



LIBERIA NATIONAL CASSAVA SECTOR STRATEGY

EU funded All ACP Agricultural Commodities Programme

**Under the Championship of
Ministry of Agriculture**

&

Ministry of Commerce and Industry



PLEASE NOTE:

This document has not been formally edited and is intended simply to provide a brief overview of the Cassava Sector Strategy for Liberia. The document should be used only for information purposes and should not be circulated and/or generally distributed. The updated and complete draft version together with the implementation plan and work programme will be available after consultation with key implementing partners and submission to Cabinet.

The vision for Liberia's cassava sector

A dynamic industry contributing significantly to Liberia's economic development, national peace and stability, as well as the improvement of living standards of the Liberian people.

Mission

To establish a viable cassava sector as a major agricultural and economic driver in achieving objectives of Liberia's economic agenda and poverty reduction.

ACKNOWLEDGEMENTS

For the past 18 months, a number of actors have dedicated significant amount time, resources and energy in analyzing the Liberia's cassava sector and formulating relevant recommendations.

We would like to commend the dedication and hard work of more than 100 individuals representing farmers, processors, buyers throughout the 15 counties of Liberia, support institutions and government officials who have now given the cassava sector a visible face and can claim that for the first time they have all met under the same roof to decide on its future.

Special thanks to all members of coordinating committee, the supporting team, ITC and IITA specialists, government agencies and all collaborating institutions who have immensely contributed to the development of this strategy.

This strategic plan for the Cassava industry has empowered the beneficiaries by including them in three key areas: the evaluation of potential markets, the related analysis of performance gaps and the design of response activities.

The Strategy is a private sector led initiative and has started articulating the private, public and implementing partner actors along the value chain with the shared objective of better responding to the market and development opportunities.

The strategy is in line with Liberia's Poverty Reduction Strategy and has been championed by the Ministry of Agriculture and the Ministry of Commerce and Industry.

Cassava is a crop that is particularly close to the hearts and culture and culture of the Liberian people. It has the potential to contribute substantially to social and economic development both in the rural and urban areas.

Finally, the strategy development and implementation committee wishes to reaffirm its engagement to the sector stakeholders and Government Authorities: It will continue to work harder than ever into implementation of the strategy to ensure successful impact and coordination of interventions.

EXECUTIVE SUMMARY

The purpose of this document is to summarize the cassava strategy for Liberia in order to provide basic information to the lector about how cassava can significantly impact the revitalization of the Liberian economy and the livelihood of its population through the implementation of a participatory multi-stakeholder process.

1. Background

The EU funded All ACP Agricultural Commodities Programme (AAACP) was initiated in 2008 jointly by the EU and the ACP Secretariat. The main objective of the programme is to reduce poverty, while improving and stabilizing revenues and living conditions of agricultural commodity producers in ACP countries.

Liberia's involvement in this programme, and the subsequent focus on the cassava sector, came as a result of a joint initiative of the Ministry of Agriculture, Ministry of Commerce and sector stakeholders in collaboration with the International Trade Centre (ITC), in Geneva, Switzerland.

The selection of Cassava is in line with the Poverty Reduction Strategy and is justified by the importance from a food security point of view (second staple crop and first staple protein) and from an industrial and value addition potential point of view.

The Cassava sector strategy process was started as part of Liberia's National Export Strategy in Monrovia in February 2009. Private sector stakeholders and Government Authorities agreed that the process would be jointly championed by the Ministry of Agriculture and the Ministry of commerce and Industry.

In the development of the strategy, several participatory stakeholder workshops took place between July 2009 and March 2010. More than 100 people representing private sector, farmers and support institutions participated in this strategy.

Based on the experience of ITC in other countries, where similar projects have been developed, this process emphasized on a participatory market-led approach and focused on domestic, regional and international market opportunities. The process eventually led to the adoption of a strategy articulated around six major objectives centered on the following themes: *institution building and PPP coordination, information gathering, R&D, capacity building, access to finance, and improving production, processing and distribution.*

2. Role and Objective of the Strategy

The Liberia National Cassava Sector strategy (NCSS) is an agreed long term plan of action by Liberian cassava sector stakeholders and the Government of the Republic of Liberia, for the development of the nation's cassava sector. It identifies and articulates specific time bound actions and measures to be taken to enable the sector to reach its full potential through a coordinated approach that involves all sector stakeholders.

Most importantly the strategy has enabled the creation of a public private platform through the stakeholder led coordinating committee. The Cassava sector in Liberia now has a representative body that will manage the implementation of the strategy and will articulate the sector stakeholders and actors.

In particular, the role of the NCSS is to:

- a) To ensure a coordinated, consistent, efficient and realistic development Liberia's cassava sector;**
- b) To engage the effective participation of all sector actors (cassava growers, processors and distributors)**
- c) To identify the role and coordinate the point of entries of individuals and all private and public institutions.**
- d) Provide a framework for effective coordination, monitoring, and review of sector development activities, as well as programs of all stakeholders.**

3. Impact and Beneficiaries

The cassava value chain strategy will impact one and a half million of Liberian people growing cassava in 264009 household, distributed in 15 provinces. Three of these provinces hold 55% of households embracing 43% of the total cassava growers.

The Implementation of the strategy will be oriented to impact initially those areas and provinces with more feasible readiness and potential from a commercial, social and human point of view followed by those where the strategy needs more investment to significantly reduce indicators of poverty.

The strategy coordinating committee will be mandated to evaluate proposals and decide on the order and priority for implementation.

4. The Importance of Cassava in Liberia

Cassava is the second most consumed staple food crop in Liberia, but the first staple-protein (consumption of roots and leaves) food consumed in the country. It is growing throughout the country, although the cultivated area varies considerably by counties. The following facts relating specifically to cassava show that it is:

- a) produced by over 60 percent of farming households in Liberia
- b) a main provider of calories in the diet of Liberians
- c) an important contributor to the GDP (550 000 metric in 2007, for an estimated value of

US \$ 39.633.000)

Furthermore, in the near future cassava will play a very important role in the Liberian economy by making the transition from staple-protein food to a high value product and raw material for the processing industry. This process will result in fresh cassava roots being processed into added value products ,within a market-driven, commodity chain approach.

The promotion of Liberia's cassava sector can lead to a significant boost in the following areas: agro-food industry (cassava flour, chips, etc), non-food industry (glue, starch, etc.), poultry & livestock industries (chicken feed, pig feed, etc) and even ethanol.

From a buyer and industrial user point of view, the intrinsic characteristics of cassava that make it interesting as a commodity and as a major economic driver can be expressed as follows:

- i. it has greater clarity and viscosity than other comparable starches
- ii. it remains very stable in acidic food products and,
- iii. it has excellent properties for use in animal feed, non-food products, such as pharmaceuticals and others
- iv. it can contribute significantly to the empowerment of women, who make up the majority of small holder producers and carry out over 80 percent of trading activities in the rural areas.

Cassava is also important due to it being an income-generating crop that can guarantee food for poor rural households. When implementing the strategy complementary actions will be implemented to strengthen rural economies and boost cassava farmers' incomes by converting a relatively low-cost raw material into high value products through the linkage with industry.

The implementation of the strategy will play an important role in the empowerment of women as well as in Liberia's poverty reduction strategy.

5. The market opportunities for sub-sector growth

The participatory market analysis carried out during the strategy formulation process revealed the many prospects for Liberia's cassava industry, as illustrated below:

- a) **Fresh cassava**: waxed, root peeled, dried, instant boiled and vacuum packed cassava. The development driver priority would be to promote food security and food import substitution. The destination markets include village markets, city markets, supermarkets, millers and processors.
- b) **Processed cassava**: this segment includes basic processed products such as gari, fufu, baby food, cassava bread, snacks, biscuits, etc. Targeting this segment will promote increased employment, food import substitution and food security in both rural and urban areas. Markets identified include village and city markets, but also regional and international markets (EU, USA & Asia).

- c) **Animal feed**: the second most important utilisation of cassava worldwide is animal feed. At present about a quarter of the global production of cassava is utilized as feed ingredient for pork, poultry, cattle and fish farming, directly or indirectly through its incorporation into compound feeds. Within the EU, the largest markets for cassava in terms of feed are the Netherlands, Belgium, Spain, Germany and Portugal.
- d) **High quality cassava flour (HQCF)**: mixed flour for bakeries in Liberia and the sub-region is another market opportunity for stakeholders of the sector and for an effective substitution of imported wheat flour.
- e) **Bio fuel market**: viewed from a middle and long term perspective, the bio fuel industry could also be a viable market segment. In the Nigerian State of Ekiti, Chinese investors recently constructed a US \$ 23.4 million integrated cassava-based bio-fuel ethanol refinery. The refinery, which is scheduled to be completed within 22 months, will produce 30 000 litres of ethanol and create over 1000 jobs.

6. The Strategy and the Future for Cassava

Following successive consultations, expert input and relevant contributions from Government and various levels of the cassava value chain, participants united within the sector's multi-stakeholder forum concurred on a strategy targeting the following 6 objectives:

Objective 1: *Create strong Institutions and Coordinate PPP mechanisms for sector strategy, framework development, policy formulation and alignment.*

Objective 2: *Conduct a detailed sector analysis to enable informed decisions on existing empowerment opportunities and incentives.*

Objective 3: *Develop and strengthen access to inputs and R&D to insure adequate sustainable production and processing along the value chain*

Objective 4: *Empower small holder farmer organizations and foster an entrepreneurship mindset.*

Objective 5: *Improve access to finance along the value chain.*

Objective 6: *Improve access to technology for processing to achieve quality, consistency and quantity.*

6.1. Expected Results

The strategy targets a set of key results in accordance with the six selected objectives

- Result 1:** Stronger institutions and policies capable of driving the strategy and creating a cohesive enabling environment for producers, processors and distributors.
- Result 2:** Producers, processors and distributors have a better understanding of existing market flows.
- Result 3:** Inputs are easily accessed and improved varieties are adopted for maximum output.
- Result 4:** Farmers, processors and distributors have improved knowledge and skills to develop sustainable business activities
- Result 5:** Actors along the value chain have access to funding
- Result 6:** Producers and processors have access to improved technology to ensure quality, quantity and consistency

Key Activities

In order to achieve the objectives identified, the following key activities will be implemented:

Advocacy and Institution Building: these activities will involve lobbying for the adoption or review of strategic policies and legislation, as well as budget allocation. Activities will include the strengthening of the National Cassava Sector Coordinating Committee and the creation of other vital institutions such as producers association, processors association, etc.

Market Information Gathering and Dissemination: this component will include the undertaking of market surveys and the dissemination of relevant information to all stakeholders.

Research and Development: this section includes the establishment of participatory programs and projects to support the production and processing demands of the strategy.

Capacity Building: filling knowledge gaps through training, coaching and mentoring as demanded by the strategy to get a successful performance from producers and processors in meeting market requirements.

Improving Production, Processing and Marketing: this will involve providing technical support to farmers, processors and distributors.

Resource Mobilization

A successful implementation of the Strategy will require substantial financial, human and material resources. Hence, the support from the Government, co-funding international institutions and other stakeholders will be needed.

6.2. Implementation Framework

The implementation of activities to reach objectives will be led by the National Cassava Sector Coordinating Committee, supported by the Ministry of Agriculture and the Ministry of Commerce and Industries. Other key support institutions in the implementation of this strategy include: the Ministry of Internal Affairs, the Ministry of Planning and Economic Affairs, the Ministry of Gender, the Central Agricultural Research Institute (CARI). Key stakeholders in the implementation process will be farmer based organizations and the private sector.

The committee will streamline all cassava related initiatives and take into account other related initiatives (past and present) to enable synergy and avoid duplication. A high knowledge ability technical and consultative team from support institutions, ITC, IITA, CARI and other national or international organization will be requested to backstop the National Cassava Sector Coordinating Committee in the implementation phase.

The implementation will be driven by objective 6 through market oriented regional bulk purchase centers. The centres localization will be based on a participatory decision-making process using GIS tools to analyse and integrate land capability to produce cassava, cassava growing areas, weather socio-economic variables at the scale analysis of 1:100.000. Complementary, competitiveness variables such as infrastructure, processing capacity and distance to the growing areas, farmers' organisation and targeted markets will facilitate the final decision on location of the centers. Once the centers are located, the strategy implementation plan will be validated by the articulated value chain at each center. As a result, according with the center characteristics and the targeted markets, specific demands will be redefined within the initial implementation plan.

It is very important to clarify that a regional bulk purchase center is not a venue, is not an institution or any other bureaucratic entity; it may be a farmer organisation facilities or even virtual. Center means that value chain stakeholders are articulated to meet regularly, for planning, implementing and evaluating activities around the six objectives of the strategy to reach goal of the center. Articulation by center must be supported by the government as regulator of the process, research and development institutions giving proper responses to specific demands, but not leading the implementation. Articulation of the value chain by center will produce an annual business plan composed of production areas, production goals, technical assistance demands and supply strategy, quantities to be produce, processed and delivered to specific buyer-markets.

Finally, the cassava coordinating committee will follow up each regional bulk purchase centers and will negotiate and procure funds to implement the specific demands by center. Who is going to implement and how the implementation should be done is a decision which should be made by the committee based on technical support taking care to preserve the vision, approach and conceptual framework of the strategy. Those support institutions participating by regional bulk purchase centers must be in constant requirement according with its mandate. Feed back to the leaders of the support institutions will be addressed by the committee, preserving the right as a private sector driver, to select the proper one based on quality, opportunity, efficiency, knowledge ability and return to the investment among others.

6.3 Members of the National Cassava Sector Coordinating Committee

Name	Organisation
Josephine Francis (Chairperson)	Arjay Farms, Inc.
Una Kumba Thompson (Vice Chairperson)	Wopnet
Michael Titoe	Ministry of Agriculture
Charles McClain	Ministry of Agriculture
Eric Nimely	Liberia Farms, Inc.
Solomon Gofleetoe	Union Rural
Vanii Baker	National Investment Commission
Momo M. Sandemanie	Ministry of Commerce
Franklin A. Henries	Agrogem
Dr. Sizi Subah	Ministry of Agriculture

End of executive summary

ANNEX to Executive summary

STRATEGY OBJECTIVES and Detailed Activities

To realize this vision and respond to the needs of markets identified, the strategy has outlined specific objectives with sub-objectives and concrete actions for the cassava sector. For each component, sub-objectives have been prioritized and implementation partners identified.

This section will provide a brief overview of each of the 6 objectives in the strategy by describing each of the sub-objectives and detailed activities in them.

i. OBJECTIVE I

Create Strong Institutions and Coordinate Public-Private Partnerships (PPP) mechanisms for Strategy Framework Development, Policy Formulation and Alignment

Strong institutions are a major factor of success in every initiative. In this light, existing institutions such as the National Cassava Sector Coordinating Committee (NCSCC) need to be commissioned and strengthened; and other vital institutions such a National Cassava Growers Association (NCGA) and National Association of Cassava Processors (NACP) need to be created and given adequate support. This objective also aims at ensuring PPP coordination between farmers and other private sector stakeholders, the ministries of agriculture, commerce, planning, internal affairs, gender and public works; as well as UN agencies, local and international NGOs.

To achieve this, activities are mainly sub-divided into three categories and summarized as follows: strengthening and building institutions, identifying and organizing stakeholders, and assisting in policy formulation and alignment to sector needs.

Sub Objectives of the implementation plan	Expected results from development activities
Strengthen the Coordinating Committee for Strategy Implementation, Monitoring and Coordination	A committee that is recognized, strengthened and that has the necessary support to coordinate the strategy
Identify and organize stakeholders along the value chain	All relevant stakeholders are identified and mobilized for maximum input
Formulate and Align Policymaking to sector needs	The strategy is used as a basis in ensure coherence between policy design, social and economic development and market aspirations of private sector at least between 2010- 2015.

Activities under Objective 1 listed below

Strengthen the Coordinating Committee for Strategy Implementation, Monitoring and Coordination	1.1	Review and validate the coordinating committee's ToR to conform it as an advisory entity to government's and state's policies about cassava and value chain development
	1.2	Review and confirm composition of membership of the CSCC to ensure effective participation of all stakeholders in the decision-making process of the implementation of the cassava sector strategy.
	1.3	To involve the Ministers of Agriculture, Commerce, Planning & Internal Affairs in the cassava sector strategy development process Each of these ministries should nominate a focal person to the committee. Ensure that the coordinating committee is commissioned and supported as the monitoring and implementation body of the strategy
	1.4	Establish a permanent secretariat for the Coordinating Committee.
Identify and organize stakeholders along the value chain	1.5	Create a cassava sector association aligned to the strategy and the CC, responsible to provide input to sector policy design and action plans (communicating with donors, NGOs, and government)
	1.6	Create an association or network of processors aligned to the strategy to ensure the dissemination of relevant sector
	1.7	Validate ownership of strategy and objectives at the growers, processors, traders, transport, exporters, (smallholder and commercial level) stakeholders. Plan for periodical update of strategy implementation progress to stakeholders, government, implementing agencies and donors using direct briefing and media.
Formulate and Align Policymaking to sector needs	1.8	Organize thematic working groups to formulate and propose relevant policies for various levels of the value chain
	1.9	Establish work plan for a participatory (to stakeholders, government, implementing agencies and donors), monitoring and impact evaluation system of the strategy implementation progress, using meetings, workshops, direct briefing and media

	1.10	Develop specific cassava sector development strategy as part of the National Poverty Reduction Strategy
	1.11	To develop a specific phytosanitary regulation for the production, interchange, prices and use of cassava planting material
	1.12	Develop a common framework for Cassava sector development through the strategy that will guide an direct Donors, NGOs and government
	1.13	After the analysis of current legislations, policies, regulations, and any strategies that impinge upon Cassava Sector strategy and determine areas of conflict and potential synergies, to investigate alternative formulations (if need be) to contribute positively to the success of the sector

OBJECTIVE II

Conduct a Detailed Sector Analysis to Enable Informed Decisions on Existing Empowerment Opportunities and Incentives.

The gathering and dissemination of accurate and detailed information on the sector's opportunities and incentives stand as a major factor of success of the strategy. A consistent improvement in the information flow and knowledge management will support the decision making process of value chain stakeholders. This objective was broken down into the following sub-objectives: identify buyers and organize markets, improve access to information and dissemination techniques, and developing a cassava promotion strategy.

Sub Objectives of the implementation plan	Anticipated results from development activities
Identify buyers and organize markets	Market opportunities are clearly identified and used a basis for production, processing and distribution
Improve access to information and dissemination techniques	Producers are well informed about production techniques, market fluctuations, and policy mechanisms
Develop a Cassava promotion strategy	Cassava is recognized as major driver of the agricultural sector.

Activities under Objective 2 listed below

Improved varieties and crop management packages	2.1	Define suitable agro-environments for breeding and integrated crop management programmes Specific counties to be targeted include: Cape Mount, Grand Bassa, Bong, Nimba & River Gee (these counties are considered highly suitable for multiplication and distribution of cassava cuttings for maximum production.
	2.2	Document and incorporate stakeholders' indigenous knowledge on agro-environments and decision-making models in the design and implementation of the integrated crop management and participatory plant breeding programmes

	1.3	Design and implement a participatory plant breeding and varietal selection sub-program to release varieties in less than five years with traits requested by the value chain (Grand Cape Mount County, for the western region; Bong County, for the central region; Nimba County, for the central region; Grand Bassa County, for the central region; and River Gee, for the eastern region).
	1.4	Design and implement a participatory integrated cassava crop management (ICM) sub-programme to develop agronomic packages <ul style="list-style-type: none"> - Exchange of improved stock/ cuttings and short varieties - Establishment of processing and storage sites in the districts or production region - Improve methods of production - Improve markets for products
Improve Production, Certification, On Farm Propagation and Distribution of Clean Planting Materials	1.5	To establish a three level participatory planting material production system, to provide healthy cuttings of selected varieties from the participatory varietal selection program (table cassava- bassa girl/ Commercial cassava- Carina, gbokpani)
	1.6	Create an association or network of processors aligned to the strategy to ensure the dissemination of relevant sector
	1.7	Validate ownership of strategy and objectives at the growers, processors, traders, transport, exporters, (smallholder and commercial level) stakeholders. Plan for periodical update of strategy implementation progress to stakeholders, government, implementing agencies and donors using direct briefing and media.

OBJECTIVE III

Develop and Insure Access to Inputs, Research and Development to Insure Adequate and Sustainable Production along the Value Chain.

R&D activities will support both the research and technological needs of the strategy. This will be centered on boosting varietal development, improving crop management techniques and Improving production, certification, on-farm propagation and distribution of clean planting materials.

Sub Objectives of the implementation plan	Anticipated results from development activities
Improve varieties and crop management packages	Appropriate varieties and crop management packages are adapted and disseminated among producers
Improve Production, Certification, on Farm Propagation and Distribution of Clean Planting Materials	Certification and hygiene systems are established and aligned to international standards.
Improve technologies for processing and production	Suitable technologies and machineries are selected for increased and sustainable production and processing.

Activities under Objective 3 listed below

Improve varieties and crop management packages	3.1	Define suitable agro-environments for breeding and integrated crop management programmes. Specific counties to be targeted include: Cape Mount, Grand Bassa, Bong, Nimba & River Gee (these counties are considered highly suitable for multiplication and distribution of cassava cuttings for maximum production.
	3.2	Document and incorporate stakeholders' indigenous knowledge on agro-environments and decision-making models in the design and implementation of the integrated crop management and participatory plant breeding programmes.
	3.3	Design and implement a participatory plant breeding and varietal selection sub-program to release varieties in less than five years with traits requested by the value chain (Grand

		Cape Mount County, for the western region; Bong County, for the central region; Nimba County, for the central region; Grand Bassa County, for the central region; and River Gee, for the eastern region.
	3.4	Design and implement a participatory integrated cassava crop management (ICM) sub-programme to develop agronomic packages <ul style="list-style-type: none"> - Exchange of improved stock/ cuttings and short varieties - Establishment of processing and storage sites in the districts or production region - Improve methods of production - Improve markets for products
Improve Production, Certification, on Farm Propagation and Distribution of Clean Planting Materials	3.5	To establish a three level participatory planting material production system, to provide healthy cuttings of selected varieties from the participatory varietal selection program (table cassava- bassa girl/ Commercial cassava- Carina, gbokpani)
	3.6	To develop technical inputs for phyto-sanitary regulation on cassava planting materials, production, commercialization, and trade <ul style="list-style-type: none"> - Acquire quality laboratory materials - Access trained personnel (entomologists, pathologists, virologists) - Acquire certifications for phyto-sanitary measures on the movement of products (site, planting materials, product quality, permits for regulatory purposes, seeds and cuttings, etc.)
Improve technologies for processing and production	3.6	Develop or adapt appropriate mechanical harvesting methods <ul style="list-style-type: none"> - Design and provide a common pulling/ harvesting equipment - Improve on agronomic practices such as planting distance, determination of the soil
	3.7	Determine the effects of existing processing methods on the quality of primary products for the target markets of the strategy as a baseline <ul style="list-style-type: none"> - Poor quality of product (color, contamination, odor, etc) - Limited supply - Lack of improved equipment and technology - Lack of storage facilities and materials

	3.8	Introduce, prioritize, improve or development new processing technologies based on baseline
	3.9	<p>Develop cassava based products for the food and non food industries for the target markets based on national, regional and international market requirements</p> <p>Possible products to develop include: cassava flour (deeper), gari/ farina, cassava pews (for animal feeds), cassava leaves (used for vegetable), cassava beer/ wine, starch, glue, ethanol, etc).</p>
	3.10	<p>Development quality assurance and food safety surveillance methods</p> <ul style="list-style-type: none"> - Enforcement of safer food and phyto-sanitary measures - Good agricultural practices (traceability, laboratory establishment, processing industries, transportation, etc) - Monitory, evaluation & awareness

OBJECTIVE IV

|| *Empower smallholder farmer organizations and foster an entrepreneurship mindset.*

This objective is centered on the capacity building mandate of the strategy. Capacities need to be built along the entire value chain so as to improve performance and sustainability. To achieve this, the following measures need to be taken: conduct a training needs assessments based on market requirements, organize training for farmers and other stakeholders along the value chain, provide training in GAP and GMP to extension workers, farmers and processors.

Sub Objectives of the implementation plan	Anticipated results from development activities
Undertake training needs assessment based on market requirements	Training needs are clearly identified based on market requirements
Organize training of farmers and other actors along the value chain	2500 farmers from all 15 counties are trained and empowered for maximum output.
Provide training in GAP and GMP management to farmers, processors and extension workers	Over 3000 farmers, processors and extension workers and extension workers are providing the needed training in GAP and GMP management.

Activities under Objective 4 listed below

Undertake training needs assessment based on market requirements	4.1	Identify farmer types/ categorize by technological, social, gender variables, as well as agro-environment Assessment to identify market types (local, regional and international markets) to identify the quality of product needed by marketing Identify famer organizations, cooperatives and others, considering gender mainstream
	4.2	Based on the market study and stakeholders agro-ecological knowledge, establish the knowledge gaps that needs to be bridged to meet market demands
	4.3	Conduct a detailed training needs assessment (TNA) among farmers, processors, distributors, and other stakeholders along the value chain (themes to review include: agronomic practices, processing, business practices for farmers, processors and distributors, etc)

	4.4	Undertake assessment on existing international standards, GAP and GMP (for farming, processing, distribution, etc) and how local stakeholders along the value chain can be training accordingly.
Organize training of farmers and other actors along the value chain	4.5	Prepare an elaborate training program for farmers that is aligned with local realities, market demands (local, regional and international) and internationally accepted standards and best practices Organize farmers and other stakeholders into cooperatives/ Conduct ToT along the value chain/ Produce a comprehensive training manual Gather input for training based on recommendations of the TNA
	4.6	Prepare a comprehensive training program for processors that address recommendations of the TNA.
	4.7	Prepare detailed training program for distributors and exporters that addresses the realities of the market survey
	4.8	Establish strategic partnerships with learning institutions (University of Liberia, CIAT, CLAYUCA, vocation and agricultural institutes) in promoting advanced cultural practices and information dissemination among students.
Provide training in GAP and GMP management to farmers, processors and extension workers	4.9	To establish a participatory training program using integrated crop management models (pilot projects for field application and demonstration of improved cultural practices) for farmers and extension workers by each agro-environment. Provide participatory training to farmers' association, cooperative, CBOs and IPs. Training in Good Agricultural Practices (GAP) should include: site selection, land preparation, identifying good and high yielding varieties (planting materials), improved planting methods, harvesting, post harvest management, pest control, weed control. Training Good Management Practices (GMP) should include: general management skills, financial management, good labor practices, record keeping, etc.
	4.10	Provide participatory training to farmer organizations, extension workers and trainers about supply management, market standard and trade.

	4.11	To establish technological exchange missions of stakeholders (farmers, processors, distributors, etc) from Liberia with country with exemplary cassava sectors/ Organize visits for farmers and extension workers to machinery and equipment producers that have processing experience
	4.12	Organize and implement experience sharing workshops along the value chain to improve knowledge transference among counties
	4.13	Put in place both short and long term training programmes for both the private and public sector in entrepreneurship
	4.14	Intensify extension activities (visits by extension officers to cassava growers); identification of production levels, post harvest skills applied by cassava growers, etc. Promote cassava growers education, construction of infrastructure, and provision of input to cassava growers

OBJECTIVE V

Improve access to finance along the value chain.

Promoting stakeholders' access to finance is vital in ensuring the effective implementation of the strategy. Achieving this objective will imply not only a comprehensive review of other objectives in areas of institution building, training, information gathering and R&D, in order to assess and respond to their respective needs for financing; but also the financing of production, processing and commercial activities, which are the drivers of the strategy.

Sub Objectives of the implementation plan	Anticipated results from development activities
Promote access to finance for institution building, policy formulation and alignment, as well as PPP coordination	Necessary funds are mobilized to enable the building, support and operation of a strong coordinating committee, a functional secretariat and other associations
Seek access to finance for information gathering	Resources are mobilized to enable information gathering activities (market survey, analysis, etc)
Improve access to finance for training	Market oriented training is undertaken 2500 farmers, processors, and distributors due to resources made available
Mobilize Resources for Research & Development	New varieties are selected and new techniques are adopted by producers and processors
Mobilize Access to Financial Resources for Production & Processing	Business centers are

Activities under Objective 5 listed below

Promote Access to Finance for Institution Building, Policy Formulation and Alignment, as well as PPP Coordination	5.1	Review institution building activities (as listed by working group1) and proceed with an evaluation of resources required.
	5.2	Partner with GoL in making cassava sector development a major component of Liberia's PRS and solicit government financial and material support.
	5.3	Contact donors and other stakeholders and sell them the strategy
	5.4	Provide awareness on the world cassava industry as well as the cassava sector potential to possible donors so that they can understand, better evaluate and support cassava business plans
	5.5	Solicit funding for the establishment of key institutions, such as the cassava growers association, processors' association and other key stakeholders organizations
Seek Access to Finance for Information Gathering	5.6	Review existing information gathering activities (as listed by working group 2) and proceed with an evaluation of resources required.
	5.7	Partner with specialized public and private data collection institutions (LISGIS, data centers, bureaus of statistics), both national and international in evaluating the actual cost of relevant activities
	5.8	Sell the strategy to potential donors for support (financial & material) in financing the information gathering activities
Mobilize Resources for Research & Development	5.9	Review all training activities (as listed by working group 4) and proceed with an evaluation of resources required.
	5.10	Reach out to specialized research and training institutions and market the concept of an integrated training plan for stakeholders of the cassava sector
	5.11	Reach out to potential donors and market the training plan

Mobilize Access to Financial Resources for Production & Processing	5.12	Review all production and processing activities (as listed by working group 6) and proceed with an evaluation of resources required.
	5.13	Undertake finance and risk profiles targeted to specific farming and processing communities and with reference to the identified market channels (inputs needs and investments needs will have to draw from market requirements)
	5.14	Seek information on existing finance incentives and disseminate to farmers
	5.15	Provide training and awareness on the world cassava industry as well as cassava potential to banks so that they can understand, better evaluate and support cassava business plans (This activity should be move to the training objective)
	5.16	Establish a database of multi-national companies involved in the sector and susceptible of making significant impact in terms of investment locally. (This activity must be included in the decision support system)
	5.17	Prepare a prospection plan to reach out to targeted international firms on the potential donors database
	5.18	Design mutual and risk management mechanisms so as to make farmers more bankable and access available public funds Public sector commodity fund to boost research and development
	5.19	Facilitate dialogue with banks and processing industry (involve banks in value chain stakeholders consultations)
	5.20	Inventory of potential national and international private investors involved in the sector and susceptible of making significant impact in terms of investment locally.
	5.21	Prepare a prospection plan to reach out to targeted national and international investment firms
	5.22	Promote the creation of an economic zone to encourage cassava sector related investments
	5.23	Promote the creation of an economic zone to encourage cassava sector related investments
	5.24	Provide support and follow up to beneficiaries after provision of financial incentives

OBJECTIVE 6

Improve access to technology for production, processing and commercialization in order to achieve quality, quantity, as well as consistency.

As agreed by stakeholders, Objective 6 is the core component of the strategy. The ultimate result of institution building, R&D, training activities and financial input must lead to improved production, processing and commercialization.

This objective is intended to be achieved by adopting a market-driven approach and by ensuring that cassava supply is aligned with norms, standards and specific market requirements.

It is equally envisaged to promote the establishment of commercially driven **regional bulk purchase centers** to facilitate market connection between farmers, processors and distributors. These centers will collect fresh and dried cassava using a *two tier approach* close to areas where production happens. The centers will also encourage cassava production by insuring a market, by providing cash payments to farmers upon delivery, by providing training, technical assistance and agronomic support for production and processing.

Sub Objectives of the implementation plan	Anticipated results from development activities
Ensure cassava supply is aligned with processing sector requirements	Processors are adequately supplied in quality and quantity.
Improve access to technology for processing	Processors have access to adapted technologies for processing.
Develop and in force quality and processing standards	Clearly defined production and processing standards are established and enforced.

Activities under Objective 6

Ensure cassava supply is aligned with processing sector requirements	6.1	To define agro-environments for cassava variety selection and integrated crop management programs
	6.2	To establish a participatory (Value chain) varietal selection program with market oriented approach
	6.3	To establish a participatory (Value chain) integrated crop management (IPM) program with market oriented approach
	6.4	Characterization of all local and improved varieties using value chain requirements.

Improve access to technology for processing	6.5	Develop or adapt appropriate mechanical harvesting methods
	6.6	Determine the effect of existing processing methods on the quality of primary products for the target markets of the strategy as a baseline.
	6.7	Improve, prioritize and develop new processing technologies
	6.8	Develop cassava based products for the food and non food industries (glue, bio fuel etc) for the target markets based on national and regional market requirements
	6.9	Develop quality assurance and food safety surveillance methods
	6.10	Processors to provide standards of raw material for conventional products (GARI, etc) in order to improve efficiency of processing and farmers inputs
	6.11	Develop, adapt or validate methods of preserving fresh cassava roots and leaves
Develop and enforce quality and processing standards	6.12	Review market survey to identify existing quality standards set by importers in EU, America & Asia. Inform stakeholders
	6.13	Establish a standards and certification sub-committee to coordinate and enforce all certification and standardization matters.