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Evaluation of Seed Enterprise Enhancement and Development, GCP/SIL/032/GER

Final Evaluation Report

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Composition of the Evaluation Team

Evaluation team

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Acronyms

ABU	Agricultural Business Unit
ABC	Agricultural Business Centre
AGPS	Seed and Plant Genetic Resources Service
AGS	Rural Infrastructure and Agro-Industries Division
EOD	Entry of Duty
FAO	Food and Agriculture Organization of the United Nations
FAOR	FAO Representation
FAO-Rep	FAO Representative
FBO	Farmer Based Organisation
FFS	Farmer Field School
GCP	Government Cooperative Programme
GoSL	Government of Sierra Leone
GIZ	German Agency for International Cooperation
GTZ	German Technical Cooperation Agency
IFAD	International Fund for Agricultural Development
LEGN	Development Law Service
LTU	Leading Technical Unit
MAFFS	Ministry of Agriculture, Fisheries and Food Security
NSB	National Seed Board
NSP	National Seed Policy
NTE	Not to Be Exceeded
OFTN	Operation Feed the Nation
ProDoc	Project Document
SCP	Smallholder commercialisation Programme
SLARI	Sierra Leone Agricultural Research Institute
SLeSCA	Sierra Leone Seed Certification Agency
SMP	Seed Multiplication Project
SMU	Seed Multiplication Unit
SQCU	Seed Quality Control Unit
ToR	Terms of Reference
UNDP	United Nations Development Programme
USD	United States Dollar
WFP	World Food Programme
WB	World Bank

Executive Summary

ES 1. The project 'Seed Enterprise Enhancement and Development" GCP/SIL/032/GER was formulated to respond to the urgent need to transform the Seed Multiplication Unit (SMU)[1] in a business entity, more market- and profit oriented, and to change its corporate structure through a suitable privatization arrangement such as a public-private-partnership seed enterprise.

ES 2. One of the key immediate objectives of the project was to support the development of the necessary legal framework to facilitate access of improved germplasm into the country, protect the intellectual property of private seed sector varieties, enhance access of private sector to public sector varieties and provide basis for regulatory role of the quality control unit. The project was approved with a budget ceiling of USD 2.2 million, which was eventually slightly exceeded.

ES 3. This evaluation was requested by the donor with the objective to assess the steps taken by the Ministry of Agriculture, Fisheries and Food Security (MAFFS) in commercializing and privatizing SMU, as well as in establishing an independent Seed Quality Control Unit (SQCU) for ensuring the availability of regulated certified seed. It was carried out over the period November-January 2012, by a team comprising three consultants, two international and one national, under the responsibility and management of FAO Office of Evaluation. The evaluation was carried out in consultation with the donor, the FAO Representation in Sierra Leone and the responsible technical divisions. It included an in-depth study of all documentation available, interviews and focus group discussions with beneficiaries and stakeholders and a two-week mission in Sierra Leone.

Key findings

Relevance and Design

ES 4. After the war, as a result of severe damages inflicted on the human and physical agricultural resources, lack of sufficient quantities of seed of good quality became a key government priority. The project was thus fully in line with Government strategies and priorities and relevant to its needs.

ES 5. The project was generally well designed, although some issues were unsatisfactorily addressed and project duration was unrealistic. In November 2011, the project team revised and improved the project logical framework; through it, also gender elements were included, that had not been addressed in the previous version.

Project Implementation

ES 6. The project was initially delayed due to poor involvement and ownership and little understanding by the Government of the project's modus operandi. As a consequence, GoSL

[1] The Seed Multiplication Unit is the successive unit at MAFFS following several operational projects developed to restore the seed production capacity and capability destroyed as a result of the prolonged war in Sierra Leone. However, since the beginning of the GTZ funding in 1974, SMP has become a household name for seed in Sierra Leone and since then most people refer to SMU as SMP.

did not provide sufficient operational (financial and human) resources to the SMU to ensure that project activities could be carried out as planned.

ES 7. Overall, through its lifetime, as a result of weak operational support from SMU Management and MAFFS, the project did not have a consistent and continuous strong leadership. This negatively affected efficiency and effectiveness of project implementation: this resulted in inappropriate and untimely decision making, including on: i) seed dispatch and recoveries from contract growers; ii) advanced procurements of seed crop production inputs and materials required for seed protection and bagging; and iii) unsustainable proliferation of production sites. In the last phase of the project, with the recruitment of an international consultant responsible for project management and coordination, project management became more effective.

ES 8. Nevertheless, positive contribution by the GoSL to the project was the establishment of two task forces for SMU – one established in 2009 to deal with prevailing labour unrests at the seed centres and the other established in 2012 to guide the commercialization process and provide administrative oversight for SMU.

Results and contribution to stated objectives

Output 1. Efficient seed production scheme with contract growers established.

ES 9. The seed production scheme was established with contract growers as planned; however the expected seed production was not reached. In the case of seed rice, only 80% of the target was achieved mainly as a result of bottlenecks in the production scheme, i.e. the lack of available SMU funds[2]. A proven potential of 2,725 tons shows that if funds had been available in a timely manner, the target could have been reached.

Output 2. Conditions for privatizing SMU are in place

ES 10. To guide this output a senior seed management specialist from Zambia was recruited as a long-term advisor to the Project Coordinator and SMU management for the period March-December 2012. The most important aspect of this outputs concerned the establishment and implementation of an efficient financial management and accounting system. The software was installed and activated in January 2012. Unfortunately, neither the Evaluation nor the FAO backstopping team could analyse the system and assess the status of accounts since no access was granted to the SMU accounts.

ES 11. Concerning marketing, the Project has developed a detailed market strategy including useful recommendations. Only some of these recommendations have been implemented. An operations manual was also prepared by the management consultant.

ES 12. Overall, outputs produced under this component were unsatisfactorily used and adopted by SMU.

Outputs 3. An independent Seed Quality Control Unit established and functioning under SLARI.

[2] Reference is made to SMU operational funds to be used to rebuy to buy back good quality seed produced by the seed growers. The Project was not responsible for operational funds.

ES 13. Targets set under this outputs were, in general, partially achieved. This included the set-up of an organigramme comprising a field inspection unit and three seed testing laboratories, out of which only the "Freetown Unit" was functional and provided with technical equipment and staffing. Substantial improvement was done also in seed testing: although there was inadequate systematic registration of seed dealers, all seed produced and marketed by SMU were inspected and tested.

ES 14. The establishment and operation of the National Seed Board, foreseen under this component, was fully achieved.

Gender

ES 15. The ProDoc did not have a clear focus on gender; this gap was filled through the revised logical framework, which indicated that at least 30% of contract growers had to be women. The Evaluation did not get the impression that the Project specifically took gender issues into account in project management.

Capacity Development

ES 16. All three outputs clearly included an element of capacity development. However, as a result of unstable project management capacity development received insufficient attention until the end of the project when two long-term consultants were recruited.

ES 17. In 2011, a total of 68 people (seed technicians, seed growers and seed dealers) were locally given hands-on training in areas of field inspection, production, processing and marketing, while three (3) staff members and one (1) technician benefited from training abroad.

Impact and Sustainability

ES 18. Although the Project has taken some steps in establishing a seed sector, key steps were still missing for the seed sector in Sierra Leone to become viable and for SMU to be incorporated as Sierra Seeds Ltd. a profitable and viable commercial entity. Major issues included:

- SMU was not yet a private entity operating (financially) independently from MAFFS;
- SMU did not adopt a commercially viable business model approach to its activities;
- SQCU was not yet fully operational as an independent seed quality assurance entity;
- The seed law was not yet approved by the Government to provide legal authority for its expected functions of stakeholders of the seed industry; and,
- Rules and regulations for the seed value chain were not yet in place and complied with.

ES 19. The impact of SQCU on crop productivity was limited at the time of the evaluation, by technical, logistical and administrative problems related to a) a lack of high-yielding crop varieties[3] from SLARI; b) essential yield-boosting inputs like fertilizer and pesticide not being readily available for farmers to use on their farms in spite of the deteriorated conditions

[3] With the exceptions of the NERICAs, most of the varieties in use were released up to more than 30 years ago (e.g Rok 2, Rok 3, Lac23) as the capacity of the SLARI were badly eroded by a decade of war.

of the soil and c) limited mobility of extension agents. Nonetheless, the new political will of GoSL signalled by the recognition of the National Seed Policy and the willingness to approve seed legislation should provide a good environment to facilitate private sector participation in seed production.

ES 20. Constraints that hampered complete achievement of expected outputs were, in order of importance:

i. absence of a legal instrument to empower SQCU to carry out its function;
ii. low frequency of NSB meeting resulting from lack of funds to facilitate such meetings;
iii. very late delivery of vehicle and motor bicycles required by field inspectors; and
iv. delayed installation of seed testing equipment.

ES 21. Other constraints identified during the mission included: inadequate facility for seed testing; insufficient human capacity to do seed inspection and seed testing; inadequate logistics in terms of mobility and materials needed for seed trade monitoring; and the absence of legal backing of seed certification activities.

ES 22. The mission observed that the SQCU was still operating out of SLARI; hence it will be difficult for the former to provide independent evaluation of seed produced by the latter. In addition, SLARI sells basic seed to other seed companies in Sierra Leone. This is an unhealthy approach to the development of the seed industry, which needs to be recognized by the imminent seed law.

Conclusions

ES 23. . The project was too ambitious and could not be expected to achieve its outcome which was establishing a viable formal seed system to provide timely certified seed in response to demands by institutional buyers and farmers. The Evaluation concluded that this was not fully met also due to the limited project duration, given the inherent national inadequacies in seed policy, legislation and effective capacity for seed production/delivery.

ES 24. Although the project aimed at systematically building the technical and business management capacities of SMU, as a result of unstable project management also capacity development received insufficient attention until the end of the project when two long-term consultants were recruited. In this sense, it was evident that in periods covered by dedicated managers, timely and sensible decisions were taken. Overall, technical support provided by FAO was judged timely and effective. Unfortunately, there was a vacuum in legal support although it was envisaged in project design.
During the first two years of project life, strong support was also provided to FFS activities which were discontinued afterwards.

ES 25. However, the project, despite a late start, has made a dramatic progress in the last two years of operations in initiating the establishment of a viable seed sector in Sierra Leone, in preparing SMU for commercialization as well privatization and in enhancing country's capacity in assuring seed quality. The project has also made progress under the supervision of the Special Task Force set up by MAFFS which has acted as visible agent of change driving the restructuring of the SMU.

ES 26. Concerning SQCU, the Evaluation concluded that important issues affected smooth implementation. These included principally the absence of approved and operational seed law and regulations.

ES 27. Key steps were still missing to achieve a viable and sustainable seed sector. The future of SMU strongly depends on the willingness of GoSL to take steps described above, particularly the step of detaching SMU from MAFFS. If SMU will remain in MAFFS and will not become a separate entity, the Evaluation believes that any further future project support will be ineffective.

Recommendations

ES 28. The key conclusion of the evaluation is that the project has made progress in the establishment of a viable seed sector in Sierra Leone and the Government is willing to privatize SMU. However, important steps are still required to convert the SMU into a corporate entity and SQCU into an independent and operational seed quality assurance entity. This led to the following recommendation:

Recommendation 1: To FAO

Upon the manifestation of a clear commitment by the Government of Sierra Leone towards the privatization of SMU, FAO should further support the development of the seed industry in the country and financial resources should be sought with potential partners.
Continued support should be implemented under a number of conditionalities to enable SMU to transform into an entity that is able to commercialize seed production in preparation for privatization. In addition, SQCU should be transformed to perform its expected role.

ES 29. For the recommendation to be implemented, agreement should be sought with GoSL on elements and conditions listed below in Box 1:

Box 1. Elements of continued support

a. *SMU commercialization and privatization*
This should include the following elements: i) staff restructuring in line with a business model, ii) adoption of appropriate business management practices, iii) financial accountability – regular audits of accounts, iv) ensure commercialization of seed multiplication activities, v) advance the incorporation of Sierra Seed, vi) ensure the seed law and regulation is in place, vii) untie the business entity (SMU / Sierra Seeds) from MAFFS, viii) and ensure timely availability of operational funds; ix) establishment of a solid board that reflects more than just the GoSL.

b. *SQCU transformation*
This should include the following elements:
i) SQCU becomes the Sierra Leone Seed Certification Agency (SLeSCA);
ii) development of its knowledge base for effective diagnosis of seed quality problems, their probable causes and solutions;
iii) strengthening its capacity to monitor seed crop production;
iv) facilitating its market seed control functions;
v) ensure timely availability of operational funds;
vi) putting in mechanisms to ensure seed policy implementation and law enforcement;
vii) provision of a legislative framework;

viii) seed law and regulations should be expeditiously prepared/finalized and presented for the approval of the parliament – and if possible an intellectual property right bill should be considered at a later date;
ix) as a first step, realistic seed standards should be used for seed traded within the country while competence is being developed to meet regional and international seed trade. Seed standards needs to be reviewed annually on the basis of actual results obtained by the SQCU from both field inspection and laboratory seed testing;
x) increase the technical capacity by procuring additional equipment to fill in missing gaps;
xi) installation of necessary software to facilitate preparation of a register for all seed growers (and their premises), preparation of annual calendar for inspection and seed quality control and development of software to monitor seed trade and generate statistics and report on seed sector,;
xii) concentrated training of appropriate staff on the implementation of the seed law;
xiii) institutionalization of the administrative arrangement by relocating the HQ of SQCU to make it independent of SLARI, fully staffed by well-trained personnel, the regional laboratories be immediately installed, and provision made for adequate funding of its activities; and
xiv) regular meeting of the NSB and appropriate budget to cover this. In the long term, SLARI should develop high yielding rice varieties for agro-ecosystems of Sierra Leone, ensure pure seed stock of released varieties and production of adequate quantities of Pre-Basic seed for injection into the seed production system.

1 Introduction

1.1 Evaluation background

1. 'Seed Enterprise Enhancement and Development" GCP/SIL/032/GER was a three year project (initial EOD – NTE Jan 2009 – Jan 2012; extended to December 2012) with a budget of USD 2.2 million. The project followed the Evaluation of GCP/SIL/023/GER the "Development of a Sustainable Seed Programme in Sierra Leone"4. This evaluation concluded that there was improved coordination in the seed sector, an increased capacity for seed production, and production and dissemination of seed. However, after many years of external assistance from the Government of Germany and in line with the commercialization strategy of the Ministry of Agriculture, Forestry and Food Security (MAFFS) there was an urgent need for the transformation of the Seed Multiplication Unit (SMU)5 in a business entity to make it more market and profit oriented and to change its corporate structure through a suitable privatization arrangement such as a public-private-partnership seed enterprise.

2. This evaluation, although not planned in the Project Document (ProDoc), was requested by the German donor with the objective to assess the steps taken by MAFFS in commercializing and privatizing SMU, as well as in establishing an independent SQCU for assuring the presence of regulated certified seed.
The evaluation was conducted by a team of three experts in the last quarter of 2012, with a field mission carried out during the period 23 October – 5 November 2012. The profile of each of the consultants is provided in Annex XIV.

1.2 Evaluation purpose and scope

3. The purpose of the Evaluation, as stated in its Terms of Reference[6] (ToR), is to inform the GoSL, FAO, the German donor and other stakeholders about the achievements of the Project and the efficiency and effectiveness of the methodologies used. Drawing on findings and conclusions the evaluation provides recommendations. According to the TOR it would:

- assess progress made in preparing SMU for privatization and commercial functioning in a profitable seed market;
- evaluate progress made by the project in the institutionalization of the quality seed production and marketing approaches and integration into the MAFFS development plans;
- examine the business partnership between Farmer Field Schools (FFSs), Agriculture Business Centres (ABC) and SMU in enhancing the production and marketing of seed and grain in the country;

[4] Evaluation of the FAO-Cooperation in Sierra Leone 2011-2006, Annex 2 - Evaluation of GCP/SIL/023/GER: "Development of a Sustainable Seed Programme in Sierra Leone", April 2007.

[5] The Seed Multiplication Unit is the successive unit at MAFFS following several operational projects that developed to restore seed production capacity and capability that was destroyed as a result of the prolong war in Sierra Leone. However, since the beginning of the GTZ funding in 1974, SMP has become a household name for seed in Sierra Leone and since then most people refer to SMU as SMP.

[6] See Annex I

- assess the project's contribution to seed industry regulation particularly supporting MAFFS in developing a National Seed Policy, drafting of seed law and regulations, and establishing the Seed Quality Control Unit (SQCU) as an independent entity;
- revise structure and setup of the envisioned "deregulated" entities (Seed Multiplication Unit and Seed Quality Control Unit) as proposed by the project towards suitable staffing plans and job descriptions;
- assess the viability to find a private sector partner to form a PPP; and,
- document the lessons learned by the project stakeholders and the effectiveness of the project in creating conducive environment to ensure continuation of the project approach beyond the project's life.

4. The scope of the evaluation was described in the TORs, which specified that the evaluation would critically assess the programme through internationally accepted evaluation criteria, that is, relevance, efficiency, effectiveness, impact and sustainability. In addition, mainstreaming of gender issues was also added by FAO OED as a criterion for assessment. The evaluation was to also draw attention to specific good practices and lessons of interest to other similar activities.

1.3 Methodology of the evaluation

5. The evaluation methodology followed the guidance provided in the ToRs, which were discussed and agreed with technical divisions concerned and with the FAO Country Office in Sierra Leone.

6. Shortly before starting their assignment, team members had access to most documentation made available by the project, along with the final ToR and a draft report outline. The international team members were briefed in Rome by OED and involved Technical Divisions. Different aspects of the evaluation and of FAO were discussed, to create common understanding and language for the team members.

7. The evaluation team visited the two seed centres and neighbouring contract farmers in Makeni and Kobia respectively; close to Makeni a visit was also made to the Thaboklor seed maintenance farm (see Annex III for details). After the field visit various organizations were visited in Freetown. During these visits extensive discussions and/or structured interviews were held with 56 persons (Annex II), including project staff and national institutions involved in project implementation. The evaluation adopted a consultative approach with stakeholders and triangulation as a key method for validation of information and evidence. Analytical tools included: review of existing reports; extensive meetings and group interviews with project staff at all levels, with participants to Project's activities at farmer level and with other stakeholders; visits to participating farmers and direct field observation. Reference is made to the List of Persons Met (Annex II) and Evaluation Itinerary (Annex III).

8. Constraints faced included the short time available for the field visit. In addition, the team became aware only at the end of the field mission that the project had been operated according to a revised logical framework, substituting the one included in the original project document. This revised logical framework also included gender indicators, which the team

could thus not verify. All these constraints did not significantly affect the conduct of the evaluation.

2 Context of the project

2.1 National context

2.1.1 General

9. In 2002, Sierra Leone emerged from a brutal civil conflict, which lasted for almost eleven years and had devastating social and economic consequences. There was a mass rural-urban migration within the country and an exodus of skilled professionals out of the country. Most of the country's social, economic and physical infrastructure – including the complete seed multiplication industry – was destroyed or severely damaged, including local community social and productive infrastructure, such as markets, stores, rice mills and community service buildings.

10. About 1.3 million people or 26 percent of the population is food poor and cannot afford a basic diet. Even though rice production (the main staple) has shown an annual increase since 2001, production in 2004 was only 50 percent of total requirements, although 2007 MAFFS projections show much higher access to rice. While commercial imports have been unable to fill the gap between requirements and local production, food aid has assumed an important role.

11. There is a severe and widespread seasonal hunger problem, probably the most serious dimension of hunger in rural areas of Sierra Leone, as in many rural households, food supplies run low between successive harvests. This is a result of insufficient production to meet year-round subsistence needs, distress sales at harvest time to generate cash to pay debts, lack of diversification of farming systems, losses in on-farm storage, high costs of transportation to remote food-deficit areas and the high costs of food during the "hungry season", typically between July and September[7].

12. Insufficient food (mainly of the staple crop rice) production and security results, in part, from low agricultural productivity resulting from a lack of new locally developed high yielding varieties of rice, poor crop management practices, inadequacies of agricultural production inputs like fertilizer, pesticides and absence of suitable crop rotation systems to maintain ecosystem services, thereby ensuring sustainability.

2.1.2 Policy

13. The GoSL policy objective for the agricultural sector is to improve production and productivity in order to achieve food security.

[7] Operation Feed The Nation: Contextualizing PRSP-SL Towards Food Security and Poverty Alleviation, 2005.

14. The Government of Sierra Leone developed a National Seed Policy in December 2006 under the guidance of the previous project GCP/SIL/023/GER . In spite of government agricultural policy intentions, the national seed policy document to support agricultural production was only recently given government recognition and slated for parliamentary approval aster the presidential elections. The National Seed Policy provides a framework for monitoring and updating the seed policy as necessary as the seed sector develops.. All activities related to production and supply of seeds shall be governed by the provisions of the National Seed Policy. More importantly, the policy provides friendly and facilitating atmosphere for private sector participation and investment in the seed sector. Unfortunately, this policy document has not been implemented to date mainly due to lack of formal parliamentary approval and sufficient human, financial and institutional resources. This project was meant to assist the Government implement some critical aspects of the National Seed Policy relating delineation of roles of relevant stakeholders (public and private sectors), and to create a regulatory body to ensure compliance with national seed legislation, putting in place administrative arrangements to ensure proper funding of government agencies involved in the sector and commercialization of the activities of the seed multiplication project.

15. With regards to private sector promotion, the National Seed Policy has provision to encourage private sector seed supply through provision of appropriate incentives such as tax exemptions, import and export privileges, special-rate loans and financing, guaranteed repatriation of profit (in the case of international companies), etc. Furthermore, the policy provides that, initially, Government will explore the feasibility of encouraging the current corps of seed growers and facilitate their take over, either as associations or on individual entrepreneur basis. The seed policy further advocates that Government seeks donor support to assist in such process. The National Seed Policy also states that local as well as international entrepreneurs are welcome to establish seed companies under various scenarios.

2.1.3 Legislation

16. A seed law and its accompanying regulations are important to facilitate orderly production and marketing of seed in a transparent manner. Appropriate national seed legislation and regulation are also essential to create an enabling environment for the development of the seed sector in addition to providing the legal framework for the implementation of seed policy.

17. In general, a seed law should enable the government to put in place the necessary institutional and legal frameworks and provide procedures for easy access to germplasm. It should enhance procedures for the release of variety and their registration for use by farmers; sets out standards, procedures and principles for seed production and marketing. It should also set minimum standards of quality and clear regulations and procedures that, if followed, will avoid controversies and litigation over seed quality and performance.

18. Unfortunately, at the start of the Project no seed law or any regulations existed in Sierra Leone and crop certification was internal.

2.1.4 Origins of the Project

19. The Evaluation of the "Development of a Sustainable Seed Programme in Sierra Leone" Project[8] recommended that the management of SMU should be guaranteed an independent status, SMU should be established as a business enterprise, operational capacities needed to be widened and additional commercial activities needed to be added. It does indicate that if the crisis that SMU went through (as a result of long outstanding payments by MAFFS for produced seed as well as irregular staff payments) was solved soon, a second phase to achieve commercialization and privatization of SMU was recommended. In addition, it also recommends a linkage to the Farmers Field School Programme as a vehicle for disseminating ecologically friendly practical knowledge on crop husbandry and technical-know how of seed production acquired by the seed multiplication project in the past decades. Based on these recommendations a new project was formulated.

20. In order to transform the erstwhile seed programme into a vital seed industry, one of the key immediate objective of the project was to facilitate the development of the necessary legal frame work that will facilitate unfettered access of improved germplasm into the country, protect the intellectual property of private seed sector varieties, enhance access of private sector to public sector varieties and provide basis for regulatory role of the quality control unit. The legislation should provide the basis for the legal enforcement and regulate processes for transactions in seeds, including the provision for the testing of seeds, control of seed import and authorization of measures to prevent dilution of physical and genetic potentials of seed through undesirable cross-pollination of seeds.

21. Prior to the project GoSL clarified the policy environment within which the project would operate. The approved National Seed Policy required that commercial seed production and marketing which fall mainly in the public and private sector domain be separated from formal seed quality control operations which constitute an integral part of regulatory government responsibilities. This separation will safeguard against conflict of interests thus ensuring fairness and equity in quality seed production and trading. This was not the case in Sierra Leone at the start of the project as both aspects were vested in the same institution – the Seed Multiplication Unit (SMU) of MAFFS. The project would seek to address this problem by assisting the government to establish a separate Seed Quality Control Unit (SQCU) under SLARI.

22. FAO had a comparative advantage in supporting the project since the SMU had been recently revived with support from FAO technical services under the financial support of the German government with whom it has traditional strong partnership and mutual confidence. FAO has a comparative advantage in supporting the project since the SMU had been revived with support from FAO technical services In addition, FAO's technical units/groups - the Seed and Plant Genetic resources (AGPMG), Agribusiness (AGS) and for legal services (LEGN) have a wealth of experience as well as international expertise related to the problems being addressed and strategies proposed such as enterprise development and independent seed quality control. Furthermore, FAO was supposed to maximize synergies and complementarities to establish strategic partnerships with UNDP, WFP and IFAD. Overall, the Project would build on successful practices identified both within the previous

[8] Evaluation of the FAO-Cooperation in Sierra Leone 2011-2006 - Evaluation of GCP/SIL/023/GER: "Development of a Sustainable Seed Programme in Sierra Leone", April 2007.

FAO/MAFFS-executed seed project, OFTN, SCP other projects in Sierra Leone as well as lessons learned from other successful international projects.

3 Concept and relevance

3.1 Theory of Change

23. The first Project's assumption was that the Government of Sierra Leone had limited financial capacity to support the development of community-based and district organizations, such as FFS/ABUs. Given the limited financial government resources to provide services, the project would provide some support to the upgrading and strengthening of the technical and business development capacities of the emerging FFSs/ABUs groups to lift their business management profiles for the socio-economic benefit of their members.

24. The second assumption was that the transformation process of SMU to be run as a private commercial enterprise with progressively reduced operational losses, thereby being prepared for eventual privatization requires, legal, technical and business management support with financial resource input implications beyond the current government capacities. The Project would gain specialized, legal, technical and business management assistance from FAO for specific activities to strengthen the capacity of the revitalized SMU to provide essential services, achieve results and promote sustainability. To realize a change, there was a need to ensure there would be an investment in establishing an efficient seed production scheme with contract growers. In addition, the need for quality assurance being separate from SMU to guarantee an independent view was also considered essential.

25. The underlying theory of changed is solid and logic. Without this project, implying no sustainable seed industry in place, and no seed security, it was likely that the rate of growth of the agricultural sector and that of the economic development of the country and achievement of SLPRS objectives of reducing unemployment and poverty would be hampered. In the case of Sierra Leone, where the level of unemployment and poverty is high, achieving these objectives carries positive dividends in terms of creating conditions for social stability. The envisaged sequence of interventions is considered to be relevant.

3.2 Project design and logical framework

26. Overall the project is well-designed with complementary project components and logic and solid links between the outputs and the final outcome. In November 2011, the project team revised and improved the Logical Framework and (re)formulated one Outcome: *A viable formal seed sector is timely providing certified seed of varieties in demand to institutional buyers and farmers*. Box 1 shows the major differences identified between the original and the revised Logical Frameworks. The Evaluation Team believes that the original logical framework was too ambitious and agrees with the decision taken by the project team to formulate less ambitious targets aiming at the creation of enabling environment for the SMU.

Box 2. Major differences between the original and revised logical frameworks

Elements	Original	Revised
Project Overall Goal	Poverty alleviation and reduction of household food insecurity on a sustainable basis.	
Development Objective	Realize a vibrant and sustainable seed sector	SMU has contributed to increased rice yields and percentage self-sufficiency in rice in Sierra Leone.
Outcomes	Three Outcomes, formulated as Project Components * Sustainable FFSs/ABUs in business partnership with SMU function as an effective mechanism to increase seed and grain production and sales; * A functioning market and profit oriented Seed Multiplication Unit prepared for privatization in place; and, * An independent Seed Quality Control Unit established and functioning under SLARI.	A viable formal seed sector is timely providing certified seed of varieties in demand to institutional buyers and farmers.
Outputs	1.1 Contract seed production scheme with FFSs/ABUs established. 1.2 New market outlets to expand seed and grain trading identified and appraised. 1.3 Supply contracts with institutional buyers negotiated and established 2.1 Legal, technical and business advisory services to support the revitalization of SMU and its ultimate privatization provided. 2.2 Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMU published and acted upon 2.3 Feasibility study undertaken on expanding PPP Seed Enterprise operations to include milling, packaging and marketing of high value table rice. 3.1 An independent Seed Quality Control Unit established under SLARI	Three Outputs that are a re-formulation of the original Outcomes / Components: * Efficient seed production scheme with contract growers established; * Conditions for privatizing SMP are in place; and, * An independent Seed Quality Control Unit established and functioning under SLARI

27. The Project inherited many aspects from the past (particularly from project GCP/SIL/023/GER: "Development of a Sustainable Seed Programme in Sierra Leone") that influenced the design; this included the presence of infrastructure in Kobia and Makeni (Kobia and Makeni Seed Centres), SMU staffing, institutional set-up, financial dependency from MAFFS In addition, the project inherited a corps of trained seed quality assurance personnel and a critical mass of seed contract growers spread over the agro-ecological zones of the country. However, the very experienced seed centre managers in Kobia and Makeni were not rehired in 2010 and this had a major impact on the management capacity of SMU. Although, as mentioned above, the project was generally well designed, the evaluation team considers that the project duration was unrealistic and that selected issues were unsatisfactorily addressed.

28. Insufficient consideration was given to the SMU staffing conditions, including staff salaries and incentives, structured succession plan projectfor aging staff members and possible future careers that will attract qualified young personnel, including university graduates, to stay on with SMU. Given the delays that occurred at Project start, the Evaluation Team is of the view that important conditions were not met by GoSL at project approval. These included arrangement for timely payment of staff, clear understanding of the required operational independency of SMU and sufficient funds to run SMU. If these were set as conditions for project approval, the project would have been less delayed and probably, more effective and successful in achieving its objectives. This issue is further addressed under sections 4.2 and 4.3.

29. Furthermore, Project design had a very strong bias towards working with smallholders (through Farmer Field Schools and Agribusiness Units) vis-à-vis large farmers (with at least 5 hectares) in spite of the fact that the former lacked adequate resources required for ensuring optimum crop nutrient supply and timely weed and pest control. More consideration could have been given to the complementary roles of smallholders and large farmers in the seed industry focusing attention on their comparative advantages with regard to the importance of quality seeds. Farmers with large acreages could be a vehicle for ensuring sustainability, and enhancing the efficiency of small-scale farmers through a Nucleus Farm-outgrower Model whereby smallholders were coupled to a large-scale producer or a cluster of group of farmers, a mechanism that could have facilitated access to vital production in puts.

30. At project design insufficient attention was given to gender. During the revision of the logical framework the project team did pay attention to gender, which is specifically reflected in the target indicators (see Section 5.1; Outputs 1.2, 1.3 and 1.4). None-the-less, many women benefitted from the activities as seed crop production as small-scale farmers, farm labour force.

3.3 Project relevance

31. Before the war, the former Seed Multiplication Project (SMP) was a commercially-run public entity and it was financially and technically fully separated from MAFFS. Staff were paid by the project and Seed Centres were assessed on yearly bases and bonuses awarded accordingly..SMP adequately produced for the market needs and seed demands from NGOs or other agencies that needed national seed rice. .After the war, Sierra Leone was in a precarious food security situation as a result of severe damages inflicted on the human and physical resources of its agriculture. Seed was scarce, and quality of available seed was below desirable standards. The infrastructure of three seed centers, including the seed processing machines, was looted or destroyed during the war. Basic seed was not available because it was not produced or because it was consumed due to the prevailing emergency situation. After the war, overcoming the lack of seed became a key government priority.

32. The project, seen in this context, is fully in line to Government's strategies and priorities and relevant to its needs.

4 Implementation

4.1 Budget and expenditure

33. The project was approved with a budget ceiling of USD 2.2 million. Total expenditures on 22 October 2012 were USD 1,893,935 with an additional USD 122,481 in hard commitments, totally to USD 2,016,417. This left a residual unspent budget of USD 183,584 at that point. Data in FPMIS show that the project has slightly overspent, and expenditures have exceeded the USD 2.2 million.

34. Major project activities and expenditures did not start until mid-2010 for reasons explained under section 4.3. Overall, despite the short period in which a major part of the Project funds were spent, the Evaluation considered that funds were spent efficiently, particularly for Component 2.

4.2 Government support

35. Despite the lack of financial resources, which is partly beyond the control of MAFFS, MAFFS has played a supportive role in guiding the project. This was particularly done through the establishment of two task forces for SMU – one established in 2009 to deal with prevailing labour unrests at the seed centres and the other established in 2012 to guide the commercialization process and provide administrative oversight for SMU. The tasks forces were interim measures to garner political and financial support for creation of appropriate environment for the National Seed Board to carry out its functions. Since its inception, the second SMU Task Force has met several times and facilitated Government acceptance, in principle, of the seed policy, pushed the process of streamlining the SMU to prepare it for being turned into a corporate entity and provide oversight into the failing management of SMU to overcome obvious management lapses and a lack of accountability for SMU finance transactions.

36. As mentioned in section 4.1, the project had a delay in the start-up due to initial poor involvement and ownership of the government and little understanding by GoSL of project's modus operandi even though MAFFS had been involved in the development of the project.

37. In particular, GoSL did not provide sufficient operational (financial and human) resources to the SMU to ensure that project activities could be carried out as planned. As a consequence, SMU Staff did not perceive their salaries for many months and strikes occurred up to June 2010. In addition, SMU did not have sufficient operational expenses to be effective and ensure project achievements as anticipated in the project document. As at the time of the mission, SMU received and was still receiving, frequently late, quarterly fund release from GoSL. In seed production planning operations, there were often general lapses characterized by late delivery of seed and associated inputs to contract growers for timely planting as well as late or non-collection of seed from seed multiplication farmers. These lapses were often due to lack of functional transport means by SMU to collect seed contracted to farmers as loans.

4.3 Project Management

38. Before the project could get started, FAO and GoSL had to seek initial agreement on project institutional set-up and management, which delayed actual project implementation. Thus, the first year and a half did not see many activities. During this period, the FAOR engaged actively in sensitizing and building ownership among project partners. A major issue in this aspect was the initial assumption by MAFFS and SMU that this new project would, as before, provide continuous external assistance, particularly funding, for operational costs. Basically, this time was spent by the FAOR to dialog with the Government on need to make budgetary provision to ensure adequate financing for critical non-technical project activities rather than depend on funds from external donor. This strongly delayed project operations. In retrospect, if the one-and-half years spent on negotiation had precede the official

commencement of the project, greater achievement of project objective, would have been attained.

39. Another aspect that delayed project start was related to the unpaid salaries to SMU staff. Staff strikes occurred in the initial project years at the Kobia and Makeni Seed Centers as a consequence of arrears as well as untimely salary payments to staff. Strikes ended in June 2010, and at the same time the project team was formed.

40. Further delays in implementation were caused by late procurement by the FAOR of goods (such as motorcycles) and the approval of a Letter of Agreement (for Thaboklor maintenance). It appeared that these delays had been caused by the responsible administrative officer of the FAOR who was, at a later stage – mid 2012, removed from his position.

41. The absence of a Chief Technical Adviser (CTA), provided in previous projects, created discontinuity in leadership. The MAFFS had insisted that the position of a CTA be removed from project document in order to focus on capacity building of national staff and reduce project staffing costs. Project management, *de facto*, was periodically undertaken by different FAO and SMU staff members. Initially, by the FAO Representative himself, later by the National Project Coordinator and during the last project year by an international consultant. SMU recruited a head of SMU, who also played the role of Project Coordinator – managing both SMU and the project. Overall, through its lifetime, the project did not have a consistent and continuous strong leadership resulting in lapses in areas such as appropriate decisions on timely activities for seed dispatch and recoveries from contract growers, advance procurements of seed crop production inputs and materials required for seed protection and bagging as well as proliferation of production sites in spite of need for downsizing in order to maintain a lean and efficient staff force that could be easily paid within project incomes. In addition, with the departure of the previous FAO Representative, activities related to FFS received less attention.

42. Relating to project management, the mission also observed a number of deficiencies and lapses, which could have been prevented if the SMU management team[9] had appropriate qualification / background as well as long-term commitment desired for a commercial seed enterprise. The following problems emanate from the quality and commitment of the SMU management staff. They include: a) a lack of clear and prompt decisions on deployment of trucks and motorcycles to centers lacking them for timely monitoring and collection of seed from contract growers; b) apathy to issues related to timely payment of field staff (there were allegations that some staff had worked for up to six months without salaries); c) insensitivity to procurement of minor but critical seed quality enhancing tools/materials such as ordinary tarpaulin to protect valuable Pre-Basic seed from rain (as evidenced during our visit to Takoblohr seed farm when valuable genetic materials were exposed to sudden down pour while the centre staff watched helplessly; d) inadequate attention on the parts of project

[9] a) Project Coordinator: The top manager does not have in-depth background in agriculture, particularly agronomic practices related to crop production. This seemed to have affected his perception regarding timeliness of various seed production activities and appropriate tools to achieved desired results. b) Seed Center Managers: the two managers are retirees working on contract and without a long-term commitment to the project. This is a non-sustainable mechanism for the creation of a viable seed enterprise. Kobia Seed Center Manager: A retiree from the Ministry of Agriculture but because of his Agricultural background he seems to be in control of technical matters. The Makeni Seed Centre Manager is a retiree with no background in agriculture.. The operations at the Thakoblor Seed Maintenance Centre seem to suffer from this situation.

coordinator with regards to staff deployment and mobility of staff to attend to time-bound production tasks in the field; e) low staff moral caused by in-fighting amongst senior SMU management on salaries and fringe benefits entitlements on one hand and general dissatisfactions amongst field staff due to a lack of clear communication between staff and the NPC on matters relating to salary scales; f) absence of updated technical records at the Centers on seed collection and processing period; g) a lack of road-worthy seed collection vehicle or truck at the time needed, and h) inadequacy of seed bagging equipment and materials.

43. SMU operated from a central unit in Freetown set up during the previous project (GCP/SIL/023/GER: "Development of a Sustainable Seed Programme in Sierra Leone"). FAO consultants involved on a longer-term basis in the project during 2011 and 2012 were based at the FAOR office, not at SMU. This situation did not contribute to develop mutual support between FAO and the SMU with regard to project management since the situation led to lack of coordination and misunderstanding of who was doing, what, when and where. SMU management remained unfamiliar with FAO project reporting procedures. This did not help internal communication and created lack of transparency and understanding of activities implemented.

44. To improve project reporting, FAO invited a technical staff from FAO Regional Office for Africa to provide a two day workshop on reporting. The workshop proved to be effective since after it, SMU staff showed improved reporting skills and project reporting and the yearly projects reports proved to be more understandable and readable.

45. Project management took a very timely and wise decision to acquire seeds from Ghana, a very crucial step ahead in advancing seed multiplication in Sierra Leone. Without this step the project would still been struggling with seed quality from the SLARI sourced seeds.

46. Project implementation of Output 2, with merely only activities in 2012, once an international consultant was on-board, was considered to be very effective, although the Evaluation did consider that SMU needed and still needs time to digest these outputs. Timing of these actions was clearly not considered appropriate – coming at the tail end of the project.

47. The project facilitated the set-up of two task forces, one Task force to deal with on-going labor issues at the seed centers (established in 2009) and an SMU Task Force to overlook the commercialization process and provide administrative oversight to SMU (established in 2012). Particularly, the work of second Task Force was conducive in guiding the process of commercialization.

48. The Evaluation can only conclude that project implementation was not strong, as a result of weak operational support from SMU Management and MAFFS to effectively ensure transformation of SMU towards privatization.

4.4 Technical Backstopping

49. The LTU responsibility was assigned to AGPM, whose staff member carried out one mission at project inception in collaboration with an international consultant. This was subsequently followed by three other backstopping missions (one mission in 2010 and two missions in 2011) by an international seed industry development consultant with the purpose

of providing timely essential technical and administrative backstopping on behalf of AGPM. These missions were timely undertaken and effective in ensuring that proper technical procedures were followed, pace of the project implementation was accelerated and critical expertise gaps filled. Technical support for component 2 was provided by AGS with four missions, two in 2011 and two in 2012, which clearly got component 2 of this project in a higher gear. Legal technical support through missions was supposed to have been provided by LEGN, but only one officer incidentally picked up activities during a mission not related to the project. During briefing at the FAO HQ, the team from LEGN indicated that a backstopping mission was planned for Sierra Leone but could not be carried out because of the security situation, a cholera outbreak and the then pending elections. Never-the-less, LEGN reviewed the work of a national legal consultant who has i)completed a legal report on seeds legislation; ii) revised the draft seed Act prepared by the national consultant and prepared regulations, and iii) conducted a workshop to discuss the draft with the stakeholders.

50. The mission reviewed the draft law and considered a need for further upgrade of the document in order to fully align its contents with the intent of the seed policy with regards to creating facilitative legal environment for private sector participation. In addition, there is a need ensure that nomenclatures of AOSCA and OECD seed schemes were not mixed and that corrections made to some technical definitions of seed terminologies used.

51. Overall, this LEGN support was well received and appreciated by project staff even though the vacuum of legal support is evident. The contribution FAO provided in the PY3 and PY4 in guiding component II has been very valuable and highly appreciated by stakeholders in general.

52. During the first (two years) of project life, the FAO Representative, IPM and FFS expert, provided strong support to project component 1 with regard to activities linked to FFS. Unfortunately, no continuity was given to the technical backstopping of the FFS approach in this component and the Evaluation ascertained that most FFS elements had disappeared due to the departure of the previous FAO Representative, FFS specialist, and maize was also because of a shift in strategy at the time of the Budget Revision at the end of 2011 in order to have contract seed production done on a more commercial basis. At project closure, FFS methodology was no more used to train contract farmers.

53. Through the efforts of AGS a seed management advisory consultant was identified and hired starting in February 2012 to work with the project coordinator and the international seed production consultant. This provided a boost to the capacity of the FAO team in 2012thereby enhancing the project technical efficiency.

54. Various studies, particularly for component 2, were technically supported by the FAO team of consultants. The team's contribution toOutput 1, included a Draft seed production and training manual. Contributions to Output 2 and 3 their included proposed amended National Seed Policy, a draft Sierra Leone Seed Act, SMU Financing Options Report, MAFFS Report on Study Tour to Zambia, Tanzania and Ghana, SMU Marketing Strategy Report, SMU Assets Valuation Report and the SMU Transformational Strategic Plan. A complete list is provided in Annex IX.

5 Results and contribution to stated objectives

55. The projects had three outputs, each including several verifiable indicators. A summary of the outputs achieved is provided in table 3 at the end of this section.

5.1 Output 1. Efficient seed production scheme with contract growers established

56. This output included four verifiable indicators according to the revised logical framework:

- An efficient seed production scheme with contract growers established;
- At least 1,600 MT of certified rice seed are produced by SMU contract growers, at least 30% of whom are women;
- At least 592 tons of maize/sorghum seed is produced by SMU contract growers, at least 30% of whom are women;
- At least 480 MT of groundnut seed is produced by SMU contract growers, at least 50% of whom are women.
- A maintenance breeding scheme, managed by SMU, is in place and sufficient quantities of registered seed are available to produce at least 1,500 MT of certified rice seed by 2012.

57. In general, by default, there was a visible involvement of women in seed production activities.

58. The major part of this result focused on the establishment of an efficient seed production scheme with contract growers (Verifiable Indicator 1.1), through which three other Verifiable Indicators (1.2, 1.3 and 1.4) were expected to be achieved. The strategy of using contract growers is advantageous as it creates rural employment, uses available rural skills, reduces overhead cost of direct seed production by SMU staff members. It also enhances preservation of genetic diversity of crops. In addition, diversification into maize and groundnuts production served to increase economic sustainability of the seed production endeavour increased portfolio crop, locally demanded. Also rice milling was added to the activities of the seed centres to leverage commercial activities and sustain economic sustainability and stability.

59. An international seed production consultant was recruited for the period August 2011-January 2012 and February 2012 to December 2012 to supervise these activities. The Pre-Basic seed is the starting material for the production of other subsequent generations of seed - foundation, registered, certified and commercial seed classes. The official source of Pre-Basic seed is SLARI. Unfortunately, the program encountered seed quality problems with the Pre-Basic seed from SLARI. Consequently, the maintenance seed production site at Thaboklor was identified as the most appropriate site to purify the genetically degenerated Pre-Basic seeds received from SLARI in Rokupr as pure breeder is required to initiate incremental seed multiplication in a seed programme. SMU sourced breeder/Basic seed from Ghana. This was a laudable impromptu solution to solve an unanticipated problem. Even though, it was later discovered that the imported seed did not meet the expected standards, this action helped to avoid losing a whole cropping season.

60. With the approval of GoSL and FAO, project funds were released to import four tons of three rice varieties (Jasmine, Digan and Nerica 3). This was the start of the

establishment of a maintenance breeding scheme (Verifiable Indicator 1.5). This intervention was very timely, successful and an appropriate corrective actions to solve an unforeseen problem.

61. Since not all imported seed could be absorbed by the Thaboklor maintenance farm, the project searched for alternative sites for which the irrigation site at Makali and the perennial swamps at Blama and Kobia were chosen. In addition to the imported 4 tons from Ghana, about one ton of other varieties produced from the maintenance seed farms through intensive panicle selection were put under about 100 ha of seed multiplication through the existing SMU maintenance and Basic seed programs at Thkoblor, Kobia and Blama and by selected contract growers at Makali, Kobia and Blama to produce registered seed. The concerned rice varieties were Jasmine, Digan, Nerica-3 from Ghana, and IBP-147, Rok-5, Nerica-3, Nerica-1, Nerica-4, Nerica-L19, Rok-14 and Rok-24 from SLARI. Even though the imported seed was also detected by the SQCU to also have some genetic purity problems, thorough purification was done at Thakoblor to ensure that purer output was obtained for subsequent multiplication.

62. In order to realize Verifiable Indicator 1.2 (rice seed production by contract farmers), first a system needed to be developed to realize production by contract farmers (Verifiable Indicator 1.1). While production in 2011 did not meet the target, production in 2012 was targeted considering a potential target market of 2,500 tons – consisting of 1,500 tons by GoSL, 600 ton open market share and 400 tons seed supply to NGOs. With an estimated average yield of about 2 tons/ha on contract farmers' field, a total land area of 1,250 ha was required. The Evaluation was unable to get a clear view of the process of farmers' selection and training prior to be engaged in seed production. However, the Evaluation understood that training was provided, particularly in 2012.

63. The targeted rice seed production of 1,600 tons (Verifiable Indicator 1.2) was by far not reached. Mainly as a result of the lack of funds[10] to buy back seeds from the farmers The Thaboklor farm and the maintenance site at Kobia produced a total of 22.7 tons (Table 1, Annex VII), while the loan recoveries[11] sustained a loss of 19.37 tons (Table 3, Annex VII). However, the potential of 2,725 tons mentioned in Table 1 (Annex VII) does prove that if funds would have been available on a timely manner, the target could have been reached. Low delivery in seed production target of the project was a result of sequences of problems/lapses comprising the selection of resource-limited contract growers (in some cases farmers without appropriate resources for timely quality control such as weeding at the appropriate times); lack of transportation that leads to late/irregular visits of seed Centre technicians and field inspectors to provide timely advise to contract seed growers on quality crop management with consequence loss of yield; lack/non-availability of critical yield enhancing input like fertilizer and essential pesticide to ensure premium yield; and most importantly the loss of valuable seed due to inspection rejection, lack of timely transport to collect seed from farmers with their consequent disposal as grains as well as increasing

[10] Reference is not made to Project funds here, but to SMU operational funds. The Project was not responsible for operational funds.

[11] Loan recovery refers to a system adopted by SMU to provide contract seed producers with credit in form of seed and in some cases, some inputs like fertilizer and pesticide. This loan to farmers is recovered at harvest at the rate of 2.5 units for every unit of seed provided. The extra seed is to offset the expenses incurred by project on field inspection and mechanical cleaning of farmers seed by SMU.

disillusion of contract farmers about the ability of SMP to pay for their seed at the appropriate time.

64. A very low quantity of maize seed (Verifiable Indicator 1.3) was produced in 2011/2012 on a pilot basis from Basic seed acquired from Ghana. The marketing study recommended developing the maize seed value chain for a growing market for human consumption and poultry feed in Sierra Leone. Arrangements to procure 500kg Pre-Basic seed of a high protein maize variety (Obatampa) from Zambia were made. This seed produced a total of 20 tons of Maize seed in the 2012 season (Table 2, Annex VII), which is very low compared to the target of 592 tons. Apart from administrative arrangements to supervise farmers, a major cause of low yield is probably the use of non-adapted crop varieties that could cope with the soil nutritional problem (e.g. pH which is a major limiting factor to crop production and diversification in Sierra Leone) and last minute reduction in the acreage to be planted because of last-minute dispute over the land that was earlier earmarked for seed production The owner of the production plot had agreed to give the land but after land preparation, the promise was retracted.

65. The plan to produce Sorghum (Output 1.3), a recommendation of the Marketing Study, (section 5.1.2) was dropped because the market, which was mainly for the substitution of other cereals for the Sierra Leone Breweries, was found to be saturated.

66. A total of 18 tons of groundnut was produced by SMU but the crop failed to meet the certified seed standard.

5.2 Output 2. Conditions for privatizing SMU are in place

67. This output included six verifiable indicators according to the revised logical framework:

- 2.1. A financial management, stock register and economic analysis and reporting system is established for SMU as a management tool and personnel trained to effectively use it;
- 2.2. A comprehensive marketing strategy for SMU is developed including market observation, prizing, branding and communication;
- 2.3. The Organigramme of SMU as a private business entity is established and management and technical staff in place and trained;
- 2.4. Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMU are conducted, conditions and legal modalities for the privatisation of SMU defined, and business models and plans prepared;
- 2.5. Additional sources of income (e.g. milling and marketing of table rice) are explored and implemented;
- 2.6. Roles of different stakeholders in the seed value chain are established and respected.

68. To guide this output a senior seed management specialist from Zambia was recruited as a long-term advisor to the Project Coordinator and SMU management for the period March-December 2012.

69. A first major step taken by the Project for this result was the development of a robust computerized accounting system (Verifiable Indicator 2.1). BankTech, a national contractor, was selected in a competitive process and the software development started mid-December 2011. In January 2012 the software was installed and activated. The SMU accountant has started entering data since March 2012 and has identified certain gaps in the data and the system. Neither the Evaluation nor the FAO backstopping team for FAO-HQ has been able to assess these gaps in the actual accounts since access to the SMU accounts was not provided.[12] The assignment by BankTech is still pending finalization and as such a SMU accounting system is not yet in place.

70. The process of the valuation of the assets of SMU was already started in the early days of the project (2009-2010). It turned out to be difficult to find experienced valuators in Sierra Leone. The company Unsonako International Services Ltd. was selected to carry out the valuation in 2012. Total assets were valued at about USD 2.4 million. The valuation of SMU was a necessary step in developing accounts for SMU (Verifiable Indicator 2.1).

71. In May 2012, an intensive 5-days workshop was held in Bo with the objective to develop a strategic transitional plan for SMU. The workshop was attended by a small group of senior MAFFS and SMU staff, and FAO consultants. The topics worked on were*: Seed market and producers analysis (SWOT), developing competitive edge for SMU, public sector seed services, commercialization of the SMU (name – "Sierra Seed Company Ltd.", vision, mission, values and behaviours, company structure, board of directors, company management), key company stakeholders, key resources, revenue streams, company value proposition, distribution channels, strategic intents for commercialization of SMU, transitional strategic intents, Seed Quality Control Unit (name, vision, mission, values and behaviours, going forward), positioning, structure, key resources, strategic intents.* This workshop can be considered as a milestone on the road to the commercialisation of SMU.

72. The workshop results were presented to the Minister, FAOR and senior staff of MAFFS. After a constructive discussion, the proposed process was endorsed; the Minister pledged full support in promoting the commercialisation of SMU and the seed industry in Sierra Leone. Immediate steps agreed on were: i) constitute a Task Force to guide the process, ii) develop the Seed Law and regulations with FAO support, iii) finalise on-going studies/consultancies and incorporate results in the plan, iv) develop a business plan for the future seed enterprise.

73. For the development of a comprehensive marketing strategy (Verifiable Indicator 2.2), an international marketing specialist was recruited. The work took place from mid-February to beginning of May 2012 in Sierra Leone. Embedded in the work was a seed demand survey by a national consultant with the objective to verify and update data of a similar survey conducted by the same consultant in 2006. The survey was done in four Districts (Kambia, Moyamba, Tonkolili, Pujehun). The results were incorporated in the marketing strategy report. Major recommendations for the seed marketing strategy were:

i. Strengthen the marketing capacity of SMU;

[12] In preparation for the Evaluation the FAOR did approach MAFFS requesting permission for the evaluation team to look at the annual accounts of the SMU particularly in relation with the new financial accounting programme paid for by this project and installed on SMU computers by BankTech. MAFFS confirmed that this information was passed to the SMP Manager but the latter would not let the evaluation team review the accounts.

ii. Strengthen the cooperation between SLARI and SMU;
iii. Continue to cater for the institutional buyers;
iv. Produce certified seed in sufficient quantities of varieties in demand by the farming communities (mainly ROK 3 and 5, Pakiamp, Nerica L19 and L20; Jasmin and Digan as newly introduced and promising varieties);
v. Develop the farmer to farmer seed market, which constitutes more than 80% of the seed used by farmers;
vi. Improve the packaging material, labelling, and size of bags to attract smallholder as well as larger farmers;
vii. Strengthen the branding and promotion of certified seed including demonstration plots, exhibitions, farmer field days, community and national media, etc.;
viii. Embed extension services in the marketing activities;
ix. Develop pricing strategies for seed growers and consumers;
x. Consider own seed production versus contract growers in terms of efficacy and efficiency.
xi. Develop the distribution network (ABCs, small and medium size agro dealers, own outlets, wholesale); train, support and supervise them;
xii. Emphasis on marketing certified seed only;
xiii. Monitor closely the seed market in Sierra Leone and in the region;
xiv. Study on financial instruments and financial sources at national and international level available for the future operations of SMU.
xv. Cater for the potentially lucrative and expanding maize and vegetable seed market;
xvi. Develop alternative and complementary revenue streams, especially the table rice market, which would go hand-in-hand with the creation of demand for rice seed; and,
xvii. For the Government:
    - Develop the regulatory framework such as the seed law and regulations; and,
    - Establish an independent and efficient institutional system for the regulation of the seed industry in Sierra Leone.

74. A consultant was engaged and produced a report in July 2012.As mentioned above some of these recommendations were implemented by the Project. However, most of these recommendations could not be implemented as part of this project and are pending for implementation by SMU in the near future.

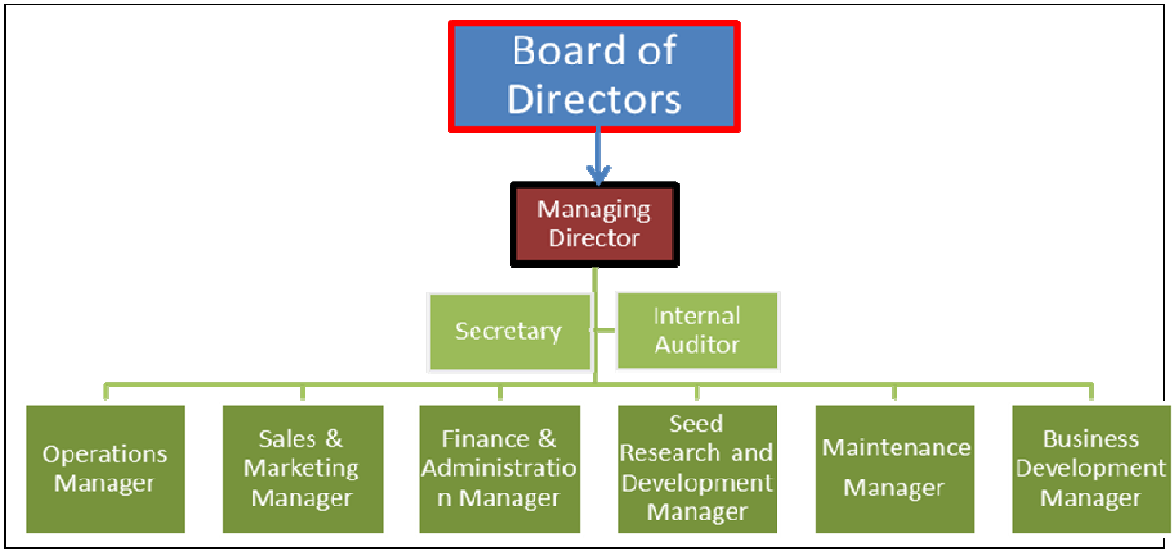
75. The Project organized a study tour to Zambia, Tanzania and Ghana. Six senior officials from MAFFS, SMU and the SQCU took part accompanied by the Management Consultant and in Ghana also by the Seed Production Consultant. The objective of the study tour was to expose the SMU and SQCU managers to seed industry organisation, management and regulation options in a commercial perspective. Zambia was used to provide a more detailed experience of both the commercial and regulatory institutions with managers spending more time studying service delivery of the specialised field of their expertise in Sierra Leone. Tanzania was used to mainstream rice seed delivery and alternative organisational arrangement for the seed sector. Ghana was tailored to provide alternative seed system with a West African content. Various seed companies of different sizes focusing on different crops and markets, research institutes, seed control institutions, seed growers and Government Departments were visited. Presentations, discussions, field visits and one-to-one sessions with specialists exposed the group to a wide range of options and experiences useful for adaptation and adoption in Sierra Leone. The Study Tour positively affected many project activities and participants considered it an enriching capacity building activity.

76. To further develop and assess the SMU business model and business plan as well as legal, financial and operational issues to be considered in an incorporation process, a feasibility study (Verifiable Indicator 2.4) was planned at the end of 2012. The Evaluation team met with the selected consultants, who had just started their assignment. This Feasibility Study was finalized before Project Closure.

77. With due consideration that SMU is presently a programme within MAFFS, the Project recommended that the commercialization should be of a Parastatal limited liability company owned by the state for a maximum period of three years, within which time the company should be nurtured to profitability. As soon as this state is achieved, privatization of the company should commence with shares being offered first to the key stakeholders like the seed growers, Agriculture Business Centres organization, Agro-dealers and private entrepreneurs that may be willing to purchase shares in the company. It was further recommended that the MAFFS attracts International partners to invest with in the Sierra Seed Company Ltd. This would help to attract technology and skills transfer to the company. In this regard, the MAFFS should first court the German Government, in consideration of the strong interest shown by this donor in developing a seed industry in Sierra Leone, before approaching other partners.

78. The company structure for management and Board of Directors (Verifiable Indicator 2.3) was presented as Figure 1. Futures departmental structures were also developed (Annex X) while the Terms of References for the proposed positions were also. Despite the given recommendations by the Project, the business entity has not yet been established nor have any staff restructuring taken place.

Figure 1. Sierra Seed Company structure



79. The Project assessed that the future company would derive most of its income from seed production. However, a value added dimension (rice milling and packaging) has already been added to the activities of the seed centres and this should be considered as complementary business option to drive seed demand of rice varieties preferred for table purposes. Rice should command an influential position in the company's revenue portfolio.

The total effective seed market for rice is estimated at 3,500Mt, out of which Sierra Seed Company is estimated to have 60% market share which translates to 2,100Mt. However, in the production plan an amount of 1,500Mt has been budgeted for certified seed. The balance of 600Mt which has been projected in the revenue statement will be mobilised as at-risk stock from farmers growing pure variety stands. This crop will cover any shortfall in production and at the same time hedge the company from the risk of over commitment due to over production. This crop would be inspected and even be registered while still in the field but only be bought when the market opportunity unfolds. The cost price has been determined from the market commodity prices plus a 10% price incentive for seed while the selling price has been derived from the prices quoted in the SMU marketing strategy report. Box 2 below presents a case study of the possible company revenue stream from the core business (seed) from which the profitability of the company will largely depend.

Box 3. Revenue estimates of Sierra Seed using rice, maize, vegetables and groundnut seed.

Product	Estimated Market (Mt)	Sierra Seed Share (%)	Sierra Seed Share (Mt)	Stock Cost (US $)	Seed sales Income (US $)	Profit/Loss (US $)	Crop Gross Profit %
Rice	3,500	60	2,100	1,622,727	1,718,182	95,455	6
Maize	10	90	9	9,200	14,300	5,100	55
Vegetables	2	50	1	402,000	755,000	353,000	88
Groundnut	220	80	176	296,000	326,000	30,000	10
		Total	2,289	2,329,927	2,813,482	483,555	21

80. The table shows that the company will only make about 6% gross profit trading seed rice and 10% trading groundnut seed on average. These profit margins are too low to sustain a seed business. However, it is expected that when the seed industry gets formalised, realistic prices for quality seed will emerge and price margins will correspondingly increase.

81. To conclude concerning Output 2, the Project has developed an accounting system as a management tool, although its effectiveness has not been proven. Concerning marketing, the Project has provided clear insights for the direction SMU should take through the development of a detailed market strategy. Only part of the recommendations of the strategy has been implemented. The diversification of economic activities envisaged in the strategy has not been tested and launched. An operations manual was also prepared by the management consultant.

82. Overall, outputs produced under this component were unsatisfactorily used and adopted by SMU.

5.3 Outputs 3. An independent Seed Quality Control Unit established and functioning under SLARI

83. A successful seed quality assurance requires knowledgeable seed control officials to guide/and scrutinize seed production procedures so as to ensure that genetic, physical, germination and health qualities of seed traded for crop production are maintained. On the

other hand, seed producers need to be guided and/or trained in seed crop production methods and procedures that will reduce field and off-field contaminations that will impact negatively on seed quality. The ultimate goal of the SQCU is to a) establish good external control procedures, and b) promote internal control procedures and encourage licensed quality control.

84. This output included six Verifiable Indicators according to the revised logical framework:

85. Verifiable Indicator 3.1. The organigramme of SQCU is established and personnel in sufficient numbers and qualification recruited, trained and mobile

86. The national seed policy laid the framework for seed quality assurance role and function in the national seed industry. In view of the prevailing resources and facility, the Seed Quality Control Unit was set up with three laboratories – a central laboratory located in Freetown and two regional laboratories located in Rokupr and Njala University campus – to provide national coverage for seed production activities.

87. A working organigramme was set up comprising field inspection and seed testing units whose tasks are to check all seed traded in Sierra Leone for their key attributes – genetic purity, physical purity, germination quality and sanitary conditions. To fulfil the tasks of the SQCU, efforts were made to train critical mass of staff in arrears of field inspection and laboratory seed testing. The philosophy of seed quality assurance is to i) to ensure availability of quality seed through education of farmers on good seed production practices and procedures that will reduce field and off-field contaminations that impact negatively on seed quality; and ii) ensure scientifically correct rigid control of seed produced or displayed for trade through training of seed technical staff responsible for quality control.

88. In 2011, a total of 68 people (seed technicians, seed growers and seed dealers) were locally given hands-on training in areas of field inspection, production, processing and marketing, while three (3) staff members and one (1) technician benefited from off-shore training (Table 3.2a, Annex VIII). Training was also organized exclusively for staff members of the SQCU laboratories (Table 3.2b and 3.2.c of Annex VIII). The course content of the various training adequately covered essential technical issues to enhance the tasks of the target groups and appropriate resource persons were engaged to conduct the training.

89. In line with the national seed policy, national seed quality control programme is being retained as an independent public service that will be carried out with national budgetary support with a degree of cost recovery through levies and fees tied to services rendered to the client agencies and persons.

90. Verifiable Indicator 3.2. Equipment for 3 regional seed quality control laboratories in Freetown, Rokupr and Njala is installed and functional

91. Essential basic equipments were procured for the laboratories (Table 3.2 of Annex VIII) but installation of these equipments done in only one lab - the Central Laboratory in Freetown. Non-installation of equipments at Rokupr and Njala was due, in part, to late procurement and incomplete arrangement for complete preparation and transfer of the rooms allocated to house them. Even, the laboratory in Freetown was to be moved out of the facility of SLARI once a suitable location has been identified and released by the MAFFS.

92. Verifiable Indicator 3.3. All seed suppliers in Sierra Leone are listed and at least 70% of them are inspected by SQCU.

93. The purpose of this Verifiable Indicator is to ensure traceability of seed traded in the market. There is a need to identify the source of seed as well as records, obtained through field inspection concerning field conditions during their production. This is to be achieved through records of registration and inspection of premises of all seed traders (importer, seller, and distributor) in the country; registration of all seed growers of SMP and other seed producers; preparation and review of annual calendar for inspection and quality control activities. Available records from SQCU showed that certified seed rice crop was 124 and 335 ha respectively for 2011 and 2012 while certified seed crop for maize was 25 ha. In these two years, a total of 120 (in 2011) and 196 (in 2012) contract seed growers participated in the scheme (Table 3.3 of Annex VIII). In the last quarter of 2012, field inspections were carried on about 400 acres of rice in three different districts of Sierra Leone namely a) Makali in the Tonkolili district, b) Thakoblor And the villages around Thakoblor in the Bombali district and c) Blama in the Kenema district.

94. Verifiable Indicator 3.4. At least 80% of all breeder, foundation, registered and certified seed produced and marketed by SMP and other listed seed companies is inspected and tested by SQCU.

95. The extent of seed of different categories (foundation, registered and certified) produced and seed subjected to external quality control is a reflection of efficiency of the quality assurance system. A total of 233 Metric tons of seed of rice, groundnut, maize and vegetable seeds divided into 187 lots were sampled and tested from 2011 to 2012 (57 lots for 2011 and a 30 lots for 2012). Of these lots, only 60 % of SMP seed tested met the minimum required standard reportedly adopted from Ghana's seed industry (Table 3.4, Annex VIII).

96. The bedrock of a viable seed industry is a productive varietal development program and an efficient seed multiplication system to produce adequate quantities of newly developed high-yielding varieties. Unfortunately, the SLARI's capacity is yet to recover from the damaging effect of the war. It is not only weak in varietal development, its capacity to maintain the purity of existing varieties has been called into question through recent information from SQCU on the field impurities in the "Pre-Basic seed" to be further multiplied to produce other higher classes of seed. This results in SMP venturing into varietal purification and production of Pre-Basic seed (Table 5, Annex VIII).

97. Verifiable Indicator 3.5. A new seed law and regulations have been drafted

98. The purpose of a seed law is to provide legal basis for seed trade and facilitate the roles of all stakeholders, including producers and sellers (internal and external, including both public and private sector) as well as quality control agency. In addition, seed legislation facilitates the participation in international seed trade in addition to encouraging exchanges of valuable germplasm.

99. Unfortunately, no finalized official draft of the seed law has been produced. The involvement of the legal department of FAO in activities that could lead to this Verifiable Indicator is not apparent. The mission understood that no mission from the LEGN had been undertaken and the draft seed law had been prepared by the national seed consultant under the technical guidance of the project's technical experts. Since there is no fine-tuned and

approved seed legislation, the present seed quality has no official seed regulation. Furthermore, the capacity and capability for seed law enforcement has not been developed.

100. Verifiable Indicator 3.6. The National Seed Board is established and meeting periodically supported

101. In line with the National Seed Policy (NSP) developed in 2006 with the assistance of the FAO, the Government of Sierra Leone, the National Seed Board will coordinate the roles of all stakeholders (public and private) that will lead and develop pilot operations, maintain public-service infrastructural and service agencies which are required to maintain an efficient seed supply. In addition, it will endeavor to enhance farmer demand for improved seeds, and create an operating and economic environment favorable for investment in seed supply.

102. National seed board has been constituted and comprises memberships from MAFFS (SQCU, Agricultural extension service), SLARI, Ministry of Finance, representative of seed producers, key agricultural projects and private seed dealers. The NSB has met about three times in 2012. The frequency of meeting is less than desired because of lack of funds to facilitate such meetings. None-the-less, the NSB is presently coordinating the activities of the seed sector by creating the desired dialog amongst stakeholders.

Table 3 - Achievements of expected outputs -summary table

Outputs	Verifiable indicators	Delivery[13]	Level of output achievement
Output 1. Efficient seed production scheme with contract growers established.	1. An efficient seed production scheme with contract growers established;	SMU used vast network of more than 300 contract seed growers and other network funded by donors entities (SEEDTECH, BRAC, YEAVA, ARID etc.) to produce seed[14]	Target was achieved
	2. At least 1,600 MT of certified rice seed are produced by SMP contract growers, at least 30% of whom are women;	Altogether, 1,288 Mt[15]. of seed rice was produced by SMU from 2011 to 2012 (part of the production was lost because of lack of funds to buy back)	The targeted rice seed production of 1,600 tons was not reached
	3. At least 592 tons of maize/sorghum seed is produced by SMP contract growers, at least 30% of whom are women;	41.8 MT of maize seed produced from Blama and Moyamba	The target was not achieved.
	4. At least 480 MT of groundnut seed is produced by SMP contract growers, at least 50% of whom are women;	7 Mt. certified seed of groundnut was produced	The target was not achieved.
	5. A maintenance breeding scheme, managed by SMP, is in place and sufficient quantities of Certified I seed are available to produce at least 1,500 MT of certified rice seed by 2012.	Only a total of 3.8 Mt. was produced by SMU.	The target was not achieved.
Output 2. Conditions for privatizing SMU are in place.	1. A financial management, stock register and economic analysis and reporting system is established for SMP as a management tool and personnel trained to effectively use it;	A national contractor developed, installed d activated software in January 2012. The SMU accountant has started entering data since March 2012 but identified gaps in the data and the system.	Target was not achieved
	2. A comprehensive marketing strategy for SMP is developed including market observation, prizing, branding and communication;		Target was not achieved
	3. The Organigramme of SMP as a private business entity is established and management and technical staff in place and trained;		Target was not achieved

[13] Bulk of the information was extracted from SMU record requested by the mission.

[14] The project inherited a critical mass of seed contract growers that spawn various agro-ecological rice zones of Sierra Leone and donor funding to enhance food security of Sierra Leone also served as impetus to easily established additional contract growers. YEAVA, BRAC and ARID are emerging seed companies funded by Alliance for a Green Revolution in Africa (AGRA).

[15] In 2011 a total of 363 Mt. of rice (7.3 Mt. foundation seed, 6.5 MT of Certified Iseed and 350 MT of certified seed) were produced by SMU while in 2012 a total of 213 certified metric Tons of rice were produced by SMU. Additional 7 Mt of Foundation seed and 1450 Mt of certified seed were expected from the main season crop.

Outputs	Verifiable indicators	Delivery[13]	Level of output achievement
	4. Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMP are conducted, conditions and legal modalities for the privatization of SMP defined, and business models and plans prepared;		
	5. Additional sources of income (e.g. milling and marketing of table rice) are explored and implemented;		Target achieved
	6. Roles of different stakeholders in the seed value chain are established and respected.		Partially achieved
Outputs 3. An independent Seed Quality Control Unit established and functioning under SLARI.	The organigramme of SQCU is established and personnel in sufficient numbers and qualification recruited, trained and mobile.	a) Organigramme set up comprising a) field inspection unit and b) Seed testing laboratories. b) Three laboratories were setup respectively in Freetown, Njala University campus and Rokupr Rice Research Station. However, only Freetown Unit is functional. c) Critical mass of staff has been recruited for only Freetown Unit . d) Mobility of staff was only ensured six months to the end of the project e) A total of 18 seed technicians trained - 16 in 2011 under projects 4-day training programme on hands-on seed handling and 2 senior staff members in 2012 through a three-week off-shore fellowship study tour to see advanced Seed Quality Control Programs in Zambia, Tanzania and Ghana Annex 3.2a).	Target partially achieved
	Equipment for 3 regional seed quality control laboratories in Freetown, Rokupr and Njala is installed and functional;	Basic equipments have been procured for the three units but only Freetown Unit is installed and functional	Target partially achieved
	All seed suppliers in Sierra Leone are listed and at least 70% of them are inspected by SQCU;	a) All seed suppliers in Sierra Leone have not been listed on record. b) An average[16] of 78% of field were certified in the last two years of the project(Annex 3.3).	Target partially achieved
	At least 80% of all Pre-Basic, Basic, Certified Iand certified seed produced and marketed by SMP and other listed seed companies is inspected and tested by SQCU;	All seed produced and marketed by SMU were inspected and tested. There was inadequate systematic registration of other seed dealers to	Target partially achieved

[16] In 2011, a total of 120 Ha were inspected out of 124 cultivated giving 97% coverage while in a total of 59 Ha were inspected out of 335 cultivated representing 59% coverage.

Outputs	Verifiable indicators	Delivery[13]	Level of output achievement
		show the percentage of their seed that was inspected and tested (Annex 3.4).	
	A new seed law and regulations have been drafted;	A two-in-one seed law and regulation has been drafted. However, the draft require refinement and needs to be passed by the parliament	Target partially achieved
	The National Seed Board is established and meeting periodically supported.	The National Seed Board has been established and met three times to facilitate projects work. However, the meeting was funded by the project and the government	Target achieved

6 Gender issues

103. The ProDoc does not have a clear focus on gender. However, the revised logical framework does make reference to gender. Reference is made to a minimum number of women contract growers having to be 30%. The Evaluation has not been able to assess if this number has been reached in quantitative terms, partly because the Project has not systematically collected such information. However, anecdotal evidence during meetings gave the impression that a lot of women groups were involved in contract seed production. The Project has not made a specific reference to this achievement.

104. The Evaluation did not get the impression that the Project specifically took gender issues into account in Project management. Gender was not specifically mentioned as a priority. The team did interview groups in which in which women were well represented and it was understood many of such groups existed.

7 Capacity development

105. All three outputs clearly included an element of capacity development. However, as a result of unstable project management capacity development received insufficient attention until the end of the project when two long-term consultants were recruited. The absence of a qualified leader that could guide the Project, SMU and the SQCU in the processes it had to go through affected the quality of the capacity development work.

106. In 2011, a total of 68 people (seed technicians, seed growers and seed dealers) were locally given hands-on training in areas of field inspection, production, processing and marketing, while three (3) staff members and one (1) technician benefited from off-shore training.

107. It was noted that an effort was made to train staff at the seed centres as well as seed contract growers (Output 1), although in the second phase of the Project FFS was no longer used for capacity development of contract growers. The Evaluation did not get a clear picture of how the contract growers were actually trained. Staff at the seed centres could have been trained more in management and commercialization (Outputs 2).

108. Management support was extended to the Thakoblor seed maintenance. Training sessions were addressed to the management team during the study travel.

109. No long-term FAO staff provided support to Output 3, which also affected the capacity development of staff. Training was organized exclusively for staff members of the SQCU laboratories. The course content of the various training adequately covered essential technical issues to enhance the tasks of the target groups and appropriate resource persons were engaged to conduct the training. A successful seed quality assurance requires knowledgeable seed control officials to guide/and scrutinize seed production procedures so as to maintain genetic, physical and germination quality of seed traded for crop production. On the other hand, seeds producers also need to be guided and trained in seed crop production methods and procedures that will reduce field and off-field contaminations. The ultimate goal of the SQCU is to a) establish good external control procedures, b) promote internal control procedures and encourage licensed quality control. Knowledge acquired has been used by

farmers to improve their field quality control operations, it has enhanced the understanding of the seed processing centre staff and without doubt the SQCU staff has become more efficient in diagnosing seed quality problems through field inspections and laboratory seed testing.

110. In 2012 a workshop was organized to develop a strategic transitional plan for SMU, which also had a clear impact on capacity development, specifically of top level MAFFS staff, even up to the level of the Minister.

111. Overall, the Project did aim at systematically building the technical and business management capacities of SMU to improve upon its performance and expand its seed production base to include other crops, although as described above, more could have been achieved if SMU management would have been more receptive and if the recruitment of the two long-term consultants had taken place much earlier in the life of the project.

8 Sustainability and Impact

112. Although the Project has set steps in establishing a seed sector, key steps are still missing to achieve a viable and sustainable seed sector. Major issues include:

- SMU is not yet a private entity operating (financially) independently from MAFFS;
- SMU has not adopted a commercially viable business model approach to its activities;
- SQCU is not yet fully operational as an independent seed quality assurance entity;
- The seed law is not yet fine-tuned and approved by the Government to provide legal authority for its expected functions of stakeholders of the seed industry; and,
- Rules and regulations for the seed value chain are not yet in place and being respected.

113. The above steps are crucial elements for the seed sector in Sierra Leone to become viable and for SMU to be incorporated as Sierra Seeds Ltd. a profitable and viable commercial entity.

114. It is foreseen that in the future SMU will choose to only work with large farmers with a certain minimum acreage. This will affect the contract growers that have been working with SMU over the past years. Nonetheless, this will provide opportunity for these groups of farmers to come together to form seed companies and/or for potential investors in the seed sector to have an available critical mass of seed contract growers to work with.

115. Smallholders can then also benefit as contract growers of the seed companies established by larger more affluent nucleus/lead farmers.

116. The impact of SQCU on crop productivity is presently limited by technical, logistical and administrative problems related to a) a lack of high-yielding crop varieties[17] from SLARI; b) essential yield-boosting inputs like fertilizer and pesticide not being readily available for farmers to use on their farms in spite of the deteriorated conditions of the soil (this has resulted in lower yield from the varieties in cultivation when compared with yields in neighbouring countries like Guinea, the Gambia and Liberia); and c) limited mobility of extension agents, poor access road to seed farms and a lack of funds to buy back good quality

[17] With the exceptions of the NERICAs, most of the varieties in use were released up to more than 30 years ago (e.g Rok 2, Rok 3, Lac23) as the capacity of the SLARI were badly eroded by a decade of war.

seed produced by the seed growers. Nonetheless, the new political will of GoSL signalled by the recognition of the National Seed Policy and the willingness to approve seed legislation will provide a good environment to facilitate private sector participation in seed production.

117. Constraints that hampered complete achievement of expected outputs are, in the order of importance, (i) absence of a legal instrument to empower SQCU to carry out its function,(ii) low frequency of NSB meeting resulting from lack of funds to facilitate such meetings, (iii) very late delivery of vehicle and motor bicycles required by field inspectors; and (iv) delayed installation of seed testing equipment. Other constraints identified during the mission included - inadequate facility for seed testing; insufficient human capacity to do seed inspection and seed testing; inadequate logistics in terms of mobility and materials needed for seed trade monitoring; and the absence of legal backing of seed certification activities.

118. In addition, SLARI presently produces pre-basic seed as well as other certified seed classes (basic, certified I and certified II) in spite of the supposed delineation of responsibilities in the seed sector (which requires SLARI to be responsible for only pre-basic seed).

119. The mission observed that the SQCU is still operating out of SLARI; hence it will be difficult for the former to provide independent evaluation of seed produced by the latter. In principle a quality control body should not be involved in any production activities or be part of /associated with an entity involved in production.

120. Only 60% of the certified seed meets certification standards. Therefore, in theory, 40 % of seed produced cannot be marketed officially. This high loss seems to have resulted from the use of *minimum seed standards* that is unattainable by contract seed growers due to low technical capability and capacity in additional to a lack of necessary production inputs, especially herbicides.

121. The approach in setting up the minimum standard itself was top-down as Ghana's seed standards were adopted in the programme without regards to the local technical capacity. This creates potential danger of disapproving many seed crop farms that could contribute to meeting local seed demands if attainable seed standards were used for certification purposes. With effective functioning of the National Seed Board, activities will be done to collect and collate information which will be used to develop realistic and sustainable seed standards.

122. Budgetary provisions for uninterrupted activities of the SQCU still seem to be lacking.

123. The five day workshop organised in Bo in May 2012 to present the SMU Transformational Strategic Plan can be considered as an activity aimed to sensitize the government towards developing a credible exit strategy. It is to note that this document has been driving the transformation of the SQCU and SMU. The recommendations formulated in that workshop articulated that a lot of work still needed to be done to achieve a viable and sustainable seed sector.

9 Main Findings and Conclusions

124. The project was too ambitious and could not be expected to achieve its outcome which was establishing a viable formal seed system to provide timely certified seed in response to demands by institutional buyers and farmers. The Evaluation concluded that this was not fully met also due to the limited project duration, given the inherent national inadequacies in seed policy, legislation and effective capacity for seed production/delivery.

125. Activities aimed at building internal sustainability (i.e. sensitization and building of ownership among project partners), should have preceded project approval. The project had to spend substantive time to convince SMU and MAFFS of the new modus operandi aimed at avoiding dependency on projects' external support and boost Government's active contribution with consequent delay of vital project activities.

126. Overall, through its lifetime, the Project did not have a consistent and continuous strong leadership resulting in poor and untimely decision taking concerning key issues such as seed dispatch, payment of field staff, advance procurements of seed crop production inputs and materials required for seed protection and bagging as well as proliferation of production sites. In addition, with the departure of the previous FAO Representative, activities related to FFS received less attention.

127. In addition, although the project did aim at systematically building the technical and business management capacities of SMU, as result of unstable project management also capacity development received insufficient attention until the end of the project when two long-term consultants were recruited. In this sense, it is evident that in periods covered by dedicated managers timely and sensate decisions were taken.

128. The Evaluation team appreciates the changes in the logical framework. The revised logical framework includes gender, although the evaluation concludes that the project didn't have any specific focus on gender.

129. With regard to the development of a robust accounting system for which a January 2012 a software was installed and activated, neither the Evaluation nor the FAO backstopping team for FAO-HQ has been able to assess actual accounts since access to the SMU accounts was not provided. It was therefore impossible to assess the status of accounts of the SMU, which could have provided key elements concerning the sustainability of the SMU and the transparency of its internal processes.

130. Overall, technical support provided by FAO is judged timely and effective. Unfortunately, legal support which was envisaged in project design was provided only incidentally and the vacuum in this sense is evident.

131. However, the Project, despite a late start, has made a dramatic progress in the last two project years in initiating the establishment of a viable seed sector in Sierra Leone, in preparing SMU for commercialization as well privatization and in enhancing country's capacity in assuring seed quality. The Project has also made progress under the supervision of the Special Task Force set up by MAFFS which has acted as visible agent of change driving the restructuring of the SMU. These changes include improvement of seed multiplication base farms in Thaboklor, and the facilitation of pre-basic seed purification and basic seed multiplication; training of farmers in seed multiplication; establishment of contract growing

scheme with knowledgeable seed producers; provision of technical guidance on production procedures; improving seed storage facilities at the centers and rehabilitation of seed processing facility and seed testing laboratories. In addition, the SMU has gone through a period of farmer and staff reorganizations to the extent that their numbers have been reduced and in the case of the field staff, new staff has been recruited after the restructuring exercise.

132. Key steps that are still missing to achieve a viable and sustainable seed sector include that SMU is not yet a private entity operating (financially) independently from MAFFS, SMU has not adopted a commercially viable business model approach to its activities, SQCU is not yet fully operational as an independent seed quality assurance entity, the seed law is not yet in place to provide legal authority for its expected functions and rules and regulations for the seed value chain are not yet in place and being respected.

133. The Evaluation concludes that the future of SMU strongly depends on the willingness of GoSL to take steps described above, particularly the step of detaching SMU from MAFFS. If SMU remains in MAFFS and will not become a separate entity, the Evaluation believes that any further future support will be ineffective.

10 Recommendations

134. The key conclusion of the evaluation is that the project has made progress in the establishment of a viable seed sector in Sierra Leone and the Government is willing to privatize SMU. However, important steps are still required to convert the SMU into a corporate entity and SQCU into an independent and operational seed quality assurance entity.

135. This leads to the following recommendation:

Recommendation 1: To FAO

Upon the manifestation of a clear commitment by the Government of Sierra Leone towards the privatization of SMU, FAO should further support the development of the seed industry in the country taking into account elements and conditions listed below. Financial resources should be sought with potential partners.

136. For the recommendation to be implemented, agreement should be sought with GoSL on the elements and conditions contained in Box 4 below.

Box 4. Elements of continued support

c. *SMU commercialization and privatization*

This should include the following elements: i) staff restructuring in line with a business model, ii) adoption of appropriate business management practices, iii) financial accountability – regular audits of accounts, iv) ensure commercialization of seed multiplication activities, v) advance the incorporation of Sierra Seed, vi) ensure the seed law and regulation is in place, vii) untie the business entity (SMU / Sierra Seeds) from MAFFS, viii) and ensure timely availability of operational funds; ix) establishment of a solid board that reflects more than just the GoSL.

d. *SQCU transformation*

This should include the following elements:

i) SQCU becomes the Sierra Leone Seed Certification Agency (SLeSCA);

ii) development of its knowledge base for effective diagnosis of seed quality problems, their probable causes and solutions;

iii) strengthening its capacity to monitor seed crop production;

iv) facilitating its market seed control functions;
v) ensure timely availability of operational funds;
vi) putting in mechanisms to ensure seed policy implementation and law enforcement;
vii) provision of a legislative framework;
viii) seed law and regulations should be expeditiously prepared/finalized and presented for the approval of the parliament – and if possible an intellectual property right bill should be considered at a later date;
ix) as a first step, realistic seed standards should be used for seed traded within the country while competence is being developed to meet regional and international seed trade. Seed standards needs to be reviewed annually on the basis of actual results obtained by the SQCU from both field inspection and laboratory seed testing;
x) increase the technical capacity by procuring additional equipment to fill in missing gaps;
xi) installation of necessary software to facilitate preparation of a register for all seed growers (and their premises), preparation of annual calendar for inspection and seed quality control and development of software to monitor seed trade and generate statistics and report on seed sector,;
xii) concentrated training of appropriate staff on the implementation of the seed law;
xiii) institutionalization of the administrative arrangement by relocating the HQ of SQCU to make it independent of SLARI, fully staffed by well-trained personnel, the regional laboratories be immediately installed, and provision made for adequate funding of its activities; and
xiv) regular meeting of the NSB and appropriate budget to cover this. In the long term, SLARI should develop high yielding rice varieties for agro-ecosystems of Sierra Leone, ensure pure seed stock of released varieties and production of adequate quantities of Pre-Basic seed for injection into the seed production system.

Annex I. Evaluation Terms of Reference

1. Background

After many years of external assistance there is an urgent need for the transformation of the Seed Multiplication Unit (SMU) of MAFFS in a business entity to make it more market and profit oriented through a progressive reduction in its loss-making business profile. Ultimately the goal is to change its corporate structure through a suitable privatization arrangement such as a public-private-partnership seed enterprise. This is in consonance with a recommendation of the Tripartite Evaluation Mission (May 2007) for the Project "Development of a Sustainable Seed Programme in Sierra Leone" – funded by Germany.

The long history of inherent financial losses in attempting to meet certified rice seed needs of farmers has not deterred Government and its partners from continuing to pursue the goal of providing quality seeds to farmers. In a way, Government has continued to accept these losses as a social cost because of the role of quality seeds in attaining food security at this difficult time for the nation. Minimizing this cost and eventually even reversing the situation and making it a profit situation is to be considered as additional benefits and a pathway towards sustainability. This is the basic premise of this project.

This project has been an initiative not only to develop a mechanism to enhance sustainability of SMU but also to develop a viable approach of linking seed production to marketing of grain of rice and other crops to benefit farmers through ABU/FFS. In order to strengthen this linkage, feasibility studies have been carried out to establish the technical and economic viability of establishing a milling, packaging and marketing facility under SMU management to harness the potential of increased business links with FFSs/ABUs in the target districts of Kambia, Bombali, Koinadugu and Port Loko. The business process between SMU and FFSs/ABUs has been linked to some extent with institutional buyers and other marketing channels. Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMU have been carried out to lay the basis for the ultimate transformation of SMU into a PPP or other suitable arrangement**.**

Additionally, in order to increase the range of commercially viable crops under SMU's seed production and marketing profile, importation and marketing of suitable vegetable seeds has been targeted but on a smaller scale.

The Project has three components: (1) Sustainable FFSs/ABUs in business partnership with SMU function as an effective commercial mechanism to increase seed and grain production through a value chain approach); (2) A functioning market and profit oriented Seed Multiplication Unit prepared for privatization in place); and (3) An independent Seed Quality Control Unit established and functioning under SLARI

While SMU retains its current internal quality control mandate and facilities a parallel support has been provided to the establishment of an independent Seed Quality Control Unit, under SLARI. These actions have facilitated the development, monitoring and enforcement of independent seed quality control procedures and standards side by side with the development of a vibrant and sustainable commercial seed sector.

This project has complemented and has had synergy with other food security initiatives in other districts of Sierra Leone by IFAD, Italy, FAO and World Bank as well as building capacity of FFS/ABUs to handle contracts, building of Right to Food awareness within FFS/ABUs and linkages to national strategies for commercialization of small and large farmers through strengthening producer organizations.

2. Purpose of the Evaluation

The evaluation, foreseen in the project document, will assess progress made against objectives and the extent to which expected outcomes have been achieved. Drawing on findings and conclusions the evaluation should provide recommendations for improved project design and implementation approaches for similar future projects.

3. Scope of the Evaluation

The evaluation will assess the project/programme as follows:

e. Its relevance to: i) national agricultural strategies and development priorities; ii) needs of the seed growers and of other beneficiaries and stakeholders; iii) FAO Global Goals and Strategic Objectives/Core Functions; and iv) other aid programmes in the sector;

f. Robustness and realism of the theory of change[18] underpinning the project/programme, including logic of causal relationship between inputs, activities, expected outputs, outcomes and impact (against development objective) and validity of indicators, assumptions and risks;

g. In particular the evaluation will:

- assess progress made in preparing the Seed Multiplication Unit (SMU) for privatization and commercial functioning in a profitable seed market.
- evaluate progress made by the project in the institutionalization of the quality seed production and marketing approaches and integration into the Ministry of Agriculture Food and Forestry (MAFF) development plans
- examine the business partnership between Farmer Field Schools (FFSs), Agriculture Business Centres (ABC) and SMU in enhancing the production and marketing of seed and grain in the country.
- assess the project's contribution to seed industry regulation particularly supporting MAFF in developing a National Seed Policy, drafting of seed law and regulations, and establishing the Seed Quality Control Unit (SQCU) as an independent entity.
- revise structure and setup of the envisioned "deregulated" entities (Seed Multiplication Unit and Seed Quality Control Unit) as proposed by the project towards suitable staffing plans and job descriptions.
- assess the viability to find a private sector partner to form a PPP.
- document the lessons learned by the project stakeholders and the effectiveness of the project in creating conducive environment to ensure continuation of the project approach beyond the project's life.

h. Quality and realism of the project/programme design, including:

- Duration;
- Stakeholder and beneficiary identification.
- Institutional set-up and management arrangements;
- Approach and methodology;

i. Financial resources management, including:

- Adequacy of budget allocations to achieve outputs;
- Coherence and soundness of Budget Revisions in matching necessary adjustments to requirements of implementation;
- Rate of delivery and budget balance at the time of the evaluation.

j. Management and implementation, including:

[18] expressed in the logical framework

- Effectiveness of management, including quality and realism of work plans;
- Efficiency and effectiveness of operations management;
- Gaps and delays if any between planned and achieved outputs, the causes and consequences of delays and assessment of any remedial measures taken, efficiency in producing outputs;
- Effectiveness of internal monitoring and review processes;
- Efficiency and effectiveness of coordination and steering bodies (if any);
- Coordination with other projects active in the same sector
- Quality and quantity of administrative and technical support by FAO; and
- Timeliness, quality and quantity of inputs and support by the Government and resource partner.

k. Extent to which the expected outputs have been produced, their quality and timeliness.[19]

l. Extent to which the expected outcomes have been achieved.

m. Use made by the initiative of FAO's normative products and actual and potential contribution of the initiative to the normative work of the Organization.

n. Assessment of gender mainstreaming in the initiative. This will cover:

- Analysis of how gender issues were reflected in project/programme objectives, design, identification of beneficiaries, implementation and monitoring;
- Analysis of how gender relations and equality are likely to be affected by the initiative;
- Extent to which gender issues were taken into account in project/programme management.

o. The prospects for sustaining and up-scaling the initiative's results by the beneficiaries and the host institutions after the termination of the initiative. The assessment of sustainability will include:

- Institutional, technical, and social sustainability of project products; particular attention should be given to the assessment of the economic sustainability and the financial viability of the SMUs. The economic sustainability will be assessed also by reviewing the (annual) statement of accounts / statement of profit and loss.
- Perspectives for institutional uptake and mainstreaming of the newly acquired capacities, or diffusion beyond the beneficiaries or the project/programme.
- Environmental sustainability: the initiative's contribution to sustainable natural resource management, in terms of maintenance and/or regeneration of the natural resource base; e.g, improvement of soil fertility in Thaboklo and other project sites.

p. Overall performance of the project/programme: extent to which the initiative has attained, or is expected to attain, its intermediate/specific objectives and FAO Organizational Result/s (impact), and hence, to the relevant Strategic Objectives and Core Functions; this will also include the identification of actual and potential positive and negative impacts produced by the initiative, directly or indirectly, intended or unintended. The mission will also evaluate if project resources were efficiently used to support the overall project objective given the overall adverse factors during project life.

Based on the above analysis, the evaluation will draw specific conclusions and formulate recommendations for any necessary further action by Government, FAO and/or other parties to ensure sustainable development, including any need for follow-up action. The evaluation will draw attention to specific good practices and lessons of interest to other similar activities. Any proposal for further assistance should include specification of major objectives and outputs and indicative inputs required

[19] Key outputs should be listed for the evaluation team to assess. The evaluation team may add to the list as appropriate.

4. Evaluation methodology

Under the overall guidance of the FAO Office of Evaluation:

- The evaluation will adhere to the UNEG Norms & Standards;
- The evaluation will adopt a consultative and transparent approach with internal and external stakeholders throughout the evaluation process. Triangulation of evidence and information gathered will underpin the validation of evidence collected and its analysis and will support conclusions and recommendations;
- The evaluation will make use of the following tools: review of existing related reports, (e.g. project's six month progress reports; special studies carried out by the project; the evaluation of GCP/SIL/023/GER, "Development of a Sustainable Seed Programme in Sierra Leone'[20]; etc.); semi-structured interviews with beneficiaries, participants and other stakeholders (e.g. seed growers; farmer-based organizations; farmer field schools; etc.) supported by check lists and/or interview protocols; direct observation during field visits; surveys and questionnaires; the Sustainable Livelihoods Framework; the Strengths, Weaknesses, Opportunities and Threats (SWOT) framework for assessment of project/programme results.

5. Consultation process

The evaluation team will maintain close liaison with the FAO Office of Evaluation, project management, the LTU and Task Force members at headquarters, regional, sub-regional or country level, and all key stakeholders. Although the mission is free to discuss with the authorities concerned anything relevant to its assignment, it is not authorized to make any commitment on behalf of the Government, the donor or FAO

The evaluation briefing and debriefing process will include the Government, the resource partners, FAO Office of Evaluation, the FAO Representation and other relevant actors.

The team will present its preliminary findings, conclusions and recommendations to the key stakeholders, to obtain feedback from them.

The Team Leader will have a debriefing meeting with FAO HQ, with FAO Office of Evaluation and project task force (also through teleconference) to present the results of the mission. He/She bears responsibility for finalization of the report, which will be submitted to FAO within four weeks of mission completion. FAO will submit the report to Government(s) and donor together with its comments.

The draft evaluation report will be circulated among key stakeholders for comment before finalization; suggestions will be incorporated as deemed appropriate by the evaluation team

6. Evaluation Team

The evaluation team will cover following areas of expertise: evaluation; (rice) seed industry development; agribusiness/enterprise development; social development and gender equity.

Mission members will be fully independent. They should have not been directly involved with the project formulation, implementation or backstopping. However, they should be familiar with the socio-political situation of Sierra Leone.

[20] Annex 2 of the Evaluation of FAO Cooperation in Sierra Leone 2001 – 2006, *Final Report April 2007*

7. Reporting

The evaluation report will illustrate the evidence found that responds to the evaluation issues, questions and criteria listed in the ToR. It will include an executive summary. Supporting data and analysis should be annexed to the report when considered important to complement the main report.
The recommendations will be addressed to the different stakeholders and prioritized: they will be evidence-based, relevant, focused, clearly formulated and actionable.
The evaluation team will agree on the outline of the report early in the evaluation process, based on the template provided in Annex I of this ToR. The report will be prepared in English, with numbered paragraphs.
The team leader bears responsibility for submitting the final draft report to FAO within two weeks from the conclusion of the mission. Within two additional weeks, FAO will submit to the team its comments and suggestions that the team will include as appropriate in the final report within one week.
Annexes to the evaluation report will include, but are not limited to:

- Terms of reference for the evaluation;
- List of Persons Met, including job titles;
- Itinerary of the evaluation team mission;
- Data collection instruments (e.g. copies of questionnaires, surveys – if applicable).

8. Timetable and Itinerary of the Mission

The mission will commence with a visit by the evaluation team members to Rome for briefing. The team members will then go to Sierra Leone. The mission in Sierra Leone will begin with introductory meetings with project team, and officials of MAFFS and project partners in Freetown. The mission will visit selected project sites and hold meetings with project stakeholders.
The mission will be concluded with a debriefing with the project task force in Rome. The debriefing could also be held through a teleconference.
The mission will spend about 10 days in Sierra Leone including their travel days to field. The mission will submit its draft report shortly after the debriefing.
A detailed itinerary will be prepared for the mission including daily activities. The mission in Sierra Leone will conclude in debriefing workshop.
The mission will submit the first draft of the evaluation report by 20 November 2012.

Annex II. List of key persons and organisations met by the mission

Name	Function	Organisation
Luisa Belli	Evaluation Officer	FAO-HQ, Office of Evaluation (OEDD)
David Neven	Marketing Economist	FAO-HQ, Market Linkages and Value Chains Group (AGSD)
Carmen Bullón Caro	Legal Officer	FAO-HQ, Development Law Service (LEGN)
Philine Wehling	Legal Consultant	FAO-HQ, Development Law Service (LEGN)
Thomas Osborn	Senior Agricultural Officer, Seed Policy	FAO-HQ, AGPM
Manuela Allara	Agricultural Officer	FAO-HQ, AGPM
Lambert Delimini	Consultant - seed production, production, capacity building	FAO Representative Office to Sierra Leone
Marx Mbunji	Consultant, Privatization	FAO Representative Office to Sierra Leone
Neil Parker	Project Director	Pilot Agrodealer Strengthening Program
Edward Gbappie	Programme Coordinator	HQ Office Freetown, Seed Multiplication Programme
Albert Kanu	Seed Centre Manager	Makeni Seed Centre, Seed Multiplication Programme
Sallieu Bakarr	Maintenance Coordinator	Makeni Seed Centre, Seed Multiplication Programme
Stanley Bangura	Production Assistant	Makeni Seed Centre, Seed Multiplication Programme
Samuel Munu	Laboratory Assistant	Makeni Seed Centre, Seed Multiplication Programme
Alex Conteh	Laboratory Assistant	Makeni Seed Centre, Seed Multiplication Programme
Osman Bangura	Assistant Storekeeper	Makeni Seed Centre, Seed Multiplication Programme
Samuel Kamora	Operator	Makeni Seed Centre, Seed Multiplication Programme
Fatmata Kalokoh	Master Farmer	Women in Agriculture Group, Gibon Tarawelie village
Bron	Master Farmer	Tamaranneh Farmers' Association, Lungi Acre Village
Dauda Gbla	Seed Centre Manager, Kobia	Kobia Seed Centre, Seed Multiplication Programme
Abu E. Bangura	Field Supervisor	Kobia Seed Centre, Seed Multiplication Programme
Kelfa B. Sesay	Production Assistant	Kobia Seed Centre, Seed Multiplication Programme
Santigie A. Turay	Workshop Manager	Kobia Seed Centre, Seed Multiplication Programme
Samuel Bangura	Accounting Assistant	Kobia Seed Centre, Seed Multiplication Programme
Idrissa A. Turay	Laboratory Technician	Kobia Seed Centre, Seed Multiplication Programme
Abu Bakarr S. Dumbuya	Storekeeper	Kobia Seed Centre, Seed Multiplication Programme

Name	Function	Organisation
Ahmed O. Sesay	Field Supervisor	Kobia Seed Centre, Seed Multiplication Programme
Moses J. Forewa	Field Supervisor	Kobia Seed Centre, Seed Multiplication Programme
Idriss Baggie	Soil Scientist / Research Coordinator	SLARI Rokupr Research Station
Leonard Conteh	Assistant Farm Manager	SLARI Rokupr Research Station
Gabriel Rugalema	FAO Representative to Sierra Leone	FAO Representative Office to Sierra Leone
Francis A.R. Sonkoh	Chief Agriculture Officer / Director General	Ministry of Agriculture, Forestry & Food Security
Prince Kamara	SCP coordinator / SMU Transition Task Force Chairman	Ministry of Agriculture, Forestry & Food Security
Amadie Tejan Jalloh	Assistant Director, Animal Health	Ministry of Agriculture, Forestry & Food Security
Peter A. Kamara	Head, Rice Unit	Ministry of Agriculture, Forestry & Food Security
Bernard Y. Kamara	Personal Assistant to the Minister	Ministry of Agriculture, Forestry & Food Security
John S. Kamara	Assistant Director, Crops	Ministry of Agriculture, Forestry & Food Security
Mohamed M. Koroma	Communicatiuons Officer	Ministry of Agriculture, Forestry & Food Security
J.E.D. Terry	Deputy Director	Ministry of Agriculture, Forestry & Food Security
Sorie M. Kamara	Director, Livestock	Ministry of Agriculture, Forestry & Food Security
Ben A. Massaquoi	Director, Extension	Ministry of Agriculture, Forestry & Food Security
James K. Pessima	Director, Crops	Ministry of Agriculture, Forestry & Food Security
Sanusi Dean	Consultant Feasibility Study	Enterprise Development Services Ltd.
Chrispin Wilson	Consultant Feasibility Study	Enterprise Development Services Ltd.
Annie Kallon	Head	Seed Quality Control Unit, Freetown
Edward O. Dixon	Seed Analyst	Seed Quality Control Unit, Freetown
Mabble Simwanga	Consultant, Seed Lab	FAO Representative Office to Sierra Leone
Alfred Dixon	Director General	Sierra Leone Agricultural Research Institute
Matthew L.S. Gboku	Deputy Director General and Research Coordinator	Sierra Leone Agricultural Research Institute
Daniel A. Fornah	Project Development & Management Officer	Sierra Leone Agricultural Research Institute
Ernest G. Kamara	Research Officer / Lab Officer	Sierra Leone Agricultural Research Institute
Mohammed Bahsoon	Managing Director	Seed-Tech International
Mohamed Tejan-Kella	Managing Director	Abadha Rice Development Co.
	Programme Coordinator	IFAD National Project Coordination Unit

Name	Function	Organisation
J. A. Jalloh	Assistant Director Extension	Ministry of Agriculture, Forestry & Food Security
Sheku T. Kamara	Ag. Director AED	Ministry of Agriculture, Forestry & Food Security
Dennis M. Kamara	Training Officer	Ministry of Agriculture, Forestry & Food Security
B.J. Bangura	Deputy Director Extension	Ministry of Agriculture, Forestry & Food Security
E.M. Kargbo	Permanent Secretary	Ministry of Agriculture, Forestry & Food Security
John Rüdiger	Ambassador	German Embassy, Freetown
Joost Gwinner	Consultant	GIZ, Freetown
Marina Mdaihli	Country Director	GIZ, Freetown

Annex III. Evaluation Mission Itinerary

Tuesday 23 October		
am: Team leader flight to Rome		Amsterdam → Rome
13.30 – 14.15: David Neven - *Marketing Economist, AGSD*		FAO-HQ, Rome
15.00 – 15.45: Carmen Bullon, Philine Wehling - *Legal Officers, LEGN*		
15.45 – 17.00: Internal team meeting		
Wednesday 24 October		
8.30 – 11.30: team preparations for mission		FAO-HQ, Rome
11.30 – 12.00: Manuela Allara; update on FFS advancements including Global FFS Study,		
12.00 – 14.30: team preparations for mission		
pm: international team flight to Freetown		Rome → Freetown
Thursday 25 October		
am: arrival Freetown		
14.00 – 16.00	Team meeting with Marx Mbunji and Lambert Delimini, FAO project consultants	FAOR Office, SL
17.00 – 17.30	Meeting with Neil Parker, Pilot Agrodealers Strengthening Program	MAFFS
Friday 26 October		
am	Travel to Makeni from Freetown	Freetown -> Makeni
17.00 – 18.30	Visit to Thakoblor Maintenance Seed Farm, close to Makeni	
Saturday 27 October		
9.00 – 11.30	Discussions with staff and site visit, Makeni Seed Centre	
12.15 – 14.30	Visit to FBO group @ Gibom Tarawalie village	
14.30 - 16.00	Visit to two farmer groups @ Lungi Acre village	
Sunday 28 October		
am	Travel to Kobia from Makeni	Makeni -> Kobia
pm	Meeting with Kobia staff and tour of Kobia Seed Centre facilities	
Monday 29 October		
am	Visit of two Farmer Groups at Rowolloh village, close to Kobia Seed Centre	
pm	Visit to Rokupr Research Station	
Tuesday 30 October		
am	Travel to Freetown	Kobia -> Freetown
Wednesday 31 October		
10.00–11.00	Meeting with MAFFS staff	MAFFS
11.00-12.00	Meeting with Project Task Force	MAFFS
Thursday 1 November		
9.00 – 10.00	Visit SQCU lab and meeting with SQCU staaf	SLARI
10.00 - 11.00	Meeting with SLARI DG and staff	SLARI
14.00-15.00	Meeting with Mohammed Bassoun, seed entrepreneur	
15.00-16.00	Meeting with Mohamed Kella	
Friday 2 November		
09.00 – 9.45	Meeting with John Rüdiger, German Ambassador to Sierra Leone	German Embaasy, Freetown
10.00 – 12.00	Mission De-briefing	MAFFS
12.30 – 13.30	Lunch meeting with Joost Gwinner, former project consultant	GIZ Project Office
14.15 – 14.45	Meeting with Marina Mdaihli, GIZ Country Director	GIZ Country Office
Saturday 3 November		
12.30 – 14.00	Final meeting with FAOR	Family Kingdom Resort

Sunday 4 November		
International team return flight to Rome		Freetown → Rome
Monday 5 November		
10.15 – 11.15	De-briefing with Luisa Belli and Samuel $$$	FAO-HQ, Rome
am: Team leader return flight to Amsterdam		Rome → Amsterdam

Annex IV. List of Consultants and FAO Backstopping Missions

Long-term FAO Consultant Assignments

Naam	EOD	NTE	Assignment
Joost Gwinner	01/10/2011	30/08/2012	Project Team leader and agriculturist for coordination and reporting.
Lambert Delimini	03/01/2011	16/12/2012	Seed production advisory and planning services.
Marx Mbunji	08/03/2012	17/12/2012	SMU commercialization, strategic planning, management advisory and mentoring. Technical drafting of seed law.
Noelle Terpend	25/03/2012	13/05/2012	Marketing strategy study
Ibrahim Koroma	01/09/2012	30/11/2012	National Legal expert on seed law.
Marble Simwanza	21/10/2012	09/12/2012	Seed testing training, lab layout and paper trail development.

FAO Backstopping Missions

Name	Starting Date	End Date
Thomas Osborn	28/06/2009	10/07/2009
Josiah Wobil		
Josiah Wobil	19/10/2010	01/11/2010
David Neven	04/02/2011	12/02/2011
Josiah Wobil	28/06/2011	12/07/2011
Josiah Wobil	06/09/2011	18/09/2011
David Neven		13/09/2011
David Neven	28/03/2012	04/04/2012
David Neven	26/09/2012	04/10/2012

Annex V. Original Logical Framework

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
OVERALL GOAL Poverty alleviation and reduction of household food insecurity on a sustainable basis.	– Percentage reduction in rural households below the poverty line (50 percent of which should be women) – Percentage reduction in the prevalence of child malnutrition. – At least 10 percent increase in number of households (members of FFS/ABUs) that have improved livelihoods (e.g. reduction in length of lean/hungry season, increased number of meals a day - disaggregated by gender). – At least 40 percent increase in the average real income of project beneficiaries by yr3 (disaggregated by gender)	– PRSP and MDG Progress and Monitoring Reports	- Stable political and macro-economic environment – Commitment of all stakeholders to support food security and participate in poverty reduction efforts.
IMPACT **Development Objective:** "Realize a vibrant and sustainable seed sector"	- An independent SQCU functioning under SLARI (covering 10 percent and 20 percent of all fields for certified seed production by yr 2 and yr3) - Seed regulations and standards supported by a Seed Law in place and functioning - A reconstituted and revitalized National Seed Board in place and functioning in yr1 - Increase in the effective rice seed demand from 2 percent (3000T) to 3 percent (4 500 tonnes 50 percent increase), 4 percent (6000T 100 percent increase) and 5 percent (6,000T, 150 percent increase) in yr1, yr2 and yr3 respectively. - At least 5 percent and 10 percent increase in adoption rate of improved varieties in sorghum production in target Districts in yr2 and yr3 (100 percent change)	- Feasibility study documents on formation of PPP - Project quarterly progress reports and SLARI reports - Project bi-annual reports – Project terminal evaluation report and project monitoring reports – Institutional market reports – MAFFS (PEMSD) reports	– Stable political and macro-economic environment. – Government monetary and fiscal policies and macro-economic reforms are conducive to developing the seed sector. – Government commitment to honour its financial obligations to the project
OUTCOME 1 **(Component1:** Sustainable FFSs/ABUs in business partnership with SMU function as an effective commercial mechanism to increase seed and grain production through a value chain approach)	- Quantities of rice seed produced and sold by new FFSs/ABUs groups increase by at least 40 percent by yr3 - Quantities of rice seed/grain and sorghum sold to SMU by farmer groups increase by 60 percent by yr3 - At least 600, 800 and 1000 hectares under rice seed production in yr1, yr2 and yr3 (at least 30 percent by women) - Rice seed productivity (tonne/ha) increase by 5 percent, 10 percent and 20 percent by yr1, yr2 and yr3 among seed growers	– Progress reports on production and marketing by SMU/PPP - Reports of the Agri-business management expert - Reports of institutional markets e.g WFP	- Production and marketing conditions remain favourable – Market access is assured with improved transportation. – Sierra Leone economy continues to grow at current rate. – Government policies and practices on private investment are conducive

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
OUTPUT 1.1 **Contract seed production scheme with FFSs/ABUs established.**	– At least 600, 800 and1000 ha under rice seed and 50, 100 and 200 ha under sorghum seed production by FFSs/ABUs and other seed growers in yr1, yr2 andyr3 – At least 600, 850 and 1100 mt of rice seed and 50, 110 and 220 mt sorghum seed/grain harvested and transported from FFSs/ABUs and other seed growers to SMU in yr1, yr2 and yr3 – At least 1000 seed growers receive payments from SMU for seed production each yr with at least 5 percent, 7 percent and 10 percent profit margin in yr1, yr2 and yr3	– Project progress reports – Training workshop reports on seed production and quality control – Reports on agric-business management workshops – Field inspection reports – Seed Processing and storage reports – Seed payments report by Finance section of SMU/PPP	– Production and marketing conditions remain favourable – Government policies and practices on private investment are conducive
Main Activities **1.1.1** Select potential seed growers based on technical, resource-base and ethical criteria and collect baseline data	– At least 1000 new seed growers with gender balance selected – Definition of technical, resource-base and ethical criteria – At least 10 FFSs/ABUs participate in each target district (at least 40 groups in all 4 target districts)	– Project Inception Report – Project bi-annual progress report – Seed Production and Seed Quality Control reports	– Adequate number of farmers meeting set criteria – Cooperation of relevant persons and institutions
1.1.2. Develop contract agreements for seed production with selected growers	– Standard contract documents for rice and sorghum seed production developed	– Project's progress reports – Field inspection report – Seed production Reports	– Willingness of selected persons to sign contracts with witnesses
1.1.3. Conduct training of selected growers through TOT	– At least 360 farmer leaders trained in seed production, quality control and agri-business management (120 in each discipline) – Each trained farmer leader transfers skills and knowledge to at least 20 farmers in their groups – At least 7,200 farmers trained in seed production, seed quality control, value addition, marketing and business management	– Seed Production workshop reports – Seed Quality Control workshop reports – Agri-business management workshop reports – FFSs/ABUs training session reports	
1.1.4. Distribute seeds for further multiplication	– At least 37.5, 50 and 62.5 mt rice seed and 0.5, 1, and 2 mt sorghum seeds distributed to FFSs/ABUs and other seed growers for multiplication in yr1, yr2 and yr3. – At least 40 FFSs/ABUs provided with seeds by yr3	– Project progress reports – Seed production reports	– Availability and timeliness of other production inputs
1.1.5 Carry out field inspections of registered seed crops	– Field inspection reports of at least 10 percent and 20 percent of registered crops available from SQCU under SLARI in yr2 and yr 3	– Seed production Reports by both staff of Kambia and Makeni Seed Centres – Inspection reports of SQCU staff	
1.1.6 Collect, clean, quality control and bag processed seeds	– Quantities of collected seeds (at least 1100 Mt of rice seed and 220 Mt of sorghum seed by yr3 going through the process)	– Project progress reports (quarterly and bi-annual – Project Annual reports – Seed Quality control reports	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
1.1.7 Develop an effective payments system for seeds meeting established criteria	– Plan for an effective payment system in place – Criteria for accepting seeds for processing clearly spelt out – Modalities of payments (cash, cheques etc) for different categories of farmers outlined and explained to growers	– Project progress reports (quarterly and bi-annual) – Payment records kept by SMU/PPP	
1.1.8 Arrange for the importation and marketing of seeds of suitable vegetable crops and varieties	– A market survey of vegetable seed needs, locations, types and varieties done – Marketing partners, locations and needs identified – Sources of supply identified – At least 200 kg assorted vegetable seeds of suitable crops and varieties imported and marketed by yr3	– Project progress reports (quarterly and bi-annual) – Project Annual reports – Interviews with marketing partners	
OUTPUT 1.2 **New market outlets to expand seed and grain trading identified and appraised.**	– Seed/grain market types for both rice and sorghum identified, characterized and quantified – Price levels and fluctuations in different periods of the year for both locally produced and imported rice analysed	– Project progress reports (quarterly and bi-annual) – Project annual reports – Survey reports on seed/grain markets	– Production and marketing conditions remain favourable – Macro-economic environment remains stable – Government policies and practices on private investment are conducive
Main Activities **1.2.1.** Identify and quantify potential market types (traders, millers and institutional buyers) for quality seed of preferred varieties (for the grain market) at a premium price.	– Market types identified and defined – Preferred varieties identified – Market prices for rice and sorghum analysed for suitable premium prices	– Project progress reports (quarterly and bi-annual) – Project annual reports	
1.2.2 Identify and assess key institutional buyers in the country for quality grain purchase.	– Institutional profiles established including potential demand required – Plan of action for meeting identified demand completed	– Project progress reports (quarterly and bi-annual) – Action plan to fulfil institutional buyer requirements	
OUTPUT 1.3 **Supply contracts with institutional buyers negotiated and established**	– At least 100 and 200 contracts established and fulfilled with new institutional buyers in yr2 and yr3 – At least 20 percent of contract beneficiaries being women	– Project progress reports (quarterly and bi-annual) – Training report – Signed contracts.	
Main Activities **1.3.1** Train and mentor SMU staff in contract design, negotiation and management skills.	– 100 percent of senior SMU staff trained in contract design, negotiations and management. – Number of mentoring meetings and appointments to establish contracts. – Above average overall rating on training conducted.	– Project progress reports. – Minutes of meetings with institutional buyers. – Training evaluations and report.	
1.3.2 Gather and appraise example supply contracts with institutional buyers in country and in the region.	– Number of contracts gathered and appraised (at least 15 by yr3)	– Mini database of example contracts and policies. – Project progress reports. – Staff appraisals of example contracts.	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
1.3.3 Establish contracts with institutional buyers and supply required quantities of seed/grain of rice and sorghum.	– Quantities of rice and sorghum seed/grain supplied to the different markets (at least 20 percent of seed production for rice and 40 percent of sorghum)	– Signed supply contracts. – Project progress reports (quarterly and bi-annual) – Project annual reports	– Rice and sorghum markets able to offer premium prices based on product quality
OUTCOME 2 **(Component 2: A functioning market and profit oriented Seed Multiplication Unit prepared for privatization in place)**	- A transformed SMU reduce operational losses by 50 percent, 70 percent and 90 percent in yr1, yr2, yr3 - Conditions and modalities for privatization of SMU – defined – Trained management in place. – MandE and Bookkeeping working	– Report on study of economic rate of return of a PPP – Report of valuation of SMU assets – Project progress reports (quarterly and bi-annual) as well as annual reports	Feasibility study indicates viable strategy for privatization of the SMU
OUTPUT 2.1 **Legal, technical and business advisory services to support the revitalization of SMU and its ultimate privatization provided.**	– A stock quantity monitoring system within SMU in place and in strict practice – A double entry bookkeeping system in order to prepare monthly trial balances and profit and loss calculations as a management tool made fully functional – A price observation scheme on local retail markets for locally produced and imported rice to support decisions on buying and selling prices made functional – A record keeping system for all agricultural enterprises, mainly at the Maintenance Breeding site of SMU, to enable gross margin calculations for the purpose of determination of profitability in place – A soil fertility improvement programme mainly at Thakoblo in practice – Progressive reduction of SMU operational losses by 50 percent, 70 percent and 90 percent in yr1, yr2 and yr3	– Project progress reports (quarterly and bi-annual) as well as annual reports	– Government commitment to honour its financial obligations to the project
	– Number of legal technical and business experts (at least 1 National Project Coordinator, 1national legal expert, 1 national agri-business management expert, 2 national consultants on seed production, 1 international seed consultant and 1international seed business consultant provided)	– Records of recruitment and posting of legal and technical experts – Project progress reports (quarterly and bi-annual) as well as annual reports	
Main activities **2.1.1** Provide legal services to establish the legal framework of the operations of the proposed Seed Enterprise/PPP	– One national legal expert posted (first mission) to establish the legal framework of the Seed Enterprise/PPP and render follow up legal services in subsequent consultancy missions (2 missions each of 4mm)	– Project progress reports (quarterly and bi-annual) as well as annual reports – Reports of the legal expert	
2.1.2 Establish a double entry bookkeeping system in order to prepare monthly trial balances and profit and loss calculations as a management tool.	– A double entry accounting system in place and functioning – Monthly trial balances prepared – Profit and loss calculations done	– Quarterly and six months project reports – Annual project reports	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
2.1.3 Practise stock quantity monitoring system within SMU	– Bi-weekly stock positions in each seed centre per crop and variety taken and submitted to SMU Headquarters	– Quarterly and six months project reports	
2.1.4 Put in place a price observation scheme on local retail markets for locally produced and imported rice to support decisions on buying and selling prices	- Report on the prices per buttercup and per bag both on paddy (husked) rice as well as milled rice. - A table of conversion rates (equivalents) between husked rice and milled rice (normally varying between 55 – 60 percent milling rate), - Number of buttercups per bushel and per 50 kg bag, specified by variety, - Evaluation of the profit margins between the various elements of rice trade done regularly	– Quarterly and six months project reports – Annual project reports	– Cooperation of relevant persons and institutions in the course of price observation surveys
2.1.5 Introduce a record keeping system for all agricultural enterprises, mainly at the Maintenance Breeding site of SMU, to enable gross margin calculations for the purpose of determination of profitability	– Costs of land preparation per unit area recorded – Quantities and costs of production inputs (fertilizers, agro-chemicals, seeds, labour etc) per crop and variety recorded – Harvesting and transport costs known per crop/variety – Processing, packaging, storage costs per variety – Personnel and other overhead costs recorded	– Quarterly and six months project reports – Annual project reports	
2.1.6 Start a programme for soil fertility improvement at the Maintenance Breeding site at Thakoblo, which will also serve as practical training ground for the extension linkages.	– Introduced auxiliary plants for hedgerows and improved fallow both for lowland and upland crops since a stock of basic seed for upland crops, too, is produced at Thakoblo	– Quarterly and six months project reports – Annual project reports	
2.1.7 Establish linkages with SMU/PPP supporting institutions for financing and marketing options	– At least 3 institutions with which the SMU/PPP has been linked to for financial and marketing support and the nature of linkages (value of funds, quantities of seed involved)	– Project progress reports (quarterly and bi-annual) as well as annual reports	– Macro-economic environment remains stable
2.1.8 Develop seed management and advisory support services of the SMU/PPP through additional professional staff training	– 2 professional staff members from SMU/PPP awarded and complete Msc. studies in seed technology and management overseas – Head SMU and Seed Centre Managers undertake 2-3 weeks study tours in advanced seed industries/enterprises in Africa	– Project progress reports (quarterly and bi-annual) as well as annual reports – Mid-Term Review Report – Project Terminal Report	
2.1.9 Make a revitalized SMU and eventually a restructured SMU (Seed Enterprise/PPP) profitably operational	– A balance sheet of profit and loss analysis of the revamped SMU showing a progressive decrease in operational losses by 50 percent, 70 percent and 90 percent in yr1, yr2 and yr3 – A privatized SMU (Seed Enterprise/PPP) with business operations indicating a healthy profit/loss balance sheet	– Project progress reports (quarterly and bi-annual) as well as annual reports – Project Terminal Report	– Feasibility study indicates viable strategy for privatization of the SMU
OUTPUT 2.2 Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMU published and acted upon	– Publication of Report on the feasibility studies establishing the economic rate of return and viability of a Seed Enterprise/PPP – Record of meetings/fora in which decisions were taken on recommendations from the studies	– Report on study of economic rate of return of a Seed Enterprise/PPP – Report of valuation of SMU assets – Project progress reports (quarterly and bi-annual) as well as annual reports	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
Main activities **2.2.1** Carry out feasibility studies to establish the economic rate of return and profitability on investment in a privatized SMU with particular reference to a PPP	– Publication of a report on feasibility studies on the economic rate of return and profitability on investment in a Seed Enterprise/PPP – Provisions of National Seed Policy and other the Government of Sierra Leone legal instruments on private sector investment and promotion and the regulatory framework taken into consideration in the studies and recommendations – Mechanisms of identifying and promoting the participation of potential local and international investors in the Seed Enterprise/PPP outlined. – Package of investment incentives outlined – Identification of potential local and international investors in a privatized SMU/PPP – Modalities including choice of suitable contract, right of disposal, allocation of profits, business management and organisational structure as well as distribution of risks properly outlined – Proposed new name and logo of a transformed SMU into a Seed Enterprise/PPP – Economic rate of return and potential profitability levels of Seed Enterprise/PPP outlined – A broad-based investment advisory team established to manage process in the event of a positive decision from the feasibility studies	– Report on establishing the economic rate of return and profitability on investment in a PPP – Project progress reports (quarterly and bi-annual) as well as annual reports	– Cooperation with relevant persons and institutions during the conduct of the studies
2.2.2 Implement recommendations from the feasibility studies	– Decisions by the Government of Sierra Leone and private sector on recommendations	– Project progress reports (quarterly and bi-annual) as well as annual reports	-
2.2.3 Undertake detailed valuation of SMU assets as a component of eventual SMU privatization process	– Hired professional consultancy services to carry out the valuation of SMU assets – Production of a valuation report – Indication of the value of SMU assets by category and items	– Valuation Report of SMU assets – Project progress reports (quarterly and bi-annual) as well as annual reports	-
OUTPUT 2.3 Feasibility study undertaken on expanding PPP Seed Enterprise operations to include milling, packaging and marketing of high value table rice.	– Relevant report on feasibility study published – Record of meetings/fora in which decisions were taken based on the outcome and recommendations of the feasibility study	– Feasibility study report	– Production and marketing conditions remain favourable – Macro-economic environment remains stable – No major impediments to market access – Government policies and practices on private investment are conducive – Arrangements to provide needed resources to operate the facility

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
2.3.1 Carry out a feasibility study on the technical and economic viability of a rice milling facility as a new business unit within the PPP Seed Enterprise	– Institutional, urban and rural rice market characteristics, size and needs determined – Size of a suitable facility (throughput) based on market conditions and needs determined – Magnitude of competition from local traders who buy and mill rice quantified – Price fluctuations of raw and milled rice in different periods of the year outlined – Effective demand of milled rice for the different markets types quantified – Quality standards to be met for the milled rice and local capacities needed to meet the standards specified – Management structure and resources needed to operate the facility described and quantified – Sources of additional donor funds to operate the facility – Economic rate of return and profitability on investment in a suitably sized milling facility analysed with recommendations	– Project progress reports (quarterly and bi-annual) – Project annual reports – Feasibility study report	-
2.3.2. Implement recommendations from the feasibility study	Decision taken on the establishment of the facility or not	– Project progress reports (quarterly and bi-annual)	– The outcome of the feasibility study can either be positive or negative
OUTCOME 3 **(Component 3: An independent Seed Quality Control Unit established and functioning under SLARI)**	– Structure, functions and role of SQCU fully incorporated in the technical and management operations of SLARI – Recurrent and subvention budgetary allocations for SQCU by the Government of Sierra Leone received and used	– Project progress reports (quarterly and bi-annual) as well as annual reports – Field inspection reports – Seed Testing reports – Mission reports of international Seed consultant and Seed Quality Control expert – Mid-Term Review Report – Project Terminal Report – Seed rules and regulations – Seed Law	– Government commitment to honour its obligations to the project

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
OUTPUT 3.1 An independent Seed Quality Control Unit established under SLARI	– At least 10 percent and 20 percent of registered seed crops inspected in yr2 and yr3 (at least 30 percent of which should involve women beneficiaries) – At least 10 percent of all certified rice seed sold in the local market tested for standard quality parameters in yr3 – All technical operations of independent SQCU legally supported by suitable rules and regulations and a Seed Law	– Project progress reports (quarterly and bi-annual) and Annual report – Field inspection reports – Seed Testing reports – Mission reports of international seed consultant, legal and Seed Quality Control experts – Mid-Term Review Report – Project Terminal Report – Seed rules and regulations – Seed Law	– Government commitment to honour its obligations to the project – Cooperation with relevant persons and institutions e.g. for enactment of the Seed Law
Main activities **3.1.1** Recruit required legal, technical support and national staff to operationalize activities	– An International Seed Consultant, National legal expert and a National Seed Quality Control expert recruited for the prescribed services – 13 professionals and technicians recruited by government to man the seed quality operations by yr3	– Project progress reports (quarterly and bi-annual) and Annual report – Mission reports of international seed consultant, legal expert and Seed Quality Control expert. – Mid-Term Review Report – Project Terminal Report	
3.1.2 Identify suitable buildings for hosting a central seed laboratory (Freetown) and two regional seed laboratories (north and south)	– Suitable buildings are identified, are in use and good maintenance – Required furniture and materials procured and deployed	– Project progress reports (quarterly and bi-annual) and Annual report – Physical inspection of buildings	
3.1.3 Procure and install necessary seed testing equipment	– Seed Testing equipment procured and in use in three laboratories (list of equipment in Annex 1d)	– Procurement documents – Project progress reports (quarterly and bi-annual) and Annual report – Physical inspection of equipment	
3.1.4 Procure and maintain adequate transport facilities	– 1 pick-up and 2 motorcycles provided and maintained for Freetown seed laboratory and 2 motorcycles each for northern region and south region seed laboratories	– Project progress reports (quarterly and bi-annual) and Annual report – Equipment procurement documents – Physical inspection of equipment	
3.1.5 Identify and train technical staff for field inspections and laboratory seed testing	– At least 8 technical staff recruited and trained – Training type (at least 2 local field inspections and seed testing workshops and study tour of leaders of Seed Quality Control laboratories for 2-3 wks in advanced seed quality control programmes in African countries – Training documentation and materials used	– Project progress reports – Training records and reports	
3.1.6 Conduct field inspections on seed production farms of FFS/ABUs and other growers	– Number and status (quality) of fields inspected and dates of inspections	– Reports of field inspections by SQCU – Project progress reports (quarterly and bi-annual) and Annual report	

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
3.1.7 Conduct seed testing on seed lots produced by FFS/ABUs and other growers	– Number and status (quality) of seed lots tested and testing dates (at least 500 samples of rice seed and 100 samples of sorghum seed tested by yr3)	– Seed testing laboratory records – Reports of seed testing by SQCU	
3.1.8 Monitor the quality of seed moving in the seed trade to ensure compliance with minimum quality standards	– Names of locations (shops, markets, stores etc) visited and dates (at least 500 and 800 outlets visited in yr2 and yr3) – Types of quality control checks done (sampling, labels verifications, stored seeds and quality of storage environment etc) – Seed testing of submitted seeds from monitoring activities (samples from at least 30 percent of visited outlets tested by yr3)	– Reports of SQCU on seed quality monitoring activities – Project progress reports (quarterly and bi-annual) and Annual report	– Difficulties in compliance and enforcement of seed quality standards due to poor seed quality control awareness in the seed trade – Cooperation by persons and institutions in the enactment and enforcement of the Seed Law
3.1.9 Formulate suitable rules and regulations as well as a Seed Law to back up enforcement of technical operations and National Seed Policy	– New seed rules and regulations for seed quality control formulated and in use – A Seed Law drafted and presented for enactment	– New seed rules and regulations – A draft Seed Law – Mission reports of legal expert and CTA – Project progress reports and Annual report – Terminal report of project	– Cooperation by relevant persons and institutions in the process of formulation, enactment and enforcement of the Seed Law

Note: For all the achievement indicators with targets expressed as percent increase, base line figures of the current (pre project) status need to be collected as per activity 1.1.1 within the first six months of inception and documented in the first Project Progress Report mid 2009

Annex VI. Revised Logical Framework

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
OVERALL GOAL Poverty alleviation and reduction of household food insecurity is improved on a sustainable basis.	– Percentage reduction in the prevalence of child malnutrition. – At least 10% increase in number of households of seed growers that have improved food security (reduction in length of lean/hungry season, increased number of meals a day - disaggregated by gender). – At least 40% increase in the average real income of project beneficiaries by yr3 (disaggregated by gender)	– PRSP and MDG Progress and Monitoring Reports	
IMPACT SMP has contributed to increased rice yields and production in Sierra Leone	– Rice yields of farmers using SMP certified seed are at least 20% higher than those of farmers not using certified seed under similar conditions – SMP has contributed to increased rice production in Sierra Leone	– Project progress reports – Yield assessments – MAFFS production statistics	
OUTCOME A viable formal seed sector is timely providing certified seed to meet the demand of institutional buyers and farmers	By end of 2012 – SMP has sold or concluded sales contracts with clients for a minimum of 1,200MT of certified rice seed and 300MT of maize and/or Sorghum seed. – SMP has reached break even point and projections show that SMP will reach profitability latest by 2014. – Client satisfaction with seed supplied by SMP is 80% positive.	– Project progress reports – Study reports: Marketing, profitability, audits, client satisfaction and others – Audits	– Stable political and macro-economic environment. – Commitment of all stakeholders to support food security and participate in poverty reduction efforts.
OUTPUT 1 Efficient seed production scheme with contract seed growers established.	By the end of the main cropping season 2012 – At least 1,500 MT of certified rice seed are produced by SMP contract growers, at least 30% of whom are women. – At least 300MT of maize and/or Sorghum seed is produced by SMP contract growers, at least 30% of whom are women. – A maintenance breeding scheme, managed by SMP, is in place and sufficient quantities of registered seed are available to produce at least 1,500 MT of certified rice seed by 2012.	– Project progress reports – Training workshop reports on seed production and quality control – Field inspection reports – Transaction records in the SMP bookkeeping system	
OUTPUT 2: Conditions for privatising SMP are in	By the end of 2012 – A financial management, stock register and economic	– Accounting system manual and training reports	– Feasibility study indicates viable strategy for

NARRATIVE SUMMARY	VERIFIABLE INDICATORS	SOURCES OF VERIFICATION	ASSUMPTIONS AND RISKS
place	analysis and reporting system is established for SMP as a management tool and personnel trained to effectively use it – A comprehensive marketing strategy for SMP is developed including market observation, prizing, branding and communication. – The Organigramme of SMP as a private business entity is established and management and technical staff in place and trained. – Economic studies on cost efficiency, business management, profitability and corporate structure of a privatized SMP are conducted, conditions and legal modalities for the privatisation of SMP defined, and business models and plans prepared – Additional sources of income (e.g. milling and marketing of table rice) are explored and implemented – Roles of different stakeholders in the seed value chain are established and respected.	– Report of valuation of SMU assets – Feasibility study for the incorporation of SMP – Project progress reports	privatization of the SMU. – Marketing conditions remain favourable – MAFFS has recruited qualified staff. – MAFFS continues to support the privatisation move of SMP. – Seed regulations & standards supported by a Seed Law are in place & functioning – Government policies and practices on private investment are conducive
Output 3 An independent Seed Quality Control Unit (SQCU) is established and functional	By the end of 2012 – The organigramme of SQCU is established and personnel in sufficient numbers and qualification recruited, trained and mobile – Equipment for 3 regional seed quality control laboratories in Freetown, Rokupr and Njala is installed and functional. – All seed suppliers in Sierra Leone are listed and at least 70% of them are inspected by SQCU. – At least 80% of all breeder, foundation, registered and certified seed produced and marketed by SMP and other listed seed companies is inspected and tested by SQCU. – A new seed law and regulations have been drafted – The National Seed Board is established and meeting periodically supported	– Project progress reports – Field inspection reports – Seed Testing reports – Mission reports of international Seed consultant and Seed Quality Control expert – Seed Law – Seed rules and regulations	

Activities			Pre-conditions
Output 1: Efficient contract seed production scheme with seed growers established.	**Output 2:** Conditions for privatising SMP are in place	**Output 3:** An independent Seed Quality Control Unit (SQCU) is established and functional	
1.1 Identify and develop productive lowland and upland sites for seed multiplication 1.2 Select seed growers based on technical, resource-base and ethical criteria and collect baseline data 1.3 Develop contract agreements for seed production with selected seed growers 1.4 Conduct training of selected seed growers 1.5 Initiate and supervise seed multiplication scheme with seed growers 1.6 Carry out internal quality control scheme (field inspections and seed testing) 1.7 Recover loan and purchase seed from seed growers according to contract conditions. 1.8 Establish seed maintenance scheme for varietal purity in Thakoblo (Makeni) and Kobia 1.9 Process, bag and safely store seed in Kobia and Makeni Seed Centres 1.10 Cooperate closely with SLARI and SQCU (for registration of seed growers, training, quality control, certification) 1.11 Introduce a record keeping system for all agricultural enterprises to enable gross margin calculations and	2.1 Provide Technical Assistance to conduct studies and surveys to: a) develop a computerised business accounting system, a system for profit and loss calculations as a management tool and a stock monitoring system b) develop a comprehensive marketing and communication strategy for SMP c) valuate the assets of SMP d) assess the feasibility of an incorporation of SMP, of the cost efficiency and profitability and develop the corporate structure, conditions and legal modalities for the privatisation and business models and plans e) provide legal services to establish the legal framework of the operations of the proposed Seed Enterprise/PPP f) assess additional revenue generating businesses for SMP (e.g. marketing of vegetable seeds and processing and marketing table rice) g) provide management support to SMP during the transition stage 2.2 Implement and institutionalise recommendations from the studies and consultancies 2.3 Train SMP staff in all relevant areas	3.1 Establish organigramme and recruit technical staff 3.2 Identify suitable buildings for hosting a central seed testing laboratory (Freetown) and two regional seed laboratories (Rokupr and Njala) 3.3 Procure and install seed testing equipment 3.4 Procure and maintain adequate transport facilities 3.5 Train staff in seed quality control (field inspections and seed testing), accounting and management 3.6 Sensitise and train farmers, institutions, seed traders, seed distributors and the public on the requirements and merits of seed quality 3.7 Plan and conduct quality controls (field inspection and seed testing) on SMP and other seed multiplication operations and certify seed quality according to the seed law and regulations 3.8 Register seed producers, seed importers and seed distributors in Sierra Leone. 3.9 Monitor the quality of seed moving in the seed trade to ensure compliance with minimum quality standards 3.10 Provide Technical assistance for the development of the seed law and regulations	– Government commitment to honour its obligations to the project and recurrent and subvention budgetary allocations for SQCU by GoSL received – Positions for SMP and SQCU are created and personnel paid regularly – SLARI is able to provide high quality foundation seed to SMP – Sufficient funds are timely disposal for the purchase of seed from contract growers

Activities			Pre-conditions
determine the cost of production	(production, marketing, accounting, management, negotiating, etc.) 2.4 Conclude supply contracts with institutional buyers in country and in the region		

Annex VII. Production Data

Table 1. Seed Rice Produced By Seed Centers of SMP in 2011 & 2012 Seasons (in Kg)

Year		2011						2012						Any Comments
Seed Producing Centers (Name/Hectares)		Main Season			Off Season			Main Season			Off Season			
Name	Hectares	F	R	C	F	R	C	F	R	C	F	R	C	
Makeni – Thakoblo	2011 (100ha) main, and 64.96 ha minor Thakoblor 2.5 ha major and 2.5 ha minor 2012 470ha main season Thakoblor 2012main 2.3ha	7.3MT		200 MT was expected yield but limited funds to purchase seed . SMP relied mainly on recoveries		6.5MT	150 MT was expected yield but limited funds to purchase seed. SMP relied mainly on recoveries	7MT		Expected 705MT				Crops for 2012 are still being harvested
Kobia – Robana	2011(480ha) 2ha maintenance Crop 2012 main crop- 335 ha	1.9 MT		920 MT expected but limited funds to purchase seed						Expected 600 MT				
Kobia – Wula	-													
Thenkel	-													

Blama	2012 main 100ha									Expected 150 MT				

Table 2. Other[21] Crops Seed Produced By Seed Centers of SMP in 2011 & 2012 Seasons (in kg)

Year		2011						2012						Any Comments
Seed Producing Centers (Name/Hectares)		Main Season			Off Season			Main Season			Off Season			
Name	Hectares	F	R	C	F	R	C	F	R	C	F	R	C	
Makeni – Thakoblo Thakoblor/Manonkor Blama	2012, maize; 13.5ha Groundnuts 6.7ha							20 MT		 7MT				Maize Yields are lower because of heavy rains, leaching of nutrients/acidity of soil
Kobia – Robana														
Kobia – Wula														
Thenkel														
Blama														

[21]Maize, sorghum, sesame, groundnut

Table 3. Seed Rice Loan Recovery Information By Seed Centers of SMP in 2011 & 2012 Seasons (in Kg /Percentage)

Year	2011				2012				
Seed Producing Centers	Main Season		Off Season		Main Season		Off Season		Reasons for non-recovery
NameHectares	Loan	Recovery	Loan	Recovery	Loan	Recovery	Loan	Recovery	
Makeni – Thakoblo	10.1 MT	7.88 MT	6.1 MT	5.89 MT	22.4	Yet to recover			Lack of mobility and logistic support/fuel
Kobia – Robana	45.02MT	28.13MT	1.18MT	1.14MT	31.388MT	Yet to recover			Lack of mobility and logistic support/fuel
Kobia – Wula									
Thenkel									
Blama					21.7	Yet to recover			

Annex VIII. SQCU Data

Certified Seed Producers Registered by SQCU in 2011 and 2012

YEAR	Name of institution	Type of multiplication scheme (seed growers)		Type of market (seed dealer)	
		Maintenance farm/own production	Contract growers	Sole	No. of outlets
2011	SMP SEEDTECH BRAC YEAVA ARID	Farm labour - Farm labour Farm labour	300 - - 20	3 3 1 1	ABCs Country wide 3
2012	SMP SEEDTECH BRAC YEAVA ARID	Farm labour - Farm labour Farm labour	300 - - 30	3 3 1 1	ABCs Country wide 3

SEED SAMPLING AND SEED TESTING by SQCU for 2011 and 2012

Year	Institution[22]	Crop seed	No. of Lots	Qty. in metric ton	Status (quality) of seed lots tested (ECOWAS STANDARDS)
2011	SMP (1)	Rice Groundnut	44 13	67.1 18	60 % met required standard. Recommended rogueing and rest for grain production. All lots failed to meet the required standard. Recommended for grain consumption.
		Sub total	57	85.1	
2012	YEAVA BRAC ARID SMP African rice (5)	Rice Rice Rice,(Maize) Rice Rice	4 3 7, (1) 107	7 5 14,(2) 213	Failed to meet required standard. Recommended certified seed production Same as above.
2012	SEEDTECH (1)	Vegetable	40	0.4	All lots met required standard.
			130	147.56	
	7	Grand total	187	232.66	

[22] YEAVA, BRAC and ARID are emerging seed companies funded by Alliance for a Green Revolution in Africa (AGRA).

Annex IX. List of Outputs

- ***Project Progress Report, January-June 2009***
- ***Project Progress Report, July-December 2009***
- ***Project Progress Report, January-June 2010***
- ***Project Progress Report, July-December 2010***
- ***Project Progress Report, January-June 2011***
- ***Project Progress Report, July-December 2011***
- ***Project Progress Report, January-June 2012***

- Project logical Framework, Revised November 2011

1. Efficient seed production scheme with contract growers established

- ***Draft seed and production and training manual***

2. Conditions for privatizing SMP are in place

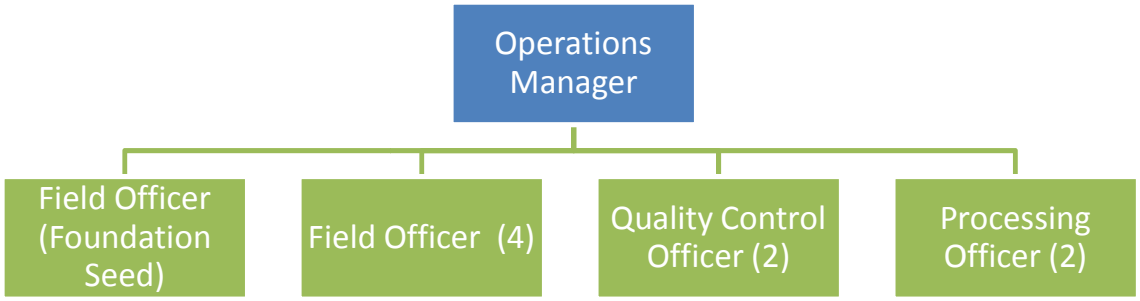
- Amended national see Policy
- Proposed Seed Policy amendments
- Draft Sierra Leone Seed Act
- Technical Legal Draft Sierra Leone Seed Law
- SMU Financing Options Report
- MAFFS Report on Study Tour to Zambia, Tanzania and Ghana on Capacity Building for the Seed Sector in Sierra Leone
- SMU Marketing Strategy Report
- SMU Assets Valuation Report
- SMU Transformational Strategic Plan

3. An independent Seed Quality Control Unit established and functioning under SLARI

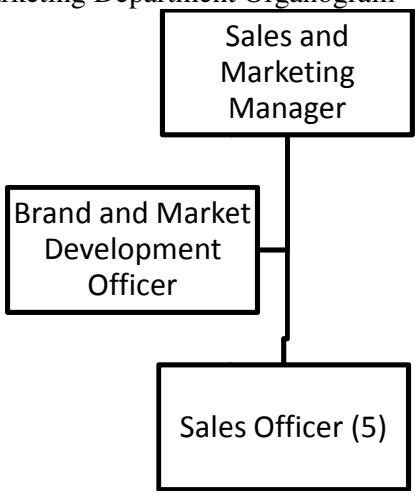
- Inception note on establishing a seed testing lab

Annex X. Sierra Seeds Company Departmental Diagram

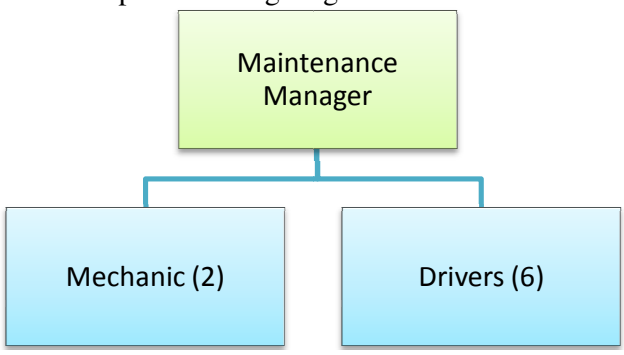
Operations Department Organogram



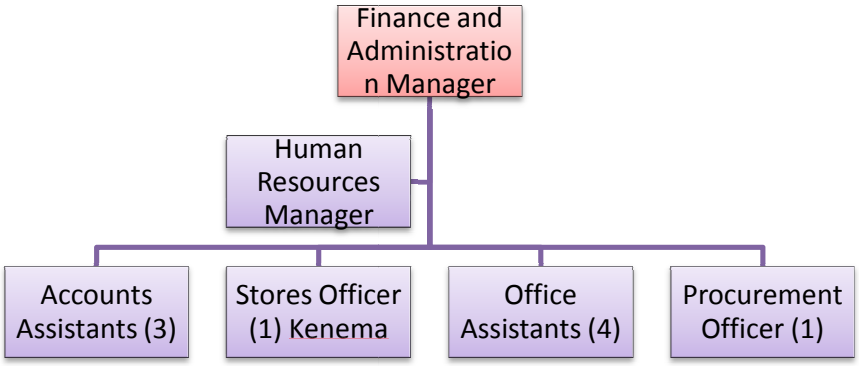
Sales and Marketing Department Organogram



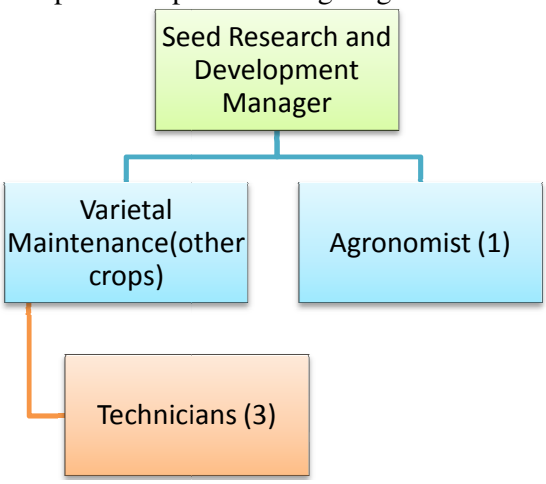
Maintenance Department Organogram



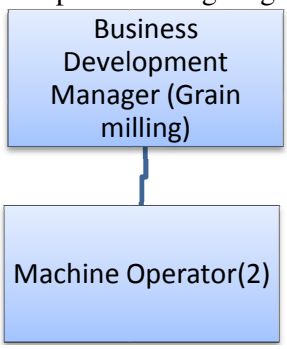
Finance and Administration Department Organogram



Research and Development Department Organogram



Business Development Department Organogram



Annex XII. Seed Production Scheme

1. **Introduction**:

Seed certification is a **legally sanctioned system** for the **quality control** of **multiplication and production** of seed. Its purpose is to maintain and make available to the public, sources of high quality seed and propagating materials of superior varieties grown and distributed so as to insure genetic purity.

2. **Principles**: In order to maintain the genetic purity of an improved cultivar, regulations and standards are set up for the seed growers. The regulations and standards set at the beginning of the programme should be nationally attainable. Then as the proficiency increases, the standard is raised.In order to certify a seed crop both field and off-field controls are carried out. To gain the consumers' (farmers) confidence, a seed certification system must be totally separated from production and marketing programmes. Seed certification is not a seed programme in itself, nor can it be a substitute for the many other elements of the seed programme. Activities like planting, rouging, harvesting, processing, storage and marketing must still be organized.

3. The most important consideration of seed certification in developed countries, is genetic purity. *However, in developing countries certification also considers other factors such as viability, mechanical purity, diseases, weeds etc.* In some species, the distinction between the various cultivars, during inspection may be impossible. For this reason, the seed certification ensures that propagation materials are delivered by the breeder or his representative every planting season to produce the next generation of seed. Likewise, the subsequent stages are produced every year so that the farmer is not in short supply of high quality planting materials.

4. **Seed production and seed classes**: Currently Sierra-Leone uses the seed scheme nomenclature of the Association of Official Seed certification Agencies (AOSCA) of North America for the generation of seed produced namely - Breeder ----> Foundation---→ Registered--→ Certified seed. For ease of analysis of the situation in Sierra-Leone, table below provides the seed classes and agencies/organization responsible for their production.

Sequence of plant generation	Seed Classes nomenclature	Producer	Location
First crop generation	Breeder seed	SMP	Thakoblor
Second crop generation	Foundation seed	SMP/FSU	Thakoblor
Third crop generation	Registered seed	SMP	Thakoblor
Fourth crop generation	Certified seed	Seed Growers	3 locations???
Fifth crop generation	Commercial seed for producing crop		

SMP has its internal quality assurance carried out at Makeni.

Key staff members of SMP at Thakoblor are:
i) Mr. Albert Kanu, Manager of the Thakablor Seed Centre
ii) Mr. Sallieu Bakarr, varietal Maintenance Co-ordinator and internal seed quality controller
iii) Casual labor (about 20)

5. **Essential Instrument for Seed quality control**
    a. Seed legislation and accompanying regulation
    b. A variety catalogue of crops to be certified.
    c. A catalogue of potential contract seed growers meeting certification criteria.
    d. Field inspection manual
    e. Seed Sampling procedures manual
    f. Seed Testing procedures manual
    g. Specific standards for Field and Seed Standards
    h. Labeling and certificates
6. Activities: The relationships that must exist between seed certification and production/marketing activities are in the areas of:
    a. Determination of eligible varieties
    b. Verification of seed source planted
    c. Field inspection to ascertain the genetic purity level of crop and the need to carry-out rougueing
    d. Seed sampling of harvested and processed seed
    e. Seed quality assessment of seed stored or intended for sale
    f. Seed labelling of seed lot that meets minimum certification standards
    g. Education and Information
7. Seed Quality Attributes
    a. Varietal purity
    b. Purity of seed lot
    c. Incidence of noxious weed
    d. Incidence of seed - borne disease
    e. Germination & Vigour
    f. Moisture content
8. Seed Quality Control

a. Field quality control

i) the pre-planting

ii) growing

iii) maturation

iv) harvesting

b. Laboratory quality control

i) seed moisture content

ii) purity (physical and varietal)

iii) viability

iv) weed content

v) Seed Health

9. Implications of Seed Quality Attributes on Seed Technical Specifications Used for Seed Procurement.

a. Main seed quality attributes used important for seed trade:
   - % Genetic purity – Determined from field quality control
   - % Physical purity - Determined from laboratory quality control
   - % Other crop seed - ditto
   - % Weed seed - ditto
   - % Germination - ditto

10. Relationship of technical specifications to future storage of seed

a. GERMINATION
   - Low germinating seed is an indication of declining vigor
   - Low vigor seed stores poorly
   - Good to very good storage conditions does improve the quality of the seed – if anything deterioration could be faster
   - Start with seed having high germination % (a reflection of good vigor)

b. Genetic Purity
   - High genetic impurity leads to lower yield and non-uniformity of crop stand and performance
   - Impurity leads to a loss of benefits of using improved variety
   - Impurity Creates harvesting problems – as a result of non-uniform crop maturing dates
   - Impurity creates problem of tolerance to biotic or abiotic stress
   - Reduced product

c. Physical purity
   - High physical impurity creates crop management problems and eventually lower yield
   - Reduced value for money paid on seed

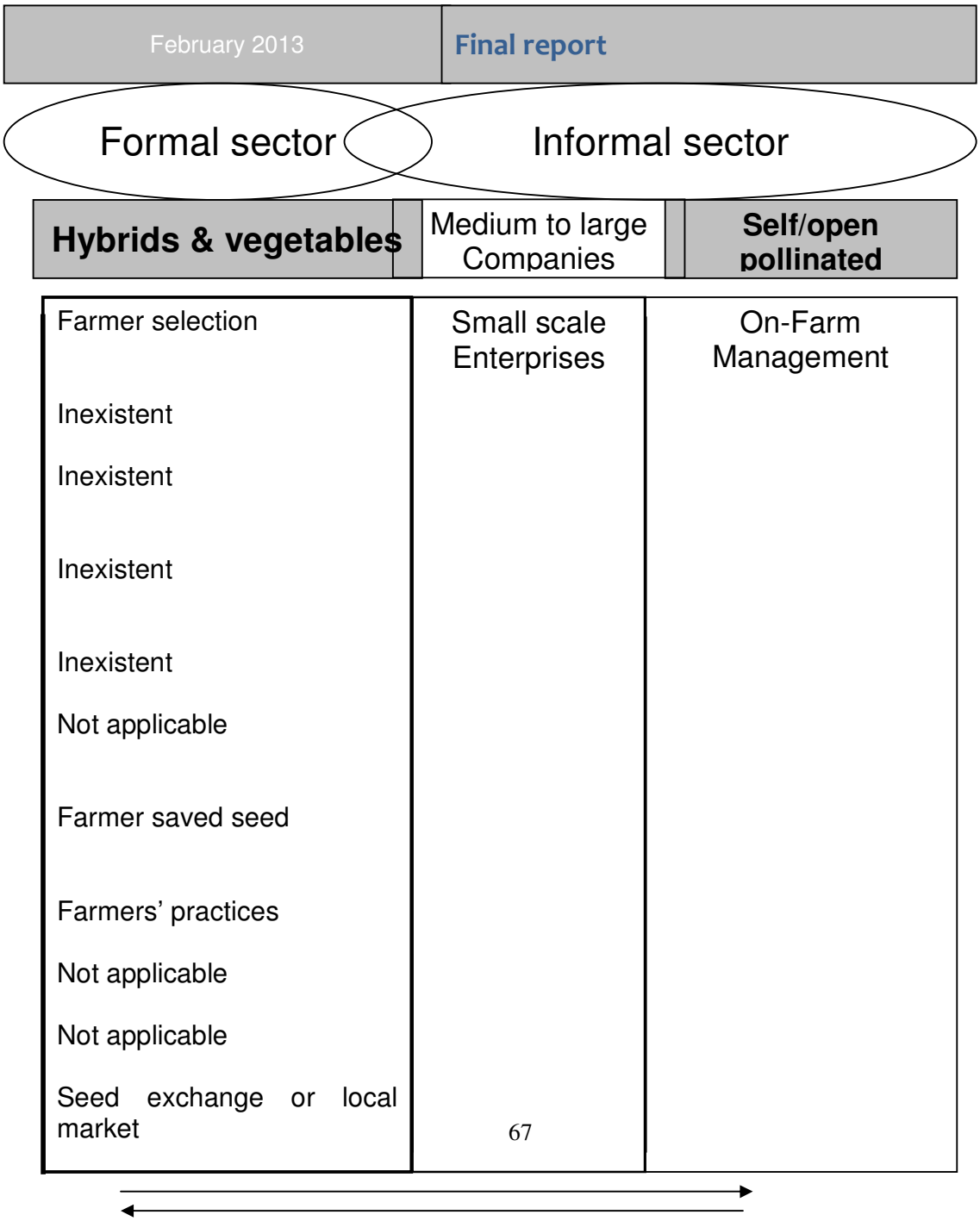
d. Weed Seed

- Leads to reduced yield and reduced crop quality
- More serious for noxious weed, which may lead to disaster e.g. red rice, striga in sorghum etc.

e. Moisture Content

- Higher M.C. than in specification accelerates loss of viability of seed
- Means you are paying some money for water
- The drier the seed the longer it will store

10.1.1



Annex XIII. Additional SQCU Information

	Activities	Indicator	D	J	F	M	A	M	J	J	A	S	O	N	D	Location	Responsible Person	Re-marks
Output 3: An independent Seed Quality Control Unit (SQCU) is established and functional																		
	Clarify status of SQCU as an independent unit and decide on organisational set-up	SQCU status determined and approved by GoSL		**X**	**X**	**X**										Freetown	National Seed Board	Established
	Finalise recruitment of technical staff	All seed labs and central service has adequate staff	**X**													Freetown, Rokupr, Njala	SQCU Manager	Full complements of professional staff recruited but only 50% of technicians on board
	Provide motorbikes	6 motorbikes supplied to SQCU	**X**													Freetown, Rokupr, Njala	FAO	Done very late.
	Prepare buildings to house seed labs in Freetown, Rokupr and Njala	Buildings ready	**X**													Freetown, Rokupr, Njala	SQCU Manager, Lab Managers	Buildings located but only Freetown, laboratory has been installed.
	Provide seed quality control equipment for 3 seed labs and install equipment	Equipment received and installed	**X**	**X**	**X**											Freetown, Rokupr, Njala	FAO	Equipment provided but only one laboratory (Freetown) installed.
	Train technical personnel on seed quality control	All technicians knowledgeable and skilled to conduct inspection and seed testing	**X**	**X**	**X**	**X**	**X**									Sierra Leone, outside	SQCU Manager, FAO	On-going!
	Register and inspect the premises of all seed traders(importer, seller, and	80% of seed traders registered		**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	Sierra Leone	SQCU Manager	Less than 50 % registered.

	distributor) in the country																	
	Register all seed growers of SMP and other seed producers	100% of seed growers of SMP registered					**X**							**X**		Freetown, Rokupr, Njala	SQCU Manager, Lab Managers	Less 50 % registered.
	Prepare and review annual calendar for inspection and quality control activities	Plan established		**X**						**X**						Freetown, Rokupr, Njala	SQCU Manager, Lab Managers	Partially accomplished.
	Conduct field inspections	Inspections done timely					**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	Makeni, Kobia, Makali, Blama	SQCU Manager, Lab Managers	Limited activities.
	Conduct laboratory tests and certify seed according to category and quality and issue certificates	100% of SMP seed tested and certified and categorised	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	Freetown, Rokupr, Njala	SQCU Manager, Lab Managers	**SMP seed and a small % of seed produced by other producers tested.**
	Monitor seed trade and generate statistics and reports	Statistics available	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	Sierra Leone	SQCU Manager	**Not yet done.**
	Prepare seed quality control regulations for the seed law	Regulations established			**X**	**X**	**X**	**X**	**X**							Freetown	SQCU Manager, Lab Managers	**Not yet done.**
	Generate statistics and 3-monthly reports to the National Seed Board	Statistics and reports timely submitted				**X**			**X**			**X**			**X**	Freetown, Rokupr, Njala	SQCU Manager, Lab Managers	**Not yet done.**

Table 2a. Training

Year	Type of training	Category	No. of training	Type of training	Duration of training	Achievement
2011	Local	Seed Technicians	16	Field inspection, Seed testing	2 days 2 days	Technician's skills in field inspection and seed testing improved.
2011		Seed growers	15	Production, processing	3 weeks 1 day	Methods of production and processing improved.
2011		Seed dealers	33	Marketing	1 day	Skills in seed marketing enhanced.
2012	Study tour	Senior staff	2	Advance Seed Quality Control Programs in Zambia, Tanzania and Ghana	3 weeks	Skills in seed laboratory management system enhanced.
2012	Short Course Training	Senior staff Technical staff	1 1	Seed Quality Assurance and Seed Enterprise Quality management.	2 weeks	Skills in seed sampling and seed testing enhanced.

Source: SQCU

Table 2b. Participants in the Training Workshops on field inspection for field/ laboratory Technicians from the , 21ST TO 22ND December 2012.

No.	NAME	ORGANIZATION	DESIGNATION	DUTY STATION
1	Michael . P. Lebbie	NARC	Laboratory Assistant	Njala
2	George . V. Puvande	NARC	Laboratory Assistant	Nala
3	Princess . K. Ndanema	NARC	Laboratory Assistant	Njala
4	Murray . S. Kaikai	NARC	Laboratory Assistant	Njala
5	Mohamed .F. Koroma	NARC	Field assistant	Njala
6	Aminata .K. Turay	RARC	Field assistant	Rokupr
7	Agnes Conteh	RARC	Laboratory Assistant	Rokupr
8	Tidankay .C. Y. Kallon	RARC	Senior Field Supervisor	Rokupr
9	Abdul .R. Fofie	RARC	Laboratory Assistant	Rokupr
10	Issa Sesay	RARC	Laboratory Assistant	Rokupr
11	Unisa. G. M. Kamara	Formerly SMP	Field Supervisor	Makeni
12	James. A. Sesay	Formerly SMP	Field Supervisor	Makeni
13	Fatmata. A. Kamara	RARC	Technical secretary	Rokupr
14	Abu B. Kamara	RARC	Field assistant	Rokupr
15	Alimamy .B. Conteh	RARC	Field assistant	Rokupr
16	Ali .Y. Kamara	RARC	Field assistant	Rokupr
17	Ernest G. Kamara	NARC	Research Assistant	Njala
18	Lans L. Delimini	FAO	Consultant	Freetown
19	Edward O. Dixon	SQCU	Chief Laboratory Officer	Freetown
20	Annie. M. Kallon	SQCU	Head, SQCU	Freetown
21	Sheik G. Kargbo	SQCU	Chief Laboratory Officer	Rokupr

Source: SQCU

Table 2c. Participants in the Computer Networks Training Workshop for SQCU STAFF on the 8th May 2011

No.	NAME	ORGANIZATION	DESIGNATION	DUTY STATION
1	Annie .M. Kallon	SQCU	Head, SQCU	Freetown
2	Sheik. G. Kargbo	SQCU	Chief Laboratory Officer	Freet own
3	Edward. O. Dixon	SQCU	Chief Laboratory Officer	Rokupr
4	Ernest. G. Kamara	SQCU	Chief Laboratory Officer	Njala
5	Hassan Bangura	SQCU/SLARI	Accountant	Freetown
6	Mbalu Nicol	SQCU	Secretary	Freetown

Source: SQCU

Table 3a. Area of Land Certified by SQCU in 2011 and 2012

Year	Institution	No. of seed growers	Seed crop inspected	No. of Hectare	Status (quality) of field inspection
2011	SMP	120	Rice	120	Some of the fields do not meet the criteria for varietal purity percentage of certified seed. Advice rouging.
	SMP	Maintenance farm	Rice	4	Plots of SMP varieties met the criteria for varietal purity percentage of foundation seed. Whereas plots for Ghana foundation seeds (Jasmine and Digan) did not meet the above criteria. Plots however, met certified seed standard.
2012	BRAC	OWN FARM	Rice	20	None of the field met the criteria for varietal purity percentage of foundation seed or registered seed. Some fields however, met certified seed standard.
	YEAVA	OWN FARM	Rice	30	Same as above
	SMP	194	Rice	334.8	To be field inspected.
			Maize	25	

Source: SQCU

Table 3b.Certified Seed Producers Registered by SQCU in 2011 and 2012

YEAR	Name of institution	Type of multiplication scheme (seed growers)		Type of market (seed dealer)	
		Maintenance farm/own production	Contract growers	Sole	No. of outlets
2011	SMP SEEDTECH BRAC YEAVA ARID	Farm labour - Farm labour Farm labour	300 - - 20	3 3 1 1	ABCs Country wide 3
2012	SMP SEEDTECH BRAC YEAVA ARID	Farm labour - Farm labour Farm labour	300 - - 30	3 3 1 1	ABCs Country wide 3

Source: SQCU

Table 4. SEED SAMPLING AND SEED TESTING for 2011 and 2012

Year	Institution[23]	Crop seed	No. of Lots	Qty. in metric ton	Status (quality) of seed lots tested (ECOWAS STANDARDS)
2011	SMP (1)	Rice Groundnut	44 13	67.1 18	60 % met required standard. Recommended rogueing and rest for grain production. All lots failed to meet the required standard. Recommended for grain consumption.
		Sub total	57	85.1	
2012	YEAVA BRAC ARID SMP African rice (5)	Rice Rice Rice,(Maize) Rice Rice	4 3 7, (1) 107	7 5 14,(2) 213	Failed to meet required standard. Recommended certified seed production Same as above.
2012	SEEDTECH (1)	Vegetable	40	0.4	All lots met required standard.
			130	147.56	
	7	Grand total	187	232.66	

[23] YEAVA, BRAC and ARID are emerging seed companies funded by Alliance for a Green Revolution in Africa (AGRA).

Table 5. **Details on Activities of Maintenance and Own Production by SMP**

Activities	**Makeni – Thakoblo**			**Kobia – Robana**			**Kobia – Wula Thenkel**			**Blama**
	Maintenance			**Maintenance**			**Own production**			**Own Production**
	Jasmin	**Digan**	**N-3**	**Jasmin**	**Digan**	**N-3**	**Jasmin**	**Digan**	**N-3**	**Jasmine**
Quantity of seed used (Kg)	195	10	4.0	4.0	4.0	5.0	15	15	5	240
Acreage (acre)	2.79	1.38	0.38	0.3	0.3	0.1	1.5	1.1	0.3	8
Date of sowing	12.9.11	22.9.11	5.10.11	4.11.11	4.11.11	4.11.11	17.10.11	17.10.11	17.10.11	19.10.11/4.11.11
Date of transplanting	1.10.11	10.10.11	20.11.11	29.11.11	1.12.11	Not yet	10.11.11	16.11.11	19.11.11	7.11.11/ 28.11.11
Quantity of fertilizer (kg)	150	80	40	0	0	0	150	100	50	1,500
NPk 15:15:15	100	50	30	0	0	0	100	100	50	1,000
Urea	50	50	10	0	0	0	50	0	0	500
Stage of crop	Milking	Early tillering	Maximum tillering	Early tillering	Early tilleri ng	In nursery	Maximum tillern g	Maximum tillern g	Maximum tillern g	Early to maximum tillering

Table 6 - List of laboratory equipment received

QTY	NAME OF ASSET	SEED MULTIPLICATION CENTRE	SEED INSPECTIONS UNIT	SEED TESTING LABORATORY	REMARKS
3	Seed Germinator single chamber			**X**	Ok
3	Rice Sheller (dehusker)	**X**			Ok
3	Seed Blower (Dakota type)	**X**			Not according to specification for seed testing laboratory
61	Plastic Bags: Table Top Hand Sealer	**X**			But not necessary for seed testing lab.
120	Petri Dishes			**X**	Ok
300	Beakers- 100ml,50ml			**X**	Ok
100	Glass Cylinders 500ml, 100ml,50ml, 10ml,5ml			**X**	Ok
6	Riffle type Divider with 4 Pans			**X**	Ok
100	Filter Paper			**X**	Ok, though not enough
90	Test Tube Stand Wooden with Plastic side supports			**X**	Ok
12	Hand Tally Counter		**X**		Ok
30	Forceps			**X**	Ok
30	Spatula Plastic			**X**	Ok
6	Measuring Tap		**X**		Ok
60	Sample Container			**X**	Need to be labeled both lid and bottom.
3	Desiccator			**X**	Requires silica gel
6	Steroscope Microscope			**X**	Ok
9	Purity Work board			**X**	Ok
12	Seed Trier		**X**		Ok
12	Seed Probe		**X**		Ok
3	Magnifier Lamp			**X**	Ok

3	Steel Trolley			**X**	Ok
3	Quick Seed Moisture Tester		**X**	**X**	Not suitable for some crops like maize and rice that require grinding as there is no provision for grinding samples
3	Top Loading Balance			**X**	Ok

Annex XIV. Team Member Profiles of International Consultant

Arnoud Braun, Farmer field School and Business Development Expert, team leader
Arnoud was educated as a Soil Scientist at Wageningen Agricultural University, The Netherlands. After a short career as a scientist with the International Agroforestry Centre, he joined FAO in 1999 to develop the Farmer Field School approach for land and water management. In 2003, Arnoud moved back to the Netherlands, still working on various FFS assignments for FAO as well as other organisations. In 2008 he was a member of a FAO Evaluation mission of two projects in India. Since 2009 he has added a business development focus to his work, in which as member of the Dutch International Business Development Cooperative (DIBcoop), he assists companies that have the intention to invest in emerging markets to access funding soucres (grants, loans, equity, etc.).

Michael Abimbola Larinde, International Seed Expert
Michael retired from the FAO in September 2009 as Senior Agricultural Officer (Seed Production), Plant Production and Protection Division (AGP), Agriculture and Consumer Protection Department, Food and Agriculture Organization of the United Nations (FAO).
He has over 38 years' wide-ranging experience in the field of agriculture, 37 of which was at international arena.

Joe Patrick Amara
Is an agronomist specialized in crops (rice, plantation crops, cocoa and coffee). He worked as a field extension worker in all parts of Sierra Leone until '77. From '77 to '90 cooperated in various positions with the GTZ and the ADB. From '92 to '99 was Assistant Deputy and Chief for the Ministry of Sierra Leone. After his retirement he served as National Programme Officer to FAO in Sierra Leone and worked as private consultant.