, starch and animal feed were requested only in Niger.

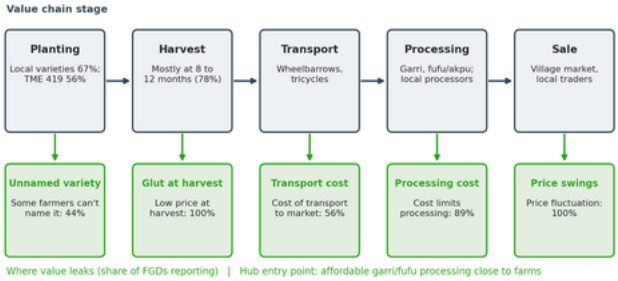


Figure 4.1: *Points of value loss in the cassava value chain*

Implications for Hub design. Cassava processing should begin with garri and fufu, for which demand, skills and markets already exist, with high-quality cassava flour and starch introduced at a later stage. Processing capacity should be located within reach of farms so that roots can be processed within one to two days of harvest. Charges should be set per basin or bag within the prevailing range of ₦1,000 to ₦2,499, and clean planting material of TME 419 and other improved varieties should be supplied through the Hub.

4.2 Rice

Rice was grown in eight FGDs (two in Ebonyi, three in Edo, one in Kogi and two in Niger), almost entirely under rainfed conditions (88%). FARO 44 was the most widely grown improved variety (75%), although local varieties remained common (63%).

The principal constraint in the rice value chain is grain quality rather than perishability.

Quality losses originated at drying and milling. Rain interrupted drying in six FGDs (75%), drying space was insufficient in five (63%), and contamination with dirt and stones occurred in four (50%). Most mills provided milling only, with cleaning and destoning available in three FGDs (38%). Farmers cited high milling costs (75%), long waiting times (63%), broken grains (50%) and stones remaining in the rice (50%). These defects correspond closely with those for which Nigerian consumers discount local rice. Peterson-Wilhelm et al. (2022) report that consumers penalise broken and uneven grains, and that small and medium-scale mills, which handle about 80% of domestic milling, are the main source of these quality deficiencies.

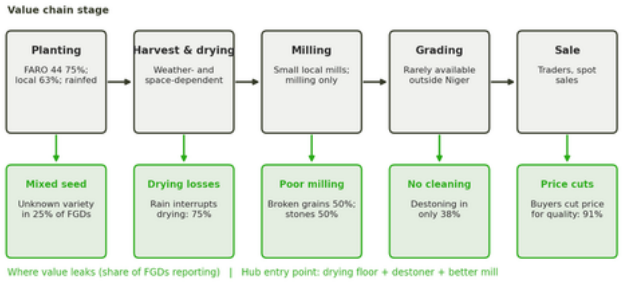


Figure 4.2: *Points of value loss in the rice value chain*

All eight rice FGDs requested a Hub capable of producing milled rice, and three (38%) requested parboiled rice. Graded, packaged and branded rice were requested only in Niger.

Implications for Hub design. The rice mill should be accompanied by clean drying floors or tarpaulins and a destoner, as quality losses occur before milling. Mill selection should prioritise reduction of broken grains. Promotion of a single improved variety per community, building on the existing use of FARO 44, would reduce mixed paddy. Parboiling should be introduced where demand is confirmed, and grading and packaging should be piloted first in Niger.

4.3 Grains and Legumes

Maize and soybean were grown in three FGDs (both Niger FGDs and one in Ebonyi), and cowpea and millet in the two Niger FGDs only. These value chains share common constraints: reliance on local varieties, manual processing and substantial storage losses (Table 4.1).

Storage represents the most immediate opportunity in these value chains. All maize FGDs reported weevil damage during storage, and the cowpea FGD reported weevils, moisture and the cost of storage chemicals. Hermetic storage offers a chemical-free solution with demonstrated welfare benefits among cowpea farmers in north-western Nigeria (Adomi et al., 2023).

Crop (FGDs)	Varieties	Main constraint reported	Processing and sale	Products requested
Maize (3)	Local in Niger; improved in Ebonyi	Weevils in storage (100%); moisture and poor storage (67%)	Shelled by hand (100%)	Cleaned grain (100%); flour, meal, feed (67%)
Soybean (3)	Local (100%); TGX 1951-3F in Ebonyi	Poor soil fertility and input cost (100%)	Sold to local traders	Soy flour (100%); oil and cake (67%)
Cowpea (2)	Local (100%)	Weevils, moisture and cost of storage chemicals	Not reported	Cleaning, sorting, grading, flour
Millet (2)	Local (100%)	Striga, birds, insects, erratic rainfall, poor seed	Hand pounding (100%)	Dehulled millet and flour (100%)

** Cowpea storage and processing questions were answered by one Niger FGD only.*

Table 4.1: *Grain and legume value chains: key indicators*

Implications for Hub design. The Niger Hub should be designed as a multi-crop facility equipped with a maize sheller, cleaner and grader, millet dehuller and flour mill, supported by a reliable power supply. Hermetic storage bags should be supplied through the input shop, beginning with maize and cowpea, and improved early-maturing, drought-tolerant seed should be introduced through the seed centre.

4.4 Oil Palm

Oil palm was reported in one Ebonyi FGD, and the findings are therefore indicative only. Farmers cultivate improved tenera palms but extract oil manually, and they reported high costs, fuel and harvesting labour constraints, and low and unstable prices. Oil palm processing is not recommended for the first phase of Hub investment.

5.0 FARMERS' HUB PREFERENCES

5.1 Preferred Services

Participants expressed a clear preference for a Hub combining input supply with processing. An input shop and a cassava processing machine were each requested in ten FGDs (91%), followed by a rice mill (73%), a financial service point (64%) and an aggregation point (55%).

A digital market information centre and an oil extraction machine were not requested by any FGD (Figure 5.1).

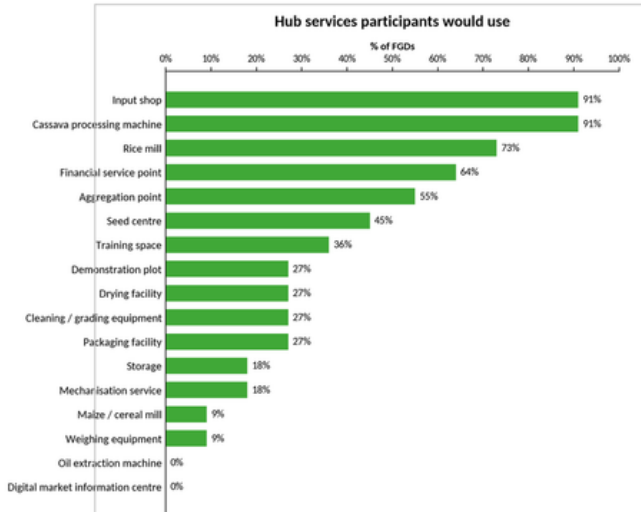


Figure 5.1: *Hub services participants would use (% of FGDs)*

When asked to rank services, participants confirmed these priorities (Table 5.1). The cassava processing machine ranked first for its expected effect on income, losses and selling price (89% of the nine FGDs that responded), and the input shop ranked first for time saved (100%). The rice mill ranked third or higher on every measure. These three services should therefore form the core of Hubs in the cassava and rice producing states.

Criterion	First	Second	Third
Greatest effect on income	Cassava processing machine (89%)	Input shop (78%)	Rice mill, seed centre, finance point (44% each)
Greatest time saving	Input shop (100%)	Cassava processing machine (78%)	Rice mill (56%)
Greatest reduction in losses	Cassava processing machine (89%)	Input shop (67%)	Rice mill (56%)
Greatest improvement in price	Cassava processing machine (89%)	Rice mill (67%)	Input shop (44%)

***** *The responding Niger FGD selected almost every service, which raises the scores of lower-ranked services. The Kogi FGD did not respond.*

Table 5.1: *Hub services ranked highest (% of the nine FGDs that responded)*

5.2 Locations and Distance

Proximity was a decisive factor. Eight FGDs (73%) indicated that participants would travel two to five kilometres to a Hub, and five (45%) stated that some farmers would use a Hub only if it were within two kilometres.

Only one Edo FGD was willing to travel more than 20 kilometres. Given that farmers currently travel more than 20 kilometres for inputs in 55% of FGDs, and that cassava must be processed within one to two days of harvest, a single centralised Hub is unlikely to be effective. A hub-and-spoke arrangement, with collection points located within two to five kilometres of farms, is recommended (Figure 5.2).

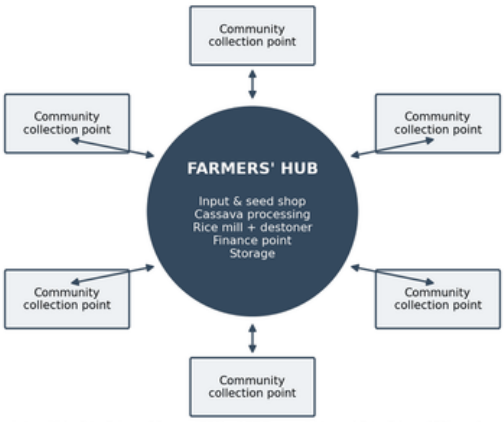


Figure 5.2: *Proposed hub-and-spoke model*

5.3 Conditions for Trust

Reliable service was the most important condition for trust in the Hub (91% of FGDs), followed by transparent pricing (73%) and good-quality inputs (64%). The Niger FGDs additionally requested fair weighing, clear receipts, farmer representation in management and a known local manager. In view of the limited experience of collective marketing reported in Section 3.5, these governance arrangements will be as important to the Hub's uptake as the equipment it provides.





6.0 STATE-LEVEL VARIATION AND PRIORITIZATION

Needs and readiness differed across the four states. Table 6.1 compares the states on four indicators of need (processing demand, post-harvest pressure, distance to inputs and access to credit) and two indicators of readiness (farmer group membership and experience of collective selling). Kogi is presented for completeness but is not ranked, as it was represented by one FGD. Detailed state indicators are provided in Annex B.

Indicator	Ebonyi	Edo	Kogi*	Niger
Request cassava machine / rice mill	75% / 50%	100% / 75%	100% / 100%	100% / 100%
Distress sales in most seasons	75%	75%	Not reported	100%
Losses above 20% reported	25%	At least 50%	0%	At least 50%
Some farmers travel over 20 km for inputs	50%	75%	100%	0% (all 6 to 10 km)
No access to formal credit	75%	75%	0% (collateral constraint)	100%
Farmer group members (% of participants)	3%	12%	100%	65%
Experience of collective selling	0%	25%	0%	50%
Overall need / readiness	High / Low	Very high / Low	Unclear / High	Very high / High
Proposed phase	Phase II	Phase I	Verification	Phase I
Gore North (Kura)	0.5	0	No impact	Irrigation Corridor

***** *One FGD only.*

Table 6.1: *State comparison on need and readiness (% of FGDs unless stated)*

Niger and Edo combine the highest levels of need with a practical basis for implementation. Niger recorded the greatest post-harvest pressure, the widest crop range and the strongest farmer organisation, and its farmers already dry, store and process produce before sale; a multi-crop Hub in Niger can therefore build on existing groups and savings schemes. Edo recorded the strongest demand for cassava processing, the greatest exposure to price uncertainty and long distances to inputs, but limited organisation, which will require early investment in training and trust-building. Both states are proposed for Phase I.

Ebonyi demonstrated high need, particularly for finance and processing, but the lowest level of organisation and an older farming population. It is proposed for Phase II, when lessons from organising farmers in Edo can be applied. A verification assessment is recommended for Kogi before any investment decision is taken (Table 6.2).

6.1 Gombe and Delta: Secondary Evidence

Gombe and Delta fall within the programme's intended footprint but did not return field data in this round. The following evidence is drawn from secondary sources and cannot be corroborated by findings from this assessment; it is provided to inform the fieldwork that should precede investment.

In Gombe, about 80% of the population is engaged in agriculture, and cereals and legumes, including maize, sorghum, rice, cowpea and groundnut, predominate (Federal Government of Nigeria, n.d.). A survey of 234 sorghum farmers in three Gombe LGAs found that 86% were not members of a cooperative and 80.3% had no access to credit (Tugga, 2021). These conditions resemble those of the Niger communities assessed, suggesting that a multi-crop Hub with a strong storage and finance component may be appropriate.

Delta is exposed to recurrent flooding, particularly in its low-lying riverine communities (PIND, 2022). The 2022 floods, described by NEMA as the most severe in Nigeria's history, completely destroyed an estimated 392,300 hectares of farmland nationwide (BusinessDay, 2022). Given its proximity to the Edo communities assessed, cassava processing is a probable entry point, although flood exposure would make Hub siting and elevation critical considerations.

Phase	Timing	Locations	Focus
Phase I	Months 1 to 12	Niger (Lavun, Wushishi); Edo (Etsako Central, Etsako East)	Multi-crop Hub with storage in Niger; cassava-led Hub with garri and fufu processing and rice milling in Edo; input shop and finance point in both
Phase II	Months 12 to 24	Ebonyi (Ikwo, Ishielu); Gombe and/or Delta if confirmed	Cassava and rice Hub in Ebonyi with a strong finance component; state-specific designs for Gombe and Delta
Verification	Months 1 to 6	Kogi (Ajaokuta); Gombe; Delta	Rapid FGDs using Instrument A before siting decisions

Table 6.2: *Proposed phasing*

7.0 RECOMMENDATIONS

The recommendations below are based on the needs and priorities reported by farmers during the assessment. They are intended to guide decisions on the services, facilities and operating arrangements that may be appropriate for Farmers' Hubs in the assessed communities.

1. Improve access to farm and seed: Ten FGDs (91%) requested an input shop, while only 12% of participants reported that improved seed was affordable and 16% reported that they could afford fertiliser. Farmers also reported travelling long distances to obtain inputs.

Farmers' Hubs should:

- Provide or facilitate access to fertiliser, crop protection products and certified seed suited to local production.
- Include varieties such as FARO 44 rice, TME 419 cassava and suitable early-maturing grain and legume varieties.
- Explore bulk procurement where this can reduce costs.
- Make smaller pack sizes available for farmers with smaller plots.

2. Expand access to appropriate processing services: Farmers ranked cassava processing highest for its expected effect on income, post-harvest losses and selling price. High processing costs were also the most frequently reported problem with existing processing services, identified in 82% of FGDs.

Processing options should reflect local production:

- Edo, Ebonyi and Kogi: assess the suitability of cassava processing for products such as garri and fufu.
- Rice-producing communities: assess the need for rice milling with destoning and improved drying facilities.
- Niger: consider a multi-crop processing facility because farmers produce several crops.
- Where processing services are introduced, consider charging by quantity processed, as preferred by 82% of FGDs.
- The reported prevailing charge was ₦1,000 to ₦2,499 per unit.

3. Improve storage and product quality: All 11 FGDs reported post-harvest losses, with poor storage identified as a cause in eight (73%). Ten FGDs (91%) also reported buyer rejection or price reductions associated with product quality, particularly colour, dirt and moisture.

Hubs should:

- Provide or facilitate access to secure storage and appropriate storage technologies.
- Promote options such as hermetic bags for crops including maize and cowpea.
- Provide practical guidance on moisture, cleanliness and other market quality requirements.
- Where possible, agree quality requirements with local buyers so farmers understand the standards expected before produce is sold.

4 Introduce aggregation gradually: Only two FGDs reported experience with collective selling, while farmers across the assessed communities generally preferred to sell independently.

Aggregation should therefore:

- Begin on a voluntary basis rather than require farmers to sell collectively.
- Use transparent weighing and clear records of quantities delivered.
- Provide farmers with receipts for produce supplied.
- Ensure prompt payment.
- Consider more structured arrangements, including warehouse receipt systems, after sufficient volumes and farmer participation have been established.

5. Improve access to seasonal finance: No FGD reported borrowing from a bank, while 73% reported no access to formal credit. Farmers therefore require financing options that reflect the timing of agricultural production and repayment.

FSSS should:

- Explore partnerships with suitable financial institutions to facilitate seasonal input finance.
- Structure repayment around the harvest cycle and, where appropriate, produce sales through the Hub.
- Strengthen savings groups in locations where they are less established, particularly outside Niger.
- In Edo, provide practical support to farmers facing difficulties with loan applications, including understanding requirements and preparing documentation.

6. Strengthen farmer-to-farmer extension and advisory support: None of the 213 participants reported receiving extension or advisory services during the last season. Fellow farmers were identified as the most trusted source of agricultural information in 91% of FGDs.

Hubs should:

- Establish or support a lead-farmer network for demonstrations and farmer-to-farmer learning.

- Prioritise soil fertility management, composting, cover cropping, mulching and appropriate fertiliser use.
- Use channels accessible to farmers, including voice messages, SMS and radio.

7. Strengthen opportunities for women and young people: Women were reported to undertake most processing in 64% of FGDs and most marketing in 55%. Their participation should be reflected in the organisation of Hub services.

This should include:

- Considering operating hours, access arrangements and training schedules that are practical for women.
- Supporting women to take on roles such as machine operators, quality controllers and aggregation agents.
- In Edo and Niger, supporting young people to provide Hub-linked services such as drying, transport and produce collection.

8. Locate hubs within reasonable reach and maintain transparent management: Most FGDs (73%) indicated that farmers would travel between two and five kilometres to access a Hub. Farmers also identified conditions that would support trust in Hub services.

Hub planning should therefore:

- Take distance and accessibility into account when selecting locations.
- Consider collection points where a central facility would be too far for some farmers.
- Publish prices and maintain fair weighing practices.
- Provide clear receipts for transactions.
- Include appropriate farmer representation in local management arrangements.
- Ensure that farmers know the person responsible for managing the Hub and how to raise concerns.

9. Address evidence gaps before final siting decisions: Some areas require additional information before final decisions are made on Hub locations and facilities.

Further work should:

- Conduct additional consultation in Kogi, which was represented by only one FGD.
- Conduct additional FGDs using Instrument A in Gombe and Delta before Hub siting decisions are made in those states.
- Standardise local units of measurement in future assessments to improve comparison of production volumes.
- Use the improved production data to strengthen estimates for processing and aggregation planning.

8.0 CONCLUSION

The assessment examined the production, processing, storage, finance and market needs of smallholder farmers in ten communities across Ebonyi, Edo, Kogi and Niger States, with particular attention to services that could be provided through Farmers' Hubs.

The findings show significant gaps in access to extension, finance, farm inputs, storage and processing. Farmers also reported forced sales at low prices and price reductions linked to product quality. While the nature and severity of these challenges varied across locations and crops, they were reported across the assessed communities.

Farmers identified several services that could address these gaps. An input shop and cassava processing facility were each requested in 91% of FGDs, while rice milling was requested in 73% and a financial service point in 64%. All 11 FGDs also indicated willingness to pay a reasonable fee for services that improve the price received for produce.

The findings support further consideration of Farmers' Hubs as a means of bringing selected agricultural services closer to farmers. However, the assessment does not establish the technical or financial feasibility of specific facilities. Decisions on location, processing capacity, equipment and operating arrangements should be based on further assessment of production volumes, demand, costs and market conditions.

The findings also point to the need for transparent and farmer-responsive Hub management. Limited experience with collective selling suggests that aggregation should be introduced gradually, with clear pricing, weighing, records and payment arrangements.

The assessment provides a baseline for subsequent Hub design and for monitoring changes in farmers' access to services, processing, storage, finance and markets.

9.0 STUDY LIMITATIONS

The findings should be interpreted in light of the following limitations:

- **Coverage:** The assessment covered ten communities in seven LGAs across four states. Kogi was represented by one FGD and Niger by two; findings for these states therefore describe the communities assessed rather than the states as a whole.
- **FGD-based data:** Most findings were based on participants' reported experiences and were not independently verified in every case.
- **FGD-level percentages:** Participants within an FGD could give different responses to the same question. FGD-level percentages therefore show the proportion of FGDs reporting an issue, not the proportion of all farmers experiencing it.
- **Production measurements:** Farm sizes and crop quantities were reported in different local units in some communities, limiting direct comparison of production volumes across locations.
- **Qualitative responses:** Open-ended responses were not available for further analysis, so the report does not include direct participant quotations.
- **Point-in-time data:** The assessment captured conditions and preferences at the time of data collection. It did not measure actual yields, independently quantified losses or changes following access to Hub services.
- **Feasibility:** The assessment was not a technical or financial feasibility study. Farmers' willingness to pay indicates interest in the services but does not establish the viability of specific facilities. Further assessment will be required before major investments are made.

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ANNEX: STATE INDICATOR TABLES

Indicator	Result
Main crops	Cassava 75%, rice 50%, maize, soybean and oil palm 25% each
Farmer group members (% of participants)	3%
Lack of finance is the greatest cause of loss	75%
Some farmers travel over 20 km for inputs	50%
Nearest processor over 2 hours away	50%
Distress sales in most seasons	75%
Want cassava machine / rice mill / finance point	75% / 50% / 75%

Table B.1: *Ebonyi (% of 4 FGDs unless stated)*

Indicator	Result
Main crops	Cassava 100%, rice 75%
Farming for less than 10 years (% of participants)	83%
Never know the market price before selling	75%
No storage facility available	100%
Some farmers travel over 20 km for inputs	75%
Do not know how to apply for credit	100%
Want cassava machine / rice mill	100% / 75%
Services not designed for women (barrier)	75%

Table B.2: *Edo (% of 4 FGDs unless stated)*

Indicator	Result
Main crops	Rice and cassava
Farmer group members (% of participants)	100%
Harvest much less than expected	Yes
Nearest processor over 2 hours away	Yes
Main financial constraint	Lack of collateral
Phone ownership	None

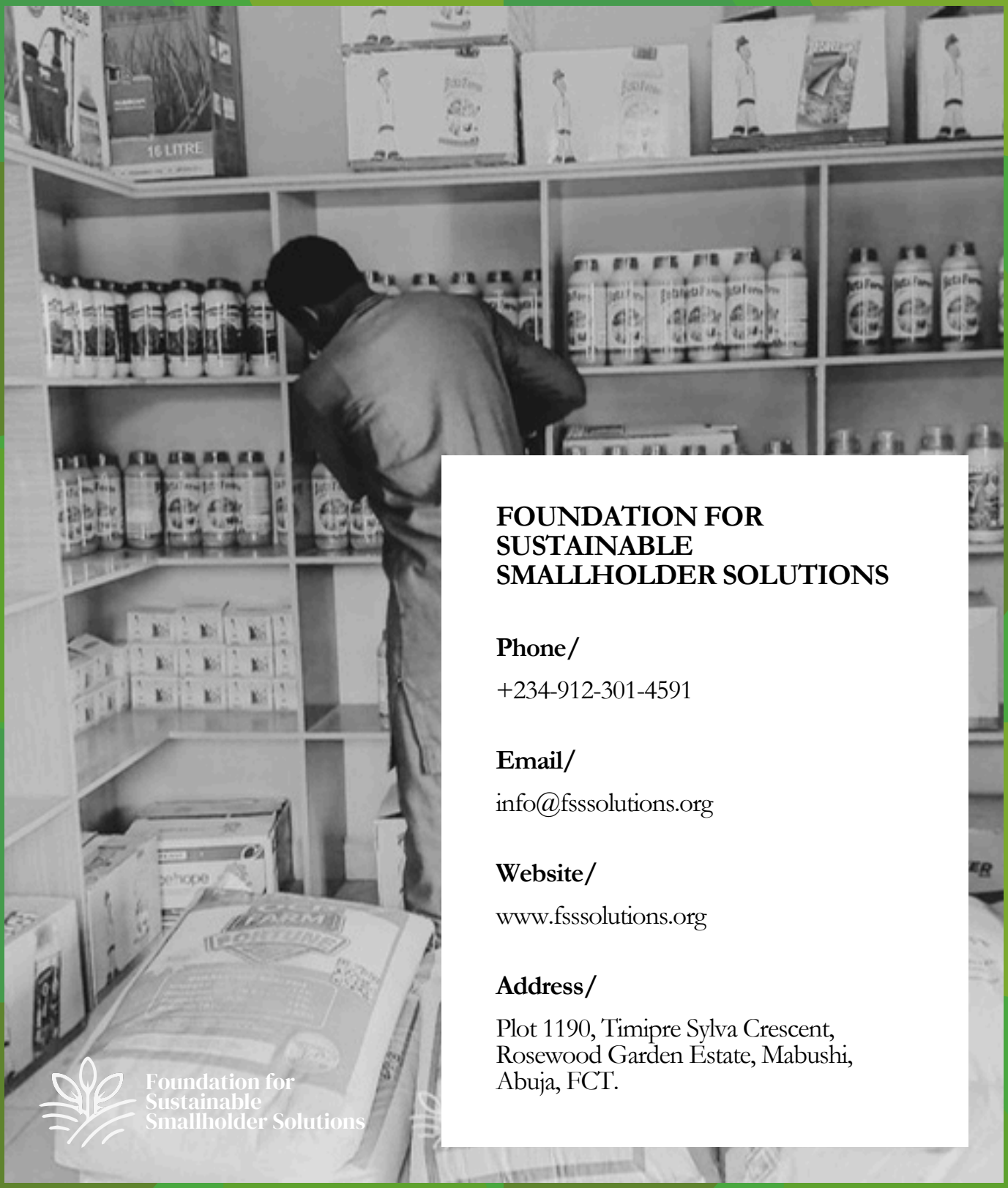
Table B.3: *Kogi (1 FGD)*

Indicator	Result
Main crops (% of participants)	Rice 100%, maize 100%, cowpea 100%, millet 89%, soybean 72%
Farmer group members (% of participants)	65%
Losses of 21 to 30% / above 30% reported	50% / 50%
Borrowed for farming in the past 12 months	100%
Lack of electricity or fuel for processing	100%
Used fertiliser / found it affordable (% of participants)	100% / 0%

Table B.4: *Niger (% of 2 FGDs unless stated)*

WE ARE ACTIVELY SEEKING COLLABORATIONS WITH COMPANIES, INSTITUTIONS, AND ORGANISATIONS. CONTACT US TODAY IF YOU'RE INTERESTED IN DRIVING SUSTAINABLE AGRICULTURAL SOLUTIONS

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