BASICS-II

BUILDING AN ECONOMICALLY SUSTAINABLE AND INTEGRATED CASSAVA SEED SYSTEM (BASICS-II)

Strategic Visit of BASICS-II Project Management Unit to Sahel Consulting

8th December 2020

Outline

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1. Updates on PLM Year 1 Activities
2. Existing Processor Evaluation
3. New Processor Due Diligence
4. Cassava Seed Unit Business Case
5. Other Activities
6. Immediate Next Steps

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Intermediate Outcomes and Outputs for the PLM

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Outcome	Output
4.1: Co-investment and technical assistance provided to three processors in Nigeria and one processor in Tanzania to establish EGS operations to produce clean cassava planting material	• 4.1.1: Co-investment and technical assistance provided to three processors in Nigeria to establish cassava seed production systems • 4.1.2: Vibrant and committed existing PLM processors in Nigeria identified for continued partnership in BASICS-II • 4.1.3: At least 2 new processors in Nigeria selected to execute EGS production through outgrowers network of seed producers to satisfy farmer seed demand to feed factories
4.2: At least three cassava processing companies in Nigeria and one cassava processing company in Tanzania supply their own-produced cassava planting materials to outgrowers on cash or credit basis	• 4.2.1: At least three cassava processing companies in Nigeria supply their own-produced cassava planting materials to outgrowers on cash or credit basis • 4.2.2: Technical assistance provided to three processors in Nigeria to establish and operate systems to supply seeds to out-growers

Updates on PLM Year 1 Activities

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Completed Activities (June to November Implementation Period)

Activity	Status
Develop criteria for assessing existing BASICS -1 processor partners and schedule meetings with management	Completed
Conduct mapping of cassava processors in the country	Completed
Identify new processors for screening	Completed
Develop due diligence framework, criteria, and questions for assessing new processors	Completed
Aggregate and review data generated from DCTs	Completed
Develop reports on DCTs capturing farmers' variety preferences & stem demand dynamics	Completed
Conduct site visits to assess the commitment of existing processors	Completed
Validate information received from existing processors partners	Completed
Conduct first level screening for new processors and select processors for second-level screening	Completed
Evaluate existing processors based on information gathered on current situations & plans	Completed
Facilitate refresher training on the business case for EGS production for existing processor partners	Completed

Updates on PLM Year 1 Activities

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Ongoing Activities (June to November Implementation Period)

Activity	Status
Analyze information obtained on the production capacity of new and existing processors to determine potential aggregate demand of EGS by processors	Ongoing
Demand Creation Trial (DCT) coordination & implementation with IITA and processors	Ongoing
Provide ongoing support to existing processor partners	Ongoing
Coordination with IITA on alternative production systems	Ongoing
Develop seed production and supply protocols and training curriculum for processors and out-growers	Ongoing
Collaborate with existing processor partners to identify & select out-growers for stem and root production	Ongoing

Evaluation Steps for Existing Processors

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Step 1: Evaluation Framework and Assessment

- Developed tailored evaluation framework, criteria, and questionnaires for assessing the operations and management of Psaltry, Eagleson, and Flour Mills.
- Held remote meetings with the leadership of the processors.
- Sent out questionnaires on seed unit evaluation to Psaltry and Eagleson and received responses.

Step 2: Onsite Evaluation Field Visits

- Visited Psaltry, Eagleson and Flour Mills of Nigeria for an onsite evaluation of the SAH seed unit.
- Interviewed the management team and Semi Autotrophic Hydroponics (SAH) laboratory technicians.
- Analyzed the information from processors using the evaluation criteria.

Step 3: Evaluation Report

- Developed a comprehensive evaluation report for Psaltry and Eagleson and incorporated feedback from onsite evaluation in the existing processors' evaluation report.

Existing Processors Assessment Criteria

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CRITERIA	SUB-CRITERIA	SCORE	MAXIMUM SCORE
1. Organizational Structure	1.1 Company structure		5
	Sub Total		**5**
2. Current Root Demand and Processing Capabilities	2.1 Current total annual processing capacity		4
	2.2 Actual processing capacity – Yearly average		4
	2.3 Type and importance of cassava products to processor		2
	Sub Total		**10**
3. Current Outgrower Engagement Model	3.1 Root supply priorities (Preferred sources of root supply in order of importance)		5
	3.2 Sources of stems supplied to outgrowers		5
	3.3 Number of outgrowers		5
	3.4 Percentage of root demand produced by outgrowers		5
	3.5 Availability of farmland for cassava stem nursery		5
	3.6 Commitment to growing the outgrower scheme		5
	Sub Total		**30**

Existing Processors Assessment Criteria

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CRITERIA	SUB-CRITERIA	SCORE	MAXIMUM SCORE
4. Organizational Priorities	4.1 Short to medium term expansion of processing operation		5
	4.2 Alignment between growth plans and BASICS II overall objectives		10
	4.3 Informal seed serving the needs of outgrowers and processing operations		5
	Sub Total		**20**
5. Plans for the Seed Unit	5.1. Rapid seed multiplication unit is in the overall growth plan		10
	5.2. Commitment to establishing an irrigated nursery as part of the seed unit		10
	5.3 Commitment to working with BASICS II partners		5
	Sub Total		**25**
6. Appetite for Continued Partnership	6.1. Verbal commitment to renew partnership		5
	6.2. Understanding of the overall vision of BASICS II		5
	Sub Total		**10**

Seed Unit Evaluation Questionnaire

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The Sahel team developed a report on the existing processor partner evaluation based on the analysis of responses to the seed unit questionnaire.

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SEED UNIT EVALUATION QUESTIONNAIRE

As part of the process to further relationship with processor partners, the Sahel team, on behalf of the BASICS-II project team would like to evaluate your organization's seed unit. For this purpose, we have prepared this questionnaire that will not take up much of your time to respond to.

Please note that your responses will be treated with the utmost confidentiality. If there are questions you do not feel comfortable answering, please feel free to skip them.

A. Organization and Structure

1. Who is responsible for managing the daily activities of the SAH business unit and who does the officer report to (name and official title)
   Responsible Officer:

   Reporting To:
2. How many employees are directly engaged in the seed unit?
   a. 1 – 4
   b. 4 – 9
   c. 10 or more
3. How many technicians working in the SAH Lab have been trained on the SAH technology
   a. None
   b. 1-2
   c. 3-4
   d. 5 or more
4. How often are the operating processes in the seed unit documented?
   a. Daily
   b. Weekly
   c. Monthly
   d. Cannot say
5. When was the last documented review of the operating processes and procedure at the SAH lab conducted?
   a. Actual date: dd/mm/yy
   b. Estimated date: mm/yy
   c. Not conducted yet.
6. In what form is the Seed Unit data captured?
   a. Electronically – Please provide some insight
   b. Manually – Please provide some insight
   c. Combination - Please provide some insight
7. Who is the custodian of the report on the operating activities at the lab?
   a. Managing director
   b. Seed unit officer/manager
   c. Cannot
   d. Others – Please specify
8. Do the board and senior management clearly understand the business case for operating an SAH lab and challenges experienced by the unit?
   a. Completely understands
   b. Somewhat understands
   c. Cannot say
9. Does top management consider the cassava seed unit a priority?
   a. Strong consideration
   b. To some extent
   c. Not at this point

A. Current Root Demand and Processing Capabilities

10. Have there been any changes in the processing capacity of the company?
    a. No change
    b. Yes – Please provide some insight
11. Have there been any changes in the root demand quantity or pattern of the company?
    a. No change
    b. Yes – Please provide some insight

A. Current Outgrower Engagement Model

1. How is the company planning to integrate outgrowers within the cassava seed unit operations?
   a. Cassava stem multiplication from the nursery stage on company's farm
   b. Cassava stem multiplication from nursery stage on outgrowers' owned farms
   c. Cassava stem multiplication from the commercial production stage on outgrowers' owned farms
   d. Only in cassava root production using stems from the seed unit
   e. Others – Please provide some insight
   f. Not considered at this point
2. How many outgrowers are currently registered with the company's network?
   a. 0 – 199
   b. 200 – 499
   c. 500 or more – Please specify the actual number
3. What is the average size of the outgrowers field?
   a. 1 hectare
   b. 2 hectares
   c. 3 hectares or more – Please specify the actual average size.
4. Do you currently control or influence the cassava stem sourcing of outgrowers?
   a. No
   b. Yes – Please provide insight on stem distribution dynamics (pricing if not free, mode of payment, point of receipt, etc.)?
5. Do you have an irrigated farmland for cassava stem nursery establishment?
   a. No

Yes – Please provide insight on size and development stage

Seed Unit Evaluation Questionnaire- Psaltry

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The Sahel team developed a report on the existing processor partner evaluation based on the analysis of responses to the seed unit questionnaire

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PSALTRY- SEED UNIT EVALUATION QUESTIONNAIRE

As part of the process to further relationship with processor partners, the Sahel team, on behalf of the BASICS-II project team would like to evaluate your organization's seed unit. For this purpose, we have prepared this questionnaire that will not take up much of your time to respond to.

Please note that your responses will be treated with the utmost confidentiality. If there are questions you do not feel comfortable answering, please feel free to skip them.

A. Organization and Structure

1. Who is responsible for managing the daily activities of the SAH business unit and who does the officer report to (name and official title)
   Responsible Officer: Joshua Aderonke Victoria and Olalere Racheal Abidemi

   Reporting To: Taiwo Ogunleye: Head of Extension and Outgrower Programme
2. How many employees are directly engaged in the seed unit?
   a. 1 – 4
   b. 4 – 9
   c. 10 or more
3. How many technicians working in the SAH Lab have been trained on the SAH technology
   a. None
   b. 1-2
   c. 3-4
   d. 5 or more
4. How often are the operating processes in the seed unit documented?
   a. Daily
   b. Weekly
   c. Monthly
   d. Cannot say
5. When was the last documented review of the operating processes and procedure at the SAH lab conducted?
   a. Actual date: 27/09/2019
   b. Estimated date: mm/yy
   c. Not conducted yet.
6. In what form is the Seed Unit data captured?
   a. Electronically – Please provide some insight
   b. Manually – Recording the daily activities manually into a book
   c. Combination - Please provide some insight
7. Who is the custodian of the report on the operating activities at the lab?
   a. Managing director
   b. Seed unit officer/manager
   c. Cannot
   d. Others – Please specify
8. Do the board and senior management clearly understand the business case for operating an SAH lab and challenges experienced by the unit?
   a. Completely understands
   b. Somewhat understands
   c. Cannot say
9. Does top management consider the cassava seed unit a priority?
   a. Strong consideration
   b. To some extent
   c. Not at this point

A. Current Root Demand and Processing Capabilities

6. Have there been any changes in the processing capacity of the company?
   a. No change
   b. Yes – Please provide some insight
7. Have there been any changes in the root demand quantity or pattern of the company?
   a. No change
   b. Yes – Please provide some insight
8. Have there been any changes in the cassava root sourcing strategy of the company?
   a. No change
   b. Yes – Please provide some insight
1. Are there plans to expand overall capacity or add new product line over the next 2-3 years?
   a. No clear plan yet
   b. Definite plan – Construction of additional 50 tons/day capacity plant
2. What are your top 3 main challenges in sourcing for cassava roots currently?
   a. Scarcity of roots
   b. Hike in price
   c. Distance of farm to the factory

A. Current Outgrower Engagement Model

3. How is the company planning to integrate outgrowers within the cassava seed unit operations?
   a. Cassava stem multiplication from the nursery stage on company's farm
   b. Cassava stem multiplication from nursery stage on outgrowers' owned farms
   c. Cassava stem multiplication from the commercial production stage on outgrowers' owned farms
   d. Only in cassava root production using stems from the seed unit
   e. Others – Please provide some insight
   f. Not considered at this point
4. How many outgrowers are currently registered with the company's network?
   a. 0 – 199
   b. 200 – 499
   c. 500 or more
5. What is the average size of the outgrowers field?
   a. 1 hectare
   b. 2 hectares

Seed Unit Evaluation Questionnaire- Eagleson

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The Sahel team developed draft report of the existing processor partners evaluation report from the analysis of the seed unit questionnaire shared with the management team of Eagleson.

EAGLESON- SEED UNIT EVALUATION QUESTIONNAIRE

As part of the process to further relationship with processor partners, the Sahel team, on behalf of the BASICS-II project team would like to evaluate your organization's seed unit. For this purpose, we have prepared this questionnaire that will not take up much of your time to respond to.

Please note that your responses will be treated with the utmost confidentiality. If there are questions you do not feel comfortable answering, please feel free to skip them.

A. Organization and Structure

1. Who is responsible for managing the daily activities of the SAH business unit and who does the officer report to (name and official title)
   Responsible Officer: Emmanuel Praise

   Reporting To: Nike Tinubu, Managing Director
2. How many employees are directly engaged in the seed unit?
   Ans: 1 – 4
3. How many technicians working in the SAH Lab have been trained on the SAH technology
   Ans: 1-2
4. How often are the operating processes in the seed unit documented?
   Ans: Daily
5. When was the last documented review of the operating processes and procedure at the SAH lab conducted?

   Ans: Estimated date: 03/20
6. In what form is the Seed Unit data captured?
   Ans: Combination - Please provide some insight. It is captured in an SAH record book, and then transferred into a tablet.

1. Who is the custodian of the report on the operating activities at the lab?
   ~~a. Managing director~~
   b. Seed unit officer/manager
   ~~c. Cannot~~
   ~~d. Others – Please specify~~
2. Do the board and senior management clearly understand the business case for operating an SAH lab and challenges experienced by the unit?
   a. Completely understands
   ~~b. Somewhat understands~~
   ~~c. Cannot say~~
3. Does top management consider the cassava seed unit a priority?
   a. Strong consideration
   ~~b. To some extent~~
   ~~c. Not at this point~~

A. Current Root Demand and Processing Capabilities

4. Have there been any changes in the processing capacity of the company?
   ~~a. No change~~
   b. Yes – Please provide some insight
   Roots demand has increased for HQCF and gari and the company is processing at increased capacity.
5. Have there been any changes in the root demand quantity or pattern of the company?
   ~~a. No change~~
   b. Yes – Please provide some insight
   The company's core processing was HQCF. Gari is a by-product of HQCF processed on demand. However, there has been a surge in demand for gari, mainly for export. This has in turn increased the company's demand for roots.
6. Have there been any changes in the cassava root sourcing strategy of the company?
   ~~a. No change~~
   b. Yes – Please provide some insight
   The company has been going further afield than planned to source for roots. The company has been going to Kwara and Osun States to source for roots.

1. Have there been any changes in the cassava root sourcing strategy of the company?
   ~~a. No change~~
   b. Yes – Please provide some insight
   The company has been going further afield than planned to source for roots. The company has been going to Kwara and Osun States to source for roots.
2. Are there plans to expand overall capacity or add new product line over the next 2-3 years?
   ~~a. No clear plan yet~~
   b. Definite plan – Please provide some insight
   - Increase in demand of HQCF has brought the company to process at full capacity and are considering adding a new line for HQCF production within the next year.
   - Eagleson has procured additional 250 acres of cleared land for production of roots for the next planting season.
3. What are your top 3 main challenges in sourcing for cassava roots currently?
   a. High costs of transportation and labour from farm to farm gate due to bad farm roads
   b. Unstable roots prices
   c. Inconsistent quality of roots sourced from outgrowers

A. Current Outgrower Engagement Model

4. How is the company planning to integrate outgrowers within the cassava seed unit operations?
   a. Cassava stem multiplication from the nursery stage on company's farm
   ~~b. Cassava stem multiplication from nursery stage on outgrowers' owned farms~~
   ~~c. Cassava stem multiplication from the commercial production stage on outgrowers' owned farms~~
   ~~d. Only in cassava root production using stems from the seed unit~~
   ~~e. Others – Please provide some insight~~
   ~~f. Not considered at this point~~
5. How many outgrowers are currently registered with the company's network?
   ~~a. 0 – 199~~
   b. 200 – 499
   ~~c. 500 or more – Please specify the actual number~~

Onsite Evaluation Visit to Psaltry

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Following the analysis of the seed unit questionnaire, the team conducted an onsite evaluation visit to the SAH laboratory and nursery of Psaltry on the 3rd of August 2020 to conduct a physical assessment of the seed unit.

Onsite Evaluation Visit to Eagleson

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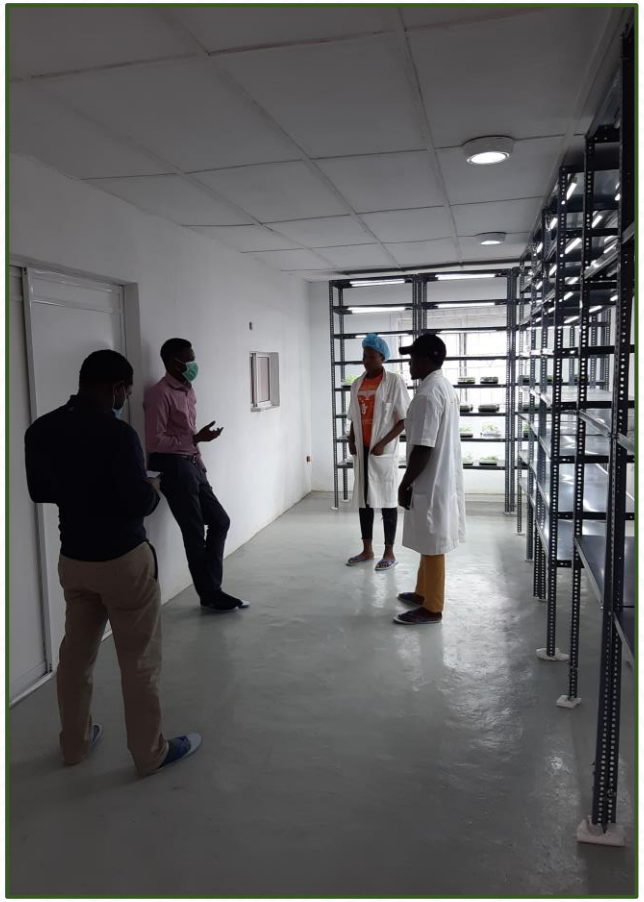
Following the analysis of the seed unit questionnaire, the team conducted an onsite evaluation visit to the SAH laboratory and nursery of Eagelson on the 6th of August 2020 to conduct a physical assessment of the seed unit.



Onsite Evaluation Visit to Flour Mills

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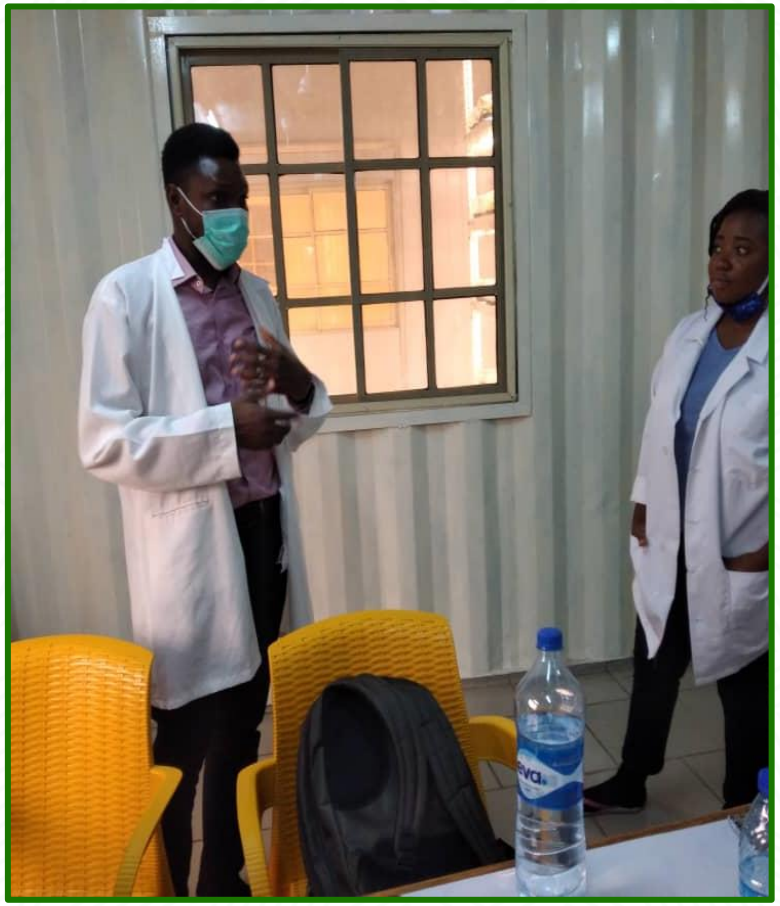
The Sahel team reached out to the Flour Mills management team to assess the cassava seed unit on the 27th of June 2020 and conducted an onsite evaluation visit to the SAH laboratory and nursery on the 11th of August 2020 in Niger State.



Existing Processors Score Sheet Summary

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CRITERIA	SCORES		
	Psaltry	Eagleson	Flour Mills
Organizational Structure (5 points)	4	3	NA
Current Root Demand and Processing Capabilities (10 points)	8	6	NA
Current Outgrower Engagement Model (30 points)	25	25	NA
Organizational Priorities (20 points)	18	18	NA
Plans for the Seed Unit (25 points)	19	18	NA
Appetite for Continued Partnership (10 points)	10	10	NA
Total	**84**	**80**	NA

Ongoing Support to Eagleson

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Created a WhatsApp group to engage the SAH technicians and monitor their activities at the seed unit.

In collaboration with IITA, conducted a 2-day technical, production, and business management training for the SAH seed unit lab technicians and management of Eagleson. The training was conducted at the SAH laboratory, nursery, and management office of Eagleson on October 5th and 6th.

Coordinated the purchase of clean SAH starter plantlets by Eagleson from IITA in the October 2020 and ensured the processor pre-ordered starter materials for the next 12 months based on the production plan.

Eagleson received a total of 52 boxes of SAH plantlets from IITA on the 2nd of November 2020. This was made up of 21 boxes of Ayaya variety and 31 boxes of TME 419.

Commenced bi-weekly meetings with the SAH technicians to monitor the progress and execution of the production plan, discuss and resolve key issues to ensure alignment on the production plan.

Developed standard operating procedures for the SAH laboratory of Eagleson and purchased two Samsung Electronic Tablets for the lab technicians for data collection.

Ongoing Support to Psaltry

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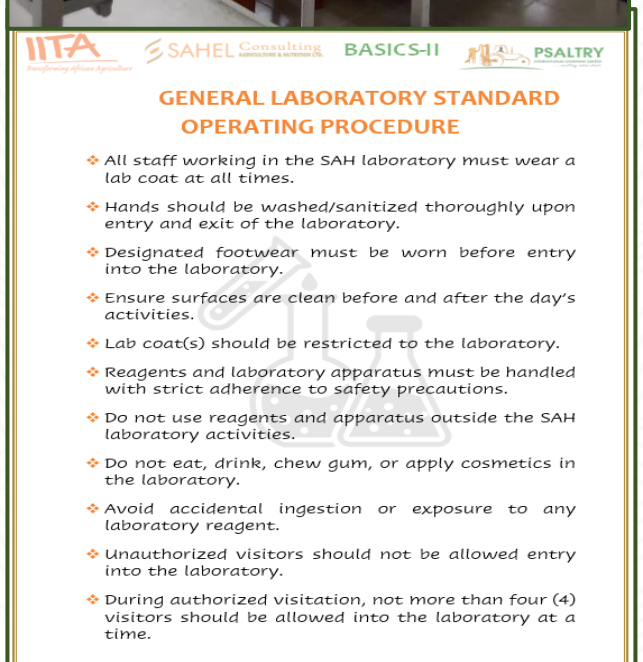
Developed the Psaltry seed unit business case and production targets for the SAH laboratory technicians.

Conducted training for the laboratory technicians and management of the SAH seed unit at Psaltry. The training involved developing daily, weekly, and annual production targets for the SAH seed unit technicians. The business case was also presented to the management team of Psaltry. This training held on the 7th of October 2020.

Coordinated the supply of SAH plantlets to Psaltry. Psaltry received a total of 244 boxes of SAH plantlets from IITA GoSeed on the 4th of November 2020. This was made up of 144 of Ayaya variety and 100 boxes of Farmer's Pride.

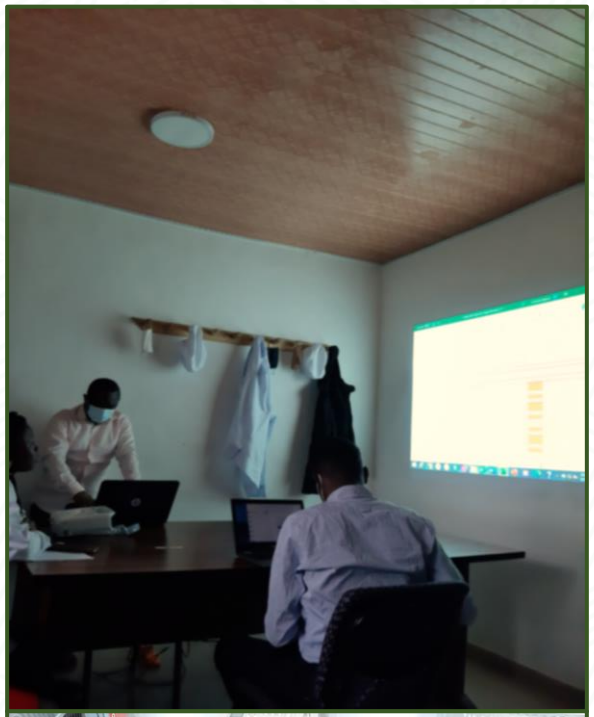
Commenced bi-weekly meetings with the SAH technicians to monitor the progress and execution of the production plan, discuss and resolve key issues to ensure alignment on the production plan.

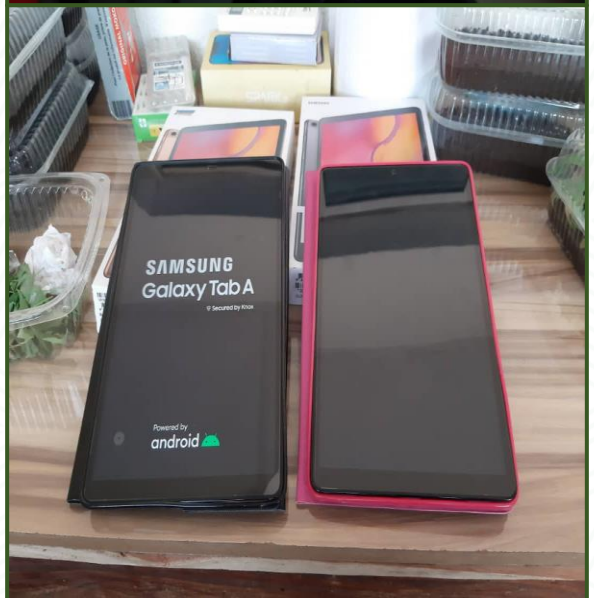
Developed standard operating procedures for the SAH laboratory of Psaltry and purchased two Samsung Electronic Tablets for the lab technicians for data collection.



GENERAL LABORATORY STANDARD OPERATING PROCEDURE

- All staff working in the SAH laboratory must wear a lab coat at all times.
- Hands should be washed/sanitized thoroughly upon entry and exit of the laboratory.
- Designated footwear must be worn before entry into the laboratory.
- Ensure surfaces are clean before and after the day's activities.
- Lab coat(s) should be restricted to the laboratory.
- Reagents and laboratory apparatus must be handled with strict adherence to safety precautions.
- Do not use reagents and apparatus outside the SAH laboratory activities.
- Do not eat, drink, chew gum, or apply cosmetics in the laboratory.
- Avoid accidental ingestion or exposure to any laboratory reagent.
- Unauthorized visitors should not be allowed entry into the laboratory.
- During authorized visitation, not more than four (4) visitors should be allowed into the laboratory at a time.





Evaluation Steps for New Processors

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Step 0. Methodology and Processor Identification

- ❑ Developed evaluation tools:
  - Interview guides
  - Evaluation matrices, including criteria to assess each processor's capabilities, outgrower engagement and potential eligibility at each level of screening.
- ❑ Identified 31 cassava processors across 16 states in Nigeria.
- ❑ Developed project introductory deck to familiarize processors with the PLM component and the value proposition of setting up a cassava seed unit.

Step 1. First Level Evaluation

- ❑ Scheduled and conducted phone interviews, and shared evaluation questions with the senior management teams of the cassava processors.
- ❑ Analyzed information obtained from processors and used evaluation matrix to assess each company.
- ❑ Selected 8 processors for second level screening.
- ❑ Developed first level screening report.

Step 2. Second Level Evaluation

- ❑ Scheduled onsite visits and working sessions with the selected processors to justify the business case for the SAH cassava seed unit.
- ❑ Shared second level screening document with the shortlisted processors.
- ❑ Commence development of the second level screening report.
- ❑ Select processors to proceed to third level screening exercise.

Step 3. Third Level Evaluation

- ❑ Share third level screening documents with the shortlisted processors from the second level screening.
- ❑ Finalize and select suitable processor partners.
- ❑ Develop a comprehensive due diligence report.
- ❑ Facilitate the signing of MoUs between the BASICS-II and the selected processors.

First Level Evaluation Criteria

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Sahel used the following criteria to evaluate the cassava processors during the first level screening exercise.

CRITERIA	SUB-CRITERIA	SCORE	MAXIMUM SCORE
1. Evidence of an established cassava business	1. Formal incorporation and registration to produce and process cassava		10
	2. Current operational status		10
2. Presence of cassava processing infrastructure	1. Evidence of a processing infrastructure/facility		15
	2. Currently processes industrial cassava products		20
3. Existing Outgrower Scheme	1. Currently sources cassava root from own farm and/or outgrowers scheme		20
	2. Demonstrated support to outgrowers		15
4. Willingness to participate in BASICS-II	1. Interest in participating in a cassava seed system development program such as BASICS-II		10

First Level Assessment Guide

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Name of Organization	
Name of Respondent(s)	
Functions/Roles	
Years of Engagement with Organization	
Contact Details (emails & phone number)	
Date	

Evidence of an established business

- Is the company formally incorporated and registered for industrial production and processing of food/cassava?
- What business is the company registered to operate?
- What is the current cassava processing capacity of the company as against the installed capacity?
    - Is production/processing activity on going?
    - Is cassava core to the business? If there are multiple business focus, what percentage of the business is cassava production and processing?

Presence of cassava processing infrastructure

- Does the company process any industrial products that would require high cassava root demands like starch, glucose, HQCF? What are the current cassava derived products processed at your facility?
    - Which other processed cassava product(s) are in your pipeline?
- Does the processor utilize large cassava processing facility? What is the installed capacity of your cassava processing facility?
- Is the company into large volume cassava processing or plans to commence processing activity within the next 6 months? What plans are in place to commence or increase cassava processing capacity within the next 6 months?
- What is the amount of cassava root demand for your processing facility?

Existing Outgrowers Scheme

- How does the processor source cassava roots?
    - Own farm
    - Outgrowers
    - A combination of own farm and outgrowers
    - Open market
- Do you provide any form of support to outgrowers? Please specify

Willingness to participate in BASICS-II

- Are you willing and interested to participate in a cassava development program?

Second Level Evaluation Criteria

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Sahel used the following criteria to evaluate the cassava processors during the second level screening exercise.

A. Organizational Structure (10 points)	1. Management structure is not complex (5 points) 2. Senior management is easily accessible for decision making (5 points)
B. Root Demand and Processing Capabilities (20 points)	1. Installed annual processing capacity (5 points) 2. Current cassava processing volume (Actual vs Installed) (5 points) 3. Evidence or concrete plans to expand operations or enter the industrial cassava processing sector within the next two years (5 points) 4. Distance between processing plant and farm (5 points)
C. Strength of Outgrower Engagement Scheme (30 points)	1. Number of outgrowers registered under processor (5 points) 2. Average farm size and yield of outgrowers (5 points) 3. Sources of stems supplied to or purchased by outgrowers (5 points) 4. Level of satisfaction derived by processor from stems sourced from informal seed sector (2.5 points) 5. Percentage of total cassava root requirement sourced from outgrowers (2.5 points) 6. Availability of farmland for cassava stem nursery (5 points) 7. Commitment to growing/expanding the outgrower scheme (5 points)
D. Clarity on Value Proposition of the project (30 points)	1. Understanding of the business case – planning level (10 points) 2. Understanding of the business case – design level/economic justification (10 points) 3. Understanding of the business case – implementation level (10 points)
F. Willingness to Participate (10 points)	1. Verbal commitment to working with BASICS-II partners (5 points) 2. Understanding of the overall vision of BASICS-II (5 points)

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Third Level Evaluation Criteria

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Sahel will use the following criteria to evaluate cassava processors at the final stage of the due diligence exercise.

A. Leadership structure (10 points)	1. Management team responsible for the Cassava Seed Unit (5 points) 2. Availability of an independent board – Strong Governance Structure (5 points)
B. Potential Alignment with BASICS-II objectives (30 points)	1. Processor's commitment to smallholder farmers and impact (15 points) 2. Processor's commitment to the cassava value chain (10 points) 3. Previous experience collaborating with a development partner or participating in development programmes (5 points)
C. Commitment to Gender empowerment & inclusion (20 points)	1. Percentage of outgrowers that are females (10 points) 2. Processor's plans/ road map to increase female participation in the outgrowers scheme (10 points)
D. Financial health & commitment (40 points)	1. Average annual turnover (10 points) 2. Financial, human, and material resources commitment to the seed unit (10 points) 3. Potential sources for financing project (10 points) 4. Financial strength to invest (10 points)

Cassava Processors Mapping

BASICS-II

Sahel conducted a mapping of processors in the cassava industry and identified 31 cassava processing companies across different states in Nigeria.

S/N	Processor	Location
1	Riparian farms	Ogun State
2	Leventis farm	Edo State
3	Primeria farms	Kogi State
4	Catholic Diocese	Abia State
5	Mandave farm	Ebonyi State
6	Unah processing	Benue State
7	CatoFoods	Osun State
8	Micmakin	Ondo State
9	Nigeria Starch Mills Foods	Anambra State
10	Greentech	Ogun State
11	Manta Foods	Ondo State
12	Nosak Group	Lagos State
13	Open Door Systems	Kwara State
14	Lambo Farm Arogunjo, Kwara State	Kwara State
15	Chief James Awoniyi Farm	Kogi State

S/N	Processor	Location
16	Oamsal Nigeria Limited	Ekiti State
17	Temlos Farms and factory Nigeria Limited	Imo State
18	Ugomentus farms Limited	Enugu State
19	Umuahia Diocese Processing Center	Abia State
20	Harvest Field	Lagos State
21	Lentus Foods	Edo State
22	Elephant Groups	Lagos State
23	De PhilAjoms Agro and Allied Industries Limited	Abia State
24	Atman Corporation Nigeria Limited	Oyo State
25	Crest Agro	Kogi State
26	Renacent Agro Inputs and Allied Food Limited	Abia State
27	Von Foods	Abia State
28	Green Hill Farms (SARO Africa Group)	Edo State
29	Kofo Agro Allied Limited	Oyo State
30	Allied Atlantic Distillers Limited	Ogun State
31	Virtueplus Two Integrated Group	Abuja State

First Level Screening of Cassava Processors

BASICS-II

Sahel screened 15 of the identified processors and selected 8 to proceed to the second level stage of the due diligence.

S/N	Processor	Location
1	Atman Corporation Nigeria Limited	Oyo State
2	Crest Agro	Kogi State
3	Renacent Agro Inputs and Allied Food Limited	Abia State
4	Von Foods	Abia State
5	Green Hill Farms (SARO Africa Group)	Edo State
6	Kofo Agro Allied Limited	Oyo State
7	Allied Atlantic Distillers Limited	Ogun State
8	Virtueplus Two Integrated Group	Abuja State
9	Catholic Diocese	Abia State
10	Mandave farm	Ebonyi State
11	Unah processing	Benue State
12	CatoFoods	Osun State
13	De PhilAjoms Agro and Allied Industries Limited	Abia State
14	Umuahia Diocese Processing Center	Abia State
15	Ugomentus farms Limited	Enugu State

S/N	Processor	Location
16	Nosak Group	Lagos State
17	Elephant Groups	Lagos State
18	Harvest Field	Lagos State
19	Lentus Foods	Edo State
20	Open Door Systems	Kwara State
21	Leventis farm	Edo State
22	Temlos Farms and factory Nigeria Limited	Imo State
23	Micmakin	Ondo State
24	Nigeria Starch Mills Foods	Anambra State
25	Greentech	Ogun State
26	Lambo Farm Arogunjo, Kwara State	Kwara State
27	Chief James Awoniyi Farm	Kogi State
28	Oamsal Nigeria Limited	Ekiti State
29	Manta Foods	Ondo State
30	Primeria farms	Kogi State
31	Riparian farms	Ogun State

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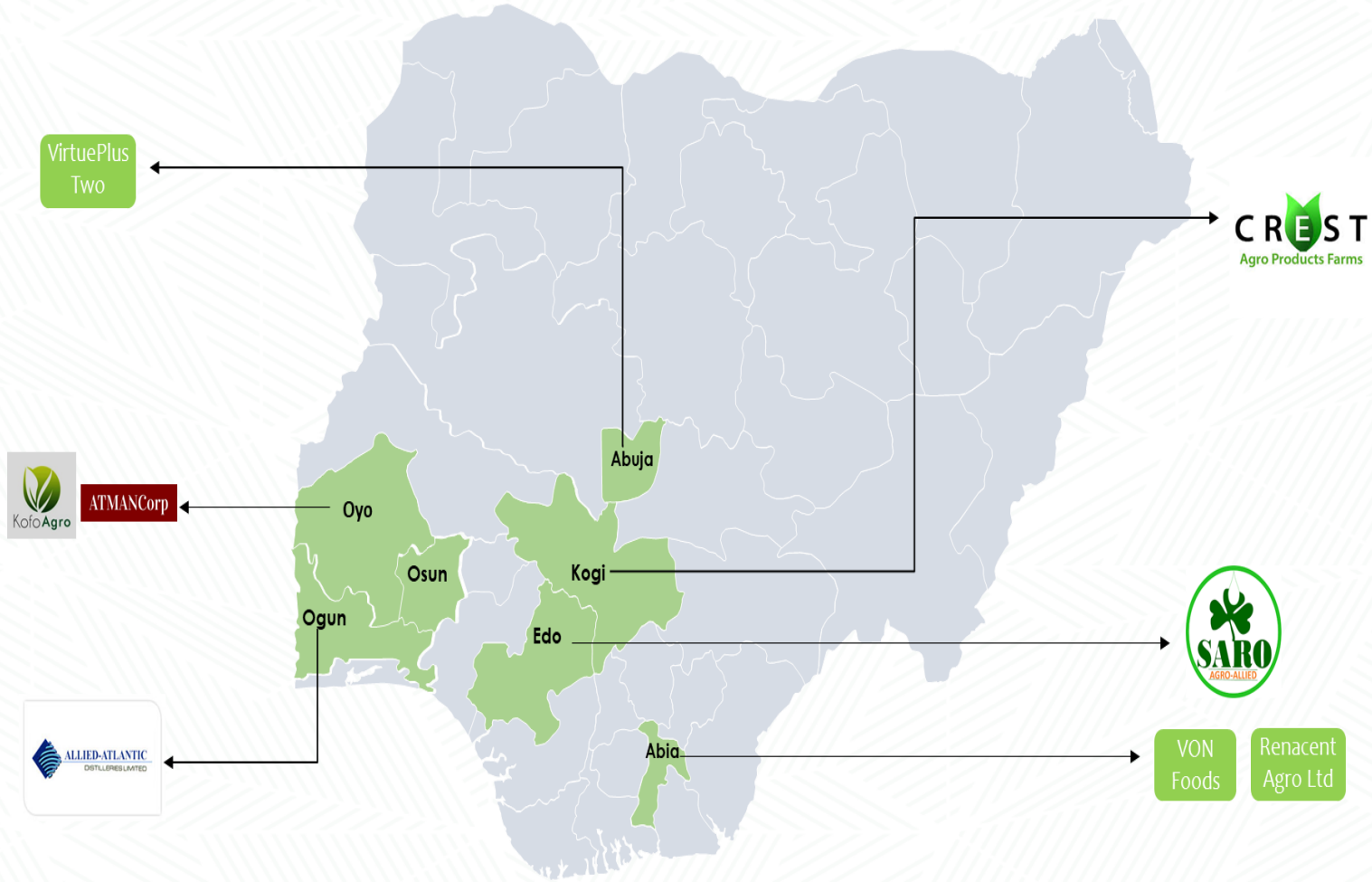
Processors Shortlisted for Second Level Screening BASICS-II

8 cassava processors from the first level due diligence screening were shortlisted for further assessment. The team contacted the management of the companies and conducted onsite visits and evaluation of their processing facilities and operations, and to assess their suitability for partnership in the BASICS-II project.

S/N	Processor	Location
1	Atman Corporation Nigeria Limited	Oyo State
2	Crest Agro	Kogi State
3	Renacent Agro Inputs and Allied Food Limited	Abia State
4	Von Foods	Abia State
5	Green Hill Farms (SARO Africa Group)	Edo State
6	Kofo Agro Allied Limited	Oyo State
7	Virtueplus Two Integrated Group	Abuja State
8	*Allied Atlantic Distillers Limited	Ogun State



*AADL was included based on the company's interest from BASICS I. The team is currently discussion potential partnerships

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Pictures from the Visit to Atman Corporation, Ido, Oyo State

BASICS-II

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Pictures from the Visit to Renancent Agro Allied, Abia State

BASICS-II

Pictures from the Visit to Von Foods, Abia State

BASICS-II

ATMANCorp Nigeria LTD (ATMANCorp)

BASICS-II

ATMANCorp Nigeria LTD is an integrated agriculture and processing company located in Oyo State Nigeria. The company produces high quality cassava flour, garri and animal feed on a collocated 850-hectare farm and factory. The company was incorporated in 2006 with focus on equipment sales and rental services. In 2010 ATMANCorp switched its focus to cassava production and processing and has expanded rapidly in the sector ever since.

Company Overview	
Year of Establishment	2006
Location	Alako village, Ido LGA, Oyo state.
Type	Limited Liability
Founder	Frank Oyenuga
Daily Cassava Requirement	96 tons
Products	HQCF, Garri
Major Customers	MNOs
No. of Outgrowers	>300
Participation Commitment	Strong

- **Organization Structure**
  - ✓ Fully indigenous, owned and operated by Frank and Seyi Oyenuga.
  - ✓ Farming and processing operations co-located in Alako village, Ido LGA, Oyo state
  - ✓ Structured to control nearly all aspect of the supply chain of factory and final products.
  - ✓ Posses capability to execute all major operations within house resources and limit downtown on farm and factory

- **Processing Capabilities and Root Sourcing**
  - ✓ Installed capacity of 20 tons per day of HQCF and 6 tons per day of garri. This translates to 21,500 tons of roots required annually.
  - ✓ Currently processing only cassava flour consuming 15 tons of cassava root daily.
  - ✓ Factory currently runs from 8 am to 9 PM Monday through Friday – average of 13 hours of production daily.
  - ✓ Sources 95% of cassava from 850 ha own farm. This is expected to change to 75% of cassava from own farm and 25% from smallholder farmers under an expanded block farming program in 2021. By 2022, management projects that 20% of cassava need will come from own farm and 80% will come from smallholder farmers in their community.

- **Alignment of Value Proposition of the Project and Operation Plans**
  - ✓ The SAH is a technology the organization has considered adopting in the recent past but did not know how to acquire the technology.
  - ✓ Actively exploring cost effective and reliable means of sustainably sourcing for high-quality stems of preferred cassava varieties, expects to achieve this through the BASICS-II project.

Crest Agro Products LTD (Crest Agro)

BASICS-II

Crest Agro Products Limited ("CAP", "Crest") was incorporated in 2013 to produce high quality cassava starch for the food processing, pharmaceutical and textile industries. CAP was founded out of a strong belief in the transformative power of agriculture in Nigeria. CAP currently runs a fully automated High-Quality Cassava Starch (HQCS) processing plant with a capacity of 21600MT/annum. The factory is located on a 70-hectare land at Achabo, Kogi Local Government Area in Kogi State.

Company Overview	
Year of Establishment	2013
Location	Achabo, Kogi-Koton-Karfe LGA in Kogi State.
Type	Limited Liability
Promoters	CardinalStone Capital Advisers, Sahel Agribusiness Managers
Daily Cassava Requirement	352 tons
Products	Food Grade Cassava Starch
Major Customers	Nestle, NB, Cadbury, Unilever
No. of Outgrowers	> 5000
Participation Commitment	Strong

- **Organization Structure**
  - ✓ An indigenous organisation led by a managing director that reports to a board of directors.
  - ✓ Managed under two subsidiaries; Crest Agro Products Farm Limited, the cassava farming
  - ✓ subsidiary, and Crest Infrastructure Limited, the infrastructure and management subsidiary
  - ✓ Crest Agro is promoted by CardinalStone Capital Advisers, a Nigerian private equity investment group which is a majority shareholder and Sahel Capital Agribusiness Managers, fund managers for the Fund for Agricultural Finance in Nigeria ("FAFIN").

- **Processing Capabilities and Root Sourcing**
  - ✓ Installed capacity of 84 tons of food grade starch and 16 tons of garri daily. Annual fresh cassava root requirement of 88,400 tons.
  - ✓ Factory located at Achabo, Kogi State with root sourced mainly from own farm located about 85 kilometres from the processing facility.
  - ✓ Secured starch sale agreements with multinational companies like Nestle, Unilever, Nigerian Breweries and Cadbury

- **Alignment of Value Proposition of the Project and Operation Plans**
  - ✓ Engaging stakeholders to develop cassava varieties with stable starch content throughout the year. SAH technology will serve as a rapid multiplication system for the improved varieties
  - ✓ Provides quality cassava stems to farmers to ensure expected starch content is not compromised. SAH seed unit will serve as a source of high-quality stems officered
  - ✓ Strong experience working with development partners - FADAMA, Synergos, etc. and knowledge of direct interventions to improve productivity of smallholder farmers.

Next Steps on New Processors Evaluation

BASICS-II

Sahel will continue discussions with shortlisted cassava companies to fully align on their projected contributions and terms of partnership on the BASICS-II program.

Continue to evaluate shortlisted processors using second and third level screening criteria

Hold working sessions and onsite visits to the facilities of other shortlisted processors

Finalize due diligence report and recommend processor partners for partnership

Facilitate the signing of MOUs agreement between BASICS-II and selected processors partners

BUSINESS CASE

BASICS-II

The Sahel team developed two business case models that is being used to facilitate engagement with existing and new processor partners. The first business case requires setting up an SAH laboratory.

Cassava Seed Unit

SAH Laboratory

SAH Nursery (F1)

Commercial Stem Multiplication (C1)

	2021	2022	2023	2024	2025
Revenue					
Stem revenue	$0	$0	$147,491	$153,391	$159,526
Root revenue	$0	$7,800	$118,730	$123,479	$128,419
Total revenue	**$0**	**$7,800**	**$266,221**	**$276,870**	**$287,945**
Operating costs					
Lab operation	$18,774	$20,651	$22,716	$24,988	$27,486
Nursery operation	$11,330	$12,463	$13,709	$15,080	$16,588
Stem multiplication operation	$0	$84,975	$93,473	$102,820	$113,102
Total operating cost	**$30,104**	**$118,089**	**$129,898**	**$142,888**	**$157,176**
Operating income/loss	**-$30,104**	**-$110,289**	**$136,323**	**$133,982**	**$130,768**
Tax @35%	$0	$0	$47,713	$46,894	$45,769
Net income/Loss	**-$30,104**	**-$110,289**	**$88,610**	**$87,088**	**$84,999**

Commercial Root Production

- **Total Hectares Required:** 3,306 ha
- **Number of Out-growers Required:** 1,653
- **Cassava yield:** 25 tons/ha
- **Cassava Root Produced:** 82,645 tons

Root Processing Factory

- **Cassava Products:** HQCF, Sorbitol
- **Daily Product Output:** 100 tons
- **Daily Fresh Root Requirement:** 450 tons

BUSINESS CASE

BASICS-II

The alternat business case eliminates the need for operating an SAH laboratory. The seed unit nursery is established using foundation stems from seed enterprises.

Cassava Seed Unit

SAH Nursery (F1)

Commercial Stem Multiplication (C1)

	2021	2022	2023	2024	2025
Revenue					
Stem revenue	$0	$0	$147,491	$153,391	$159,526
Root revenue	$0	$7,800	$118,730	$123,479	$128,419
Total revenue	**$0**	**$7,800**	**$266,221**	**$276,870**	**$287,945**
Operating costs					
Nursery operation	$11,330	$12,463	$13,709	$15,080	$16,588
Stem Purchase	$3,520	$1,936	$2,130	$2,343	$2,577
Stem multiplication operation	$0	$84,975	$93,473	$102,820	$113,102
Total operating cost	**$14,850**	**$99,374**	**$109,311**	**$120,243**	**$132,267**
Operating income/loss	**-$14,850**	**-$91,574**	**$156,910**	**$156,627**	**$155,678**
Tax @35%	$0	$0	$54,918	$54,820	$54,487
Net income/loss	**-$14,850**	**-$91,574**	**$101,991**	**$101,808**	**$101,191**

Commercial Root Production

- **Total Hectares Required:** 3,306 ha
- **Number of Out-growers Required:** 1,653
- **Cassava yield:** 25 tons/ha
- **Cassava Root Produced:** 82,645 tons

Root Processing Factory

- **Cassava Products:** HQCF, Sorbitol
- **Daily Product Output:** 100 tons
- **Daily Fresh Root Requirement:** 450 tons

BUSINESS CASE/PRODUCTION PLANNING

BASICS-II

The two different business cases have their leverage points, however, most processors engaged indicate interest in the SAH laboratory model despite it been the most expensive and less profitable option.

SAH Lab Model

	2021	2022	2023	2024	2025
Revenue					
Stem revenue	$0	$0	$147,491	$153,391	$159,526
Root revenue	$0	$7,800	$118,730	$123,479	$128,419
Total revenue	**$0**	**$7,800**	**$266,221**	**$276,870**	**$287,945**
Operating costs					
Lab operation	$18,774	$20,651	$22,716	$24,988	$27,486
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Stem multiplication operation	$0	$84,975	$93,473	$102,820	$113,102
Total operating cost	**$30,104**	**$118,089**	**$129,898**	**$142,888**	**$157,176**
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Net income/Loss	**-$30,104**	**-$110,289**	**$88,610**	**$87,088**	**$84,999**

Leverage Points

- **Provides greater control over supply of quality stem of desired varieties**
- **Provides flexibility in seed multiplication**

Direct to Nursery Model

	2021	2022	2023	2024	2025
Revenue					
Stem revenue	$0	$0	$147,491	$153,391	$159,526
Root revenue	$0	$7,800	$118,730	$123,479	$128,419
Total revenue	**$0**	**$7,800**	**$266,221**	**$276,870**	**$287,945**
Operating costs					
Nursery operation	$11,330	$12,463	$13,709	$15,080	$16,588
Stem Purchase	$3,520	$1,936	$2,130	$2,343	$2,577
Stem multiplication operation	$0	$84,975	$93,473	$102,820	$113,102
Total operating cost	**$14,850**	**$99,374**	**$109,311**	**$120,243**	**$132,267**
Operating income/loss	**-$14,850**	**-$91,574**	**$156,910**	**$156,627**	**$155,678**
Tax @35%	$0	$0	$54,918	$54,820	$54,487
Net income/loss	**-$14,850**	**-$91,574**	**$101,991**	**$101,808**	**$101,191**

Leverage Points

- **Offers higher profitability and lower initial set up cost.**
- **Offers lower complexity in seed multiplication operations.**

Other Support Activities and Component Interdependencies

- Held virtual meeting with the Tanzania (MEDA) team to share insights on the process of engaging and developing partnerships with processors for the PLM component in Tanzania. The team shared the project introductory deck and the due diligence evaluation questionnaires to support MEDA in evaluating processor partners in Tanzania.
- Supported the varietal naming process led by NRCRI and IITA in compiling already local names of the new cassava varieties.
- Commenced discussions with different irrigation service providers, iWET (on the 9th of November 2020) and KickStart International (10th November 2020) to provide quotations on developing irrigation facilities for the SAH nursery of Eagleson

Other Support Activities and Component Interdependencies

BASICS-II

- Engaged with Psaltry, Eagleson, and IITA to coordinate the development of the DCT establishment schedule and plan for the planting of DCTs at processors' fields.
- Participated in the harvesting of the 2019 DCT field at Psaltry and ensured outgrowers attended the field day for variety performance assessments. Also, coordinated the planting of new DCT fields at Psaltry and Eagleson. These activities occurred between the 27th and 29th of July 2020
- Developed a report that captured the insights of outgrowers on the different varieties. Provided guidance to the Psaltry team on varieties for consideration in the SAH multiplication process

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Immediate Next Steps

Implementation Timeline: December 2020 – May 2021

Activities
Business case development for production systems
Finalize ranking of companies; second and third level screening
Provide ongoing support to existing processor partners
Conduct technical training for outgrowers on stem production management
Support processors in setting up the production system
Project Monitoring and Evaluation reporting
Execute MoUs with at least 2 new processors
Onboard new processors partners

THANK YOU