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## EXECUTIVE SUMMARY

The objective of this study is to map the second generation Poverty Reduction Strategy Paper of Sierra Leone, sector based strategies and policies relating to Rice Development. Despite very favourable ecologies and a strong rice growing tradition, rice development in Sierra Leone has not reached its full potential because of a number of factors. Some of these factors are historical such as the decline in productivity witnessed in country after the diamond boom of the 60s, some stem from policy and market failures and the competing demands for local consumption versus higher returns from cross-border trade. The analyses gained from the study inform the reader that better synergies need to be built into these sector strategies to achieve maximum impact in rice development.

## CHAPTER ONE

### 1.0 INTRODUCTION

As an engineering endeavour agriculture is considered as a delicate issue that forms part of the politics and life base of people in Sierra Leone. For this reason, this sector requires a huge investment of both financial, technology and human capital. This mapping study therefore lays the groundwork for a comprehensive analysis and establishment of a concrete link between the National Rice Development Strategy (NRDS) initiative and the ongoing development frameworks such as the Poverty Reduction and National Development Strategies, and other important programmes that would enhance food security and poverty reduction. What it fails to do is to assume, with confidence that much has not been done in the area of food security. Rather, it advocates in some respect, for a better policy and strategy alternative particularly with regards increasing the quantum of rice for the consumption of the populace.

According to the Ministry of Agriculture data, rice is the single most important crop in Sierra Leone accounting for 75% of agricultural GDP. It is the most important food crop in Sierra Leone which constitutes 82% of the population's food intake. Rice production fell by 65% during the war and although production has increased considerably over the last four years, it still only meets 60% of demand. Given that local rice fetches a 15-20% premium over similar grade imported rice in the national market, there is a significant local opportunity for growth in this sector.

The study was conducted by content analysis of documents relating to rice development in Sierra Leone and semi-structured interviews of key policy makers and technical specialists at the Ministry of Agriculture and Food Security and agencies such as JICA and the Food and Agriculture Organisation (FAO). The study also takes up the issue of the policy ramifications that put into perspective a framework for the realisation of the national goal of increase food productivity at both national and sectoral levels.

## CHAPTER TWO

### STRATEGIES, POLICIES/PROGRAMS AND EXPENDITURE FRAMEWORKS

#### 2.1 STRATEGIES, POLICIES / PROGRAMS AND EXPENDITURE FRAMEWORKS AT NATIONAL AND SECTOR LEVEL.

**2.1.1 National frameworks:** The main policy document that guides the Government's development agenda and provides the platform for discussion and funding from donor partners is the Poverty Reduction Strategy Paper (PRSP). Sierra Leone's second generation PRSP also referred to The Agenda for Change recognizes the broad importance of agriculture and rice specifically to Sierra Leone's development. The period of the new PRSP is 2008 -2012. Place of agriculture in the new PRSP; the new PRSP is built around three strategic priorities; Energy, Agriculture and Transportation. As such agriculture occupies a central space in terms of government's priorities for development. However, the new PRSP identifies the following as serious constraints to agricultural development:

*Inadequate budgetary support:* Agriculture currently receives less than 3% of the national budget allocation and considering that nearly two thirds of the population depends on it, there is significant under-funding of activities in the sector.

*Inadequate rural financial services:* Access to financial services such as credit and savings facilities is extremely limited. This makes it difficult for farmers to access loans for the purchase of inputs and also to save money for consumption in the 'hungry period'.

*Heavy reliance on rain-fed agriculture:* Limited irrigation facilities in the country mean that farmers are reliant on rain-fed agriculture and are therefore limited in the number of crops they can plant in a year.

*Labour drudgery:* The unavailability of mechanized equipment forces farmers to be dependent on manual labour. This limits productivity in the sector.

*Weak rural infrastructure:* The poor quality of rural roads, transport, markets; energy and power hinder the productivity of farming, particularly commercial farming, and so act as a disincentive to the private sector.

*Weak extension system:* The limited capacity of the current extension system hinders the delivery of training, information and advice to farmers.

*Absence of a sector database for policy, planning, monitoring, evaluation and reporting:* Until the database is established, activities in the sector are hindered by a lack of quick and easy access to necessary information. This can restrict the efficiency of activities, as well as the lack of co-ordination between stakeholders and a duplication of activities.

*Poor coordination among sector stakeholders:* As described above, the poor co-ordination between stakeholders can sometimes lead to different stakeholders tackling the same problems but totally missing out others.

*Long-term concentration on subsistence farming:* The sector has traditionally been dominated by subsistence farming and so if commercial farming is to be successful, a significant change in the mindset of the farming population may be needed. It will be important to ensure that the farmers are provided with sufficient incentives to make commercial farming attractive enough for them.

*Low and limited research activities:* The low level of current research activities restricts advances in technology, efficient farming practices and productivity.

*Very weak sector institutions, especially the MAFFS:* the low capacity of sector institutions restricts their ability to carry out the necessary activities for the development of the sector.

Stakeholders in the new PRSP are identified as the Government, the populace in general, civil society representatives, donor governments and organisations.

#### (i) LESSONS LEARNED FROM THE 1<sup>st</sup> PRSP

There were a variety of lessons learned over the course of the implementation of PRSP-I. The issues and constraints are outlined below:

Targets too ambitious relative to available resources - PRSP targets were not revised after the re-prioritisation process and consequently, Government was monitoring progress on the implementation of programmes which were not funded. Targets should have been revised based on the available resources.

Weak inter-sectoral linkages - although the PRSP-I underscored the need for strong inter-sectoral linkages between the programmes identified, during implementation the sectors tended to focus primarily on activities that fell within their respective sectors. No strong collaboration or synergy was realised between the various units in the different sectors.

Implementation was not dictated by national priorities - there was a tendency for donor funding to be directed to programmes that reflected donor preferences rather than national priorities. For example, funds were quickly mobilised to support Civil Society Organisations (CSOs) and related activities but were not adequately provided to support the energy sector.

Need for a resource mobilisation strategy and an Aid Policy - mobilising resources was primarily undertaken at Consultative Group meetings and bilateral ad hoc meetings with partners. There was no clear strategy as to how and when resources would be mobilised to close the funding gap. There is a need to develop and adopt a Resource Mobilisation.

Strategy and an Aid Policy that will assist the Government to expand the number of development partners that are actively involved in Sierra Leone, but also to provide clear guidelines on all aid management issues.

Lack of required capacity - the effective implementation of PRSP-I depended largely on the capacity of the line Ministries to develop, implement and monitor programmes within their respective Ministries. Weak capacity in line Ministries affected the implementation of programmes. Additionally, CSOs and the Parliament are supposed to monitor progress and provide the checks and balances required for effective implementation of programmes. However, due to capacity constraints, Parliamentarians as well as CSOs were unable to provide effective monitoring of PRSP-I. Finally, the PRSP promotes the development of

the private sector as a prerequisite for growth. Diagnostic studies were carried out but there was insufficient know-how or capital to support significant levels of private sector activity.

Internalising PRSP-I - in most cases, MDAs and local councils did not implement the PRSP as it was largely viewed as separate from their routine work. This had a fundamental detrimental impact on PRSP-I implementation.

Lack of timely and reliable statistics - the lack of timely and reliable statistics made the determination of the baseline for monitoring difficult and as a result, targets set were unrealistic. It also made it difficult to adhere to the monitoring and reporting requirements of the PRSP.

## 2.2 Sectoral frameworks

In terms of sectoral frameworks relating to rice development, there are three major documents guiding the work of the Ministry of Agriculture, Forestry and Food Security in Sierra Leone. These are the National Sustainable Agriculture Development Plan, National Rice Development Strategy and the Small-holder Commercialisation Scheme which is currently in development. The vision of the Ministry is to make agriculture the engine of socio-economic growth and development through commercialization and the promotion of the private sector, including the farmers and farmer-based organizations (FBOs). To fulfil this vision, the Government has placed Agriculture as the topmost priority in its “Agenda For Change”; the country’s second generation PRSP.

In an Agricultural master plan developed by the Ministry of Agriculture spanning from 2010-2030 in support of the Agenda for Change, the planners lay emphasis on the pursuit of commercial agriculture, among other goals. This they intend to effect through the involvement of the private sector in order to realise the agricultural potential of the country. In support of this programme, the broad policy objectives of the agriculture sector are to initially achieve rice self-sufficiency by 2011 and to regain the country’s position as net exporter of rice by 2013.

To achieve this, **the Ministry has put in place supply-side strategies** to increase the productivity and production of rice such as:

- the distribution of high yielding rice varieties including NERICA seeds,
- the promotion of a tractorization scheme,
- the provision of agrochemicals,
- the provision of research and extension services,
- the provision of rice processing facilities,
- serious sensitization of the general public and the farming communities about the need to take agriculture seriously,
- the promotion of private sector participation, including farmers and farmer-based organizations (FBOs) in the sector through a package of investment incentives.

In order to underscore the relevance and seriousness attached to rice production in the following years, stake holders in the Ministry of Agriculture, Food and Security, outlined the above supply-side strategies in a comprehensive agricultural document as part of the current national agricultural policy (Source: National Sustainable Agriculture Development Plan 2010-2030, August 2009). These supply-side strategies were designed to boost the components of the rice value chain which, as will be shown later, are clearly identified in the national Poverty Reduction Strategy Paper II.

Over the past two years, the supply side interventions have impacted positively on domestic rice production. However, according to the Food and Agriculture Organisation Rice Market Monitor – April 2010 it was expected that there would be a drop in production from the 2009 planting year. In addition a serious constraint is that milling companies are still so limited that most of the rice produced will not be able to be consumed in Sierra Leone urban markets in competition with imports. However, it will provide increased availability in some rice growing communities. In short, rice markets in Sierra Leone could be divided into two realities, an urban market primarily serviced by imported rice and a rural market serviced mainly by locally produced rice. The situation is compounded by market fragmentation of the country which, in the absence of an effective market information and marketing system, inhibits the linking of supply with demand. (Source: MAFFS, 2009).

In support of the agenda for change the Ministry of Agriculture has developed an agricultural master plan to ensure an intensification of efforts in promoting agriculture in Sierra Leone. **The basic theme of the agricultural master plan is to “Make agriculture the ‘engine’ for socio-economic growth and development through commercial agriculture”.** (National Sustainable Agriculture Development Plan 2010-2030, August 2009). It is intended to last for 20 years, from 2010-2030. The key objectives of the agricultural master plan in line with the Agenda for Change include the following:

- Fostering increased agricultural productivity (intensification)
- Promoting commercial agriculture through Private Sector (extensification)
- Improving Research & Extension Service Delivery
- Promoting effective and efficient Resource (financial, physical and human) Management
- Mainstreaming cross-cutting themes: gender and youth promotion, farmer health care issues (including HIV/AIDS, IVS sicknesses and hazards, malaria, etc) and natural sustainability.

The agricultural master plan is explicitly fine tuned towards investment into the agricultural sector in order to realise the priorities of the second generation Poverty Reduction Strategy Paper. Thus the main investment areas identified in the master plan include:

- Commodity Commercialization Sub-Programme which focuses on rice, cassava, livestock (oil palm, cocoa, coffee, cashew), export crops, fisheries and forest products. The scheme through which this sub-programme will be implemented is small-Holder Commercialisation and Medium and Large Farm Producer Promotion.
- The Agriculture Infrastructure Development Sub-Programme geared towards the provision of basic infrastructure feeder roads, irrigation facilities, which will boost agricultural development.
- The Private Sector Promotion Sub-Programme will provide the enabling environment through the review of investment and other related policies.
- The Sector Coordination and Management Sub-Programme will ensure an effective and coordinated implementation and management of the sector activities.

Several opportunities are highlighted by the planners as well as the constraints in harnessing these opportunities including challenges facing the agricultural sector. These include crisis of expertise, declining soil fertility, low technological input, agricultural infrastructure, value chain and value addition, input and output marketing, financial services, technology access and farmer empowerment, former farmer base organisations, access to land, tax structure, investment policy, fisheries, weak sector coordination mechanism, gender and youth in agriculture, and nutrition diversification and farmer health. Although these opportunities and challenges exist the planners are optimistic that a sustained

growth will be achieved by raising the quantity, value-added and productivity in agriculture, fisheries and forestry.

Furthermore, in order to achieve the vision of the Agenda for Change, a number of objectives are stated which are highlighted below:

- Increasing agricultural productivity.
- Promoting commercial agriculture.
- Improving agricultural research and extension delivery system.
- Promoting efficient and effective sector resource management systems.
- Mainstream cross-cutting issues in agriculture.
- Managing and exploiting Sierra Leone's Fishery and Marine resources.
- Managing and exploiting Sierra Leone's Forestry resources.

These objectives are achieved through series of programmes enumerated in the master plan. Some of these programmes are ongoing while some are only in their conceptual stage. For instance, in order to increase agricultural productivity, support measures are planned which involve the provision of agricultural equipment, the establishment of supply chains for inputs such as fertilizers, integrated pest management and high yielding seed varieties, among others. In between these, government has made available to farmers fertilizers and insecticides for the control of pests. Also, variety of seed rice was supplied to the farmers at district levels through the Ministry of Agriculture, Forestry and Food Security to help increase the quantity of rice harvested in the year 2010. However, as it is at present, the supply of rice to the Sierra Leone market is yet to be seen as the population is still dependent on imported rice with few people able to purchase a bag of rice on monthly basis.

In the case of promoting commercial agriculture, post harvest storage facilities in the form of drying floors, rice mills, threshers, animal field mills, and abattoirs are mapped out to be created at strategic rice production sites. It is also estimated that commercial banks and financial service associations will be established to ensure access to rural credit, as well as the rehabilitation or construction of feeder roads and community markets that will facilitate the movement of goods to the market. In all of these, the provision of rice mills is ongoing while the rehabilitation of feeder roads is in its incipient stage.

With regards to the promotion of an efficient and effective sector resource management system it is not clear whether new policies of agricultural research and extension are being formulated to replace the existing ones. What is certain however is that moves are made to establish a database of agricultural statistics as a prelude to sector policy formulation.

For mainstream cross-cutting issues in agriculture, workshops and sensitization programmes are identified in the master plan. These have been conducted through the electronic and print media in order to raise awareness of farmers about the use of codes and ethics in the farming enterprise. This project was intended to mitigate or eradicate endemic diseases in the agricultural sector that affect farmers.

According to the PRSP, support to agriculture has been focused on reducing poverty and food insecurity, which is in accordance with Millennium Development Goal 1. **Policies have therefore concentrated on**

**small-holder farmers, and less attention has been paid to commercial farming.**<sup>1</sup> Extension services have therefore targeted improvements in agricultural production from small farms and have not supported the growth of agro-industry in the country.

Apart from the details of the agricultural master plan discussed so far, **the National Rice Development Strategy** has outlined comprehensive strategies for the implementation of its sub sectors, both at the local and national levels of the country. These strategies are intended to achieve an effective food security as part of national vision. However, in order to realise an enviable output of these sectoral strategies, considerable investment is needed in agriculture with an increase in the productivity of rice as the staple food of Sierra Leoneans. This will provide the milieu for meeting the production of about 530,000 mt of milled rice, estimated in the National Rice Development Strategy as the quantity that will serve the consumption needs of the population on annual basis. To meet this target therefore the following two broad strategies are grafted:

- to increase the area of cultivation mainly in the lowlands where human and other capacities are gravely underutilised;
- to increase the productivity per unit area in all ecosystems.

The first strategy is increasingly feasible in the Inland Valley Swamp (IVS) since it is ubiquitously present across the country and owned and utilised by a large number of people engaged in agricultural work. It is also suitable for sustainable rice production. The second strategy enables a higher percentage of rice production. These two strategies aim at cultivating a land area of 83,000 ha and an increase in the average rice yield per ha to 2 mt per ha. Notably, the potential of these strategies lays in the additional input made by government or appropriate stakeholders vis-à-vis substantive investments. For instance, where the area of cultivation is extended to 1,100,000 ha in the subsequent years with a concomitant increase in the average yield of rice to 4 mt/ha, as estimates suggest, rice production will escalate to over 3 million tons in 2018.

**Importantly, these strategies are part of the components of the rice value chain as they help to ensure a higher agricultural productivity. Although the second generation poverty reduction strategy paper (PRSP II) considers agriculture as its priority especially after energy, it does not clearly state these twin components as priority (Ref: Sub-section 6.1.2- production trends of the PRSP II document).** What it does however is that it makes reference to the increase in rice production by 27.5% in 2007 and sights area expansion as a factor for this progress. For high productivity to be enhanced it will be necessary to recommend that priority should be given to rice cultivation covering wider area in view of the fact that Sierra Leone is “endowed with sufficient arable land with favourable climatic condition, (and)reasonable access to land”... (Sierra Leone National Sustainable Agricultural Development Plan 2010-2030, August 2009).

These considerations are likely to face cumbersome challenges, which are readily found in the competing need for an improvement in the current infrastructure, agricultural services as well as a strategic coordination and management system. In order to realise the goal of food security, emphasis is placed on policies that address these challenges. To underscore its significance, the issue of rice is integrated in the overall agricultural development policy, which is of national concern. Thus rice self-

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<sup>1</sup> Sierra Leone PRSP 11 (An Agenda for Change), pg 68.

sufficiency or food security has been a recurring theme in the policy parlance of government reflected in the “Agenda for Change”. Although, as the National Rice Development Strategy indicates, much has not been achieved, these policies carry real promise that will lead to the achievement of food security if appropriately pursued.

Specifically, the national rice policy is disaggregated into several sub units such as seed system, post harvest and marketing, water resources management, mechanization, research, extension, human resource development, and agricultural finance/credit. For each of these constituents of rice policy, a set of policy goals is provided followed by a strategy for its implementation.

For the seed policy, the main objectives are to deliver seeds that are of high quality and improved varieties to the major ecosystems, establish a framework that will enable effective and sustainable seed system development, and provide guidance for dealing with seeds. Policy on post harvest and marketing will involve storage, processing and marketing, while water resources management will concern the development of both underground and surface water resources for multiple use and effective control measures to avoid erosion and other hazards. In the case of mechanization, the policy concerns involve the provision of mechanical power to replace manual labour, and the expansion of cultivated area in ecologies. Research policy generates production materials of high quality, appropriate technologies that are sustainable and with the potential of managing pests while ensuring environmental safety. Also, policies dealing with extension will capacitate the rural population to improve on their living standard using resources that are available locally, whereas human resource development will aim at producing more agricultural personnel with sufficient training and motivation. Finally, policy on agricultural finance/credit will facilitate access to adequate and timely investment funds for the development of agriculture.

The above policy frameworks require the investment of huge financial capital if any meaningful achievement is to be made both at national and sector level. The government should play a leading role in the provision of the needed resource supported by donor agencies. In this regard, the rice sector stands to benefit from a comprehensive outline of a programme of investment, developed into a framework through which expenditure is committed. This framework encapsulates the following aspects of the rice sector which also serves as components of the rice value chain:

- a. The improvement of rural/village infrastructure;
- b. Reclamation and Development of Inland valley Swamps;
- c. Rehabilitation and Expansion of Feeder Road Network;
- d. Rehabilitation and Expansion of rural Markets;
- e. Efficient provision of agricultural services; and.
- f. Credit for Agricultural Market Development.

For the improvement of rural/village infrastructure, the intervention aims at rehabilitating and constructing new feeder roads, community service infrastructure, and appropriate infrastructure for rice production. **This is stated as the second priority in the PRSP II.** In this document reference is made to rural market infrastructure as part of the process in improving agricultural output. It further states that an estimate of 2055 kilometres of road (as well as feeder roads) will be rehabilitated alongside 160 kilometres of road in major towns and cities, all geared towards making it possible for farmers to market their goods on timely bases. This will help to achieve the rehabilitation and expansion of feeder road network which is estimated to be accomplished within the time frame (2009-2018) with a total

projected cost of US \$14,300,000.00 as stated in the National Rice Development Strategy. **It however does not list community service infrastructure and appropriate infrastructure for rice production. Attention must be paid to this aspect of the rice value chain as its importance is well known for agricultural growth.**

The investment programme framework also aims at reclaiming and rehabilitating Inland Valley Swamp of up to 40,000 ha, restore priority swamps of about 20,000 ha/annum, and start farmer field schools to address land and water management in the production of swamp rice. Overall, the framework focuses on the development of Inland Valley Swamp and small scale irrigation, which is scheduled to span from 2009/2010 to 2018 with the total expenditure of US \$27,100,000.00. **Unfortunately, this component of the rice value chain is not listed in the PRSP II (Agenda for Change).** Only issues such as irrigation services, research and extension policies, among others, are highlighted for increase agricultural productivity. It is therefore pertinent for this aspect of Inland Valley Swamp to be advocated.

The improvement of market infrastructure is scheduled to span from 2009-2014 with a projected budget of US \$5,500,000.00, while the efficient provision of agricultural services covers research, extension and the collection of reliable data from 2009-2018, with a respective cost of US \$ 6,550,000.00; US \$ 1,550,000.00; US \$2,000,000.00. These components of the rice value chain are articulated in the PRSP II where it is stated that “community markets will be rehabilitated and or constructed to facilitate movement of goods to the market”, and research undertaken to promote “appropriate technologies for packaging, handling, processing, and storage quality and capacity, even at the village level”.

Finally, the framework provides for credit facility for agricultural market development through credit to small farmers and communities to intensify input use and create credit lines to input suppliers and marketers. **This component too is prioritised in the Agenda for Change, PRSP II.**

Other sector frameworks that have some bearing on the implementation of the NRDS are the Water and Sanitation Policy in the Ministry of Energy and Power, and the Rural Private Sector Development Strategy that is jointly managed by the Ministry of Trade and Industry and the Ministry of Agriculture. **Unfortunately, these documents read as stand-alone strategies and this could be attributed to the fact that they were done by sector specialists at different ministries at different points in time.** We would suggest therefore that the NRDS be re-written to capture these inter-relationships at the earliest possible time.

In conclusion, although the three strategy documents and sector frameworks mentioned earlier are thematically linked it must be noted that in terms of synthesis there are serious gaps that need to be addressed for Ministry of Agriculture to able to achieve its stated goals for rice development. For example, as will be discussed in detail later, the National Rice Development Strategy is currently un-costed which makes the exercise of determining the levels of investments needed in the different value chains identified in the document virtually impossible. Secondly, the new small holder commercialisation scheme that is being developed recognises rice as a valuable commodity but it would appear that the process framework for developing the strategy i.e, stock-taking, analysis, formulation and implementation is a bit flawed as there is currently no data on the volume of investment per commodity chains including rice and the market failure issues such a lack of investments in milling facilities which would be best run by private sector players are still largely unattended to.

## **2.2 PROCESS OF IMPLEMENTATION OF STRATEGIES / POLICIES / PROGRAMS AND THE EXPENDITURE FRAMEWORKS.**

For an effective implementation of the multifarious strategies/policies/programs and the expenditure framework outlined in the National Rice Development Strategy (NRDS), a comprehensive approach is grafted with the purpose of achieving qualitative output that can impact positively on the ongoing effort of poverty reduction by increasing the quantum of rice produced annually in Sierra Leone. However, in all the policy areas, government acts as the main stakeholder in ensuring that the programs are effectively implemented within cost effective parameters, although funding is dominated by donors. The implementation side of the rice policy is effected through the various sub units which are examined below.

In the case of the seed system, government will continue to develop pilot operations, ensure an efficient supply of seeds through public service infrastructural and service agencies, support improve seed demand from farmers and support investment in seed supply. Through government support, and by limiting public sector supply of seeds, the private sector will produce and supply seeds to farmers with minimal competition from agencies of government. To further maximize research activities that will benefit national agricultural and economic development, government intends to establish all public sector seed infrastructural components and work closely with private sector to realize these goals.

These strategies are expected to result in a clear definition of role relations where by government focuses on activities/components of commercial and market responsive nature. Government shall receive advice on all issues concerning seed policy from a National Seed Board (NSB) which it will establish and for overseeing legislations and protocols, planning and implementation of seed industry. A Variety Release Committee (VRC) shall be formed to evaluate seed varieties, with concentration on a four generation system of seed multiplication. In essence, the strategy will concentrate on prioritising good quality seeds based on standards drawn in line with local needs and regional and international requirements. Finally, a bifocal upgrade system will be established by government such as a) a Central Seed Testing Laboratory in Freetown and b) a minimum of four satellite seed testing laboratories at the region, to cover the country. For human resource need, both local and international avenues will be sought.

For post harvest and marketing government's role will concentrate on storage, processing and marketing of products. Research will be encouraged and private sector involvement in storing surplus agricultural products taken from the farm, and on the spot processing of such products. Investment in agro-processing will take the form of credit guarantee facilities, among others. Post harvest losses of crops will be assessed and effective handling and processing methods evolved by research institutions to minimize losses. In terms of marketing, a competitive marketing environment will be promoted by government, rice procurement restricted to domestic rice, provide incentives to producers and exporters, opportunity for exporting agricultural commodities, in line with appropriate grading and certification, normal customs examination, and close surveillance of free commodity market operations. Government will also provide a suitable framework for market research and information dissemination as well as provide infrastructure for agricultural marketing development.

With regards water resource management, government will make regulation on national water resources geared towards water resource exploitation and its efficient use. It will also implement control measures for flood and erosion, encourage the development of small and large scale irrigation schemes in areas affected and joint involvement with non-governmental organizations.

In terms of mechanization, government will promote private sector involvement and partner with entrepreneurs and farmers' associations in evaluating imported equipments, their standardization and efficiency of operators. A reactivation of the work-oxen training and extension programme as well as support to research institutions and private sector participation will form the cardinal part of governments' role in this direction.

Government will ensure that research deals with Sierra Leonean producers effectively coordinated, and provide sustained funding for research bodies. Comprehensive relevant stakeholder involvement will be sought, ensuring a liaison between research institutions and extension agencies. There will also be an appropriate community-based extension programme which will be established using farmers' associations and related groups, training frontline extension workers, and other training needs affecting farmers.

For human resource development, government will assess manpower and training needs of MAFFS, institute programmes to facilitate such trainings at various levels of agricultural workers, with particular focus on increasing the number of women. Appropriate incentives will be part of the implementing strategy.

Finally, for agricultural finance/credit, government will undertake both fiscal and monetary policies and changes in the operations of lending institutions.

### **2.2.1 ANALYSIS OF THE KEY STAKEHOLDERS' ROLE AND RESPONSIBILITIES.**

From the National Rice Development Strategy, five categories of stakeholders are involved in agricultural activities with specific reference to rice production. These stakeholders include the government, non-governmental organizations, private actors, researchers including research technicians and extension workers, and the local farmers. They are involved at different cadre of the rice production process both at national and sector levels. Irrespective of their level of involvement, each of the stakeholders plays a significant role in ensuring that there is maximum production of rice in the country. For instance, the government is responsible for setting the entire process in motion, and creating the enabling environment for the effective and efficient management of rice at both national and sector levels. On the other hand, the non-governmental organizations exist basically to provide needed support to government in the form of financial resources and technical aid. They also assist in the training of manpower for carrying out technical tasks at field level. The private institutions help in the process by investing in rice production and supply to the market. They engage in research activities to evolve new and adaptable seedlings for harvest. The researchers, technicians and extension workers exist to conduct research in the area of rice variety and efficiency.

These researchers are of great importance to the whole process as they ensure that best type of seeds are produced and made available to farmers for planting. Their management in terms of appropriate training, remuneration and general circumstance within which they operate, is very crucial if their role is

to be meaningfully exploited for the benefit of the state. Unfortunately, and as noted in the National Rice Development Strategy, this brand of stakeholders in the rice production sector are in short supply and the few number often face series of problems that hamper their effectiveness. If a serious policy is to be pursued by government, primary attention needs to be paid to this aspect as a tendency exists for the available researchers to leave for greener pasture. At the bottom of the stakeholder strata are the farmers who do the bulk of the manual labour, without which the efforts from above will be a fairy tale. In the National Rice Development Strategy, as in other works on agriculture, very little attention is dedicated to this cadre of stakeholders. They are merely exploited in the value chain without ensuring that they develop their human resource base in terms of equipping them with the basic knowledge of agricultural engineering and supplying advance equipment for agricultural work. For a meaningful and lucrative rice productivity to be realised in the agricultural domain, training facilities and other relevant incentives should not only stop at the level of researchers, technicians and extension workers. The manual labourers at both national and sector levels should be considered as well. **A holistic approach is necessary and should form the core of any national agricultural master plan as well as in the Poverty Reduction Strategy Paper which is reticent on this issue.**

Apropos to the above, and in order to meet the targets set in the Second Generation Poverty Reduction Strategy Paper, especially with regards to agricultural productivity, the responsibilities of the various stakeholders must be reviewed and fine-tuned to meet the challenges ahead of the government. The stakeholders must be proactive in the movement of agricultural products from the producers to the market (both domestic and international). It is important to note that an effective cooperation among the stakeholders will produce realistic result. For instance, over the years the establishment and focus on the Sierra Leone Agricultural Institute, the Rokupr Agricultural Research Centre, and stations of the Ministry of Agriculture, Forestry and Food Security have lead to the development of improved rice varieties that are akin to the needs of the local consumers such as NERICA, Paddy Rice, ROK rice, and Borma rice, among others. Although these developments are important, what remains to be seen is the enhancement of the capacity of the various institutions through the provision of appropriate equipments and technology driven environment. They should cut across the entire value chain, at producer level, milling and storage of agricultural products, transaction at the market level and exportation. Until these considerations are taken seriously those agricultural structures would do little help to the productive side of government as outlined in the agenda for change. As multi-track innovations are essential in serving as prelude to the establishment of a viable free port system, much effort should be directed to this enterprise through the involvement of the relevant stakeholders such as government, the private sector and the agricultural researchers.

Thus, all of the stakeholders are very important and can exhibit great potential if the resources are available to support their efforts and ensure that their expert knowledge are employed in harnessing the productive potential of the agricultural sector at all levels of the value chain. In the absence of any meaningful support, their efforts would only be relegated to the thresholds of downward agricultural productivity with the concomitant effect of sharp rice shortage. This will undermine the agenda for change as elucidated in the second generation Poverty Reduction Strategy Paper.

## 2.2.2 ANALYSIS OF STRATEGIES, POLICIES / PROGRAMS AND EXPENDITURE FRAMEWORKS.

In the National Rice Development Strategy, several strategies are highlighted alongside policies/programs and expenditure frameworks for the implementation of those strategies by government and other relevant stakeholders in Sierra Leone. These strategies are clearly related to the National Rice Development sub sectors. This section of the work is geared towards a critical examination of those strategies, policies and expenditure frameworks bringing out their implications for the achievement of food security and poverty reduction.

Generally, the strategy for a high productivity of rice can be grouped into two main categories; viz, the strategy concerning rice production and, secondly, the implementation strategies of the policies addressing the various constituents of rice production. Both strategies are part of the National Rice Development Strategy sub sectors. For instance, in the case of rice production strategy, the government lays emphasis on expansion on the area of rice cultivation and productivity. These two actions are expected to garner the target quantity of rice production by 2018 in the region of 3, 100,000 tons mt. They also help promote agricultural work at sectoral levels. However, from the facts presented in the National Rice Development Strategy, the government directs these two strategic actions mainly to Inland Valley Swamp, with minimal concentration on the other ecological areas of the low land ecology and upland ecology, on the basis of its ubiquity, affordability, and fertility potential. Thus the trend in this practice shows a steady increase in input and output of rice production from 2007 to 2018. A close examination of this strategy shows that, over time, extensive pressure will be exerted on Inland Valley Swamp, resulting in an exhaustion of its fertility potential.

Considering the time frame for the projected rice production (2007-2018), this strategy may yield negative diminishing returns over time. The situation can only be salvaged with the sustained introduction and use of sophisticated technology for the constant replenishment of the soil fertility. Otherwise, the strategy will only pass in the annals of poor and low productivity against high financial and human cost. In this situation, therefore, it would be much appropriate, considering the past “problematic” interventions of government in addressing food security with resultant failures, to pursue the policy of rotational distribution between upland and low land ecology complemented by the policy of “percentile distribution” where the ecology with larger area will attract more concentration of area expansion and productivity and conversely. These two approaches can help reduce the risk of soil exhaustion that may arise in the current strategy pursued by government.

In the case of the implementation strategies, it is noted that government plays a dominant role as overseer in the overall process. With reference to the seed system as an instance, government plays a role in terms of financial support and subsidies to both government agencies and private sectors for the production and supply of seeds with close reference to appropriate varieties, although the bulk of funding comes from donor partners. The same applies to other components of the implementing strategy. These strategies are in place since it is the sole responsibility of government to ensure that every effort is made to enhance the national goal of food security and poverty reduction. If this responsibility of government is shifted to a second or third party (such as non state actors including the private sector) due to a neglect of its role, a satellite state will eventually emerge with a devastating effect of state collapse and higher incidence of poverty. **However, and armed with facts from the National Rice Development Strategy, there are early warning signs of the absence or ineffective pursuit of a comprehensive monitoring and evaluation system of the funding partners and private**

**institutions involved in rice production in Sierra Leone.** This, among other things, has most times contributed to the low success of rice production. Therefore, serious attention should be paid to this aspect of government's effort in the drive towards poverty reduction.

The strategies highlighted in the National Rice Development Strategy only exist to actualize the policies of government concerning rice production. These policies significantly address the various aspects of rice production that are necessary for any meaningful output, especially in strengthening the sub sectors of the NRDS. In particular, the problems that are replete in the agricultural sector in Sierra Leone are snapped in the policy framework. This provides a promise for an effective growth in the agricultural sector. For instance, the emphasis on infrastructural uplift such as road reconstruction and rehabilitation, among others, is crucial to the movement of agricultural products from production sites to the market.

Closely related to the policies is the expenditure framework which is dedicated to the rice sector. This framework is comprehensive and covers pertinent areas of the rice production project. What is worthy of note however is the fact that the framework is tilted more heavily towards the reclamation and development of Inland Valley Swamps with a budgeted cost of US \$27,100,000.00. This amount falls high above the costs for the other programmes in the rice project, thereby underscoring the fact that much attention is paid to Inland Valley Swamps at the expense of other areas within the lowland ecology on the one hand, and that of the upland ecology, on the other. Once more, and before locking the seal of this analysis, it would be useful to reiterate the fact that a meaningful and serious strategy should take into consideration a balance focus and use of both upland and lowland ecology in terms of investment and other considerations, if a policy of food security is to be actualized. This strategy will clearly bolster the sub sectors of the National Rice Development Strategy.

### **2.3 ANALYSIS OF FUNDING PROCESS OF STRATEGIES /POLICIES / PROGRAMS AND EXPENDITURE FRAMEWORKS.**

Significantly, this section focuses on the funding side of the policies and expenditure frameworks of government and other partners. To underscore the nature and potential of on-going funding process in Sierra Leone, the analysis presented here is weighted towards the national financial budget prepared by the government, and those for the MTEF , though a brief reference would be made to funding from donor partners, for the period 2010-2012.

By default, the government of Sierra Leone carries the mantle of responsibility in providing the main funding for agricultural and other programmes that impact positively on national development. This is normally articulated in the financial budget read in parliament for every financial year. Since the government cannot adequately meet the financial demands through the various ministries, it seeks assistance from donor partners, which ironically provide a larger part of the money for most projects. The current financial budget covers tow-year period, from 2010-2012. The key elements of the financial budget are as follow:

- Development expenditure estimates by Ministry and Project for the MTEF period 2010-2012
- Poverty related expenditure FY 2010 budget

- Analysis of sectoral allocation to priority programmes for the MTEF period 2010-2012.

The expenditure and estimates are dedicated exclusively to funding ministries and projects presented by those ministries and government agencies, local non-governmental organisations and Community Based Organisations (CBOs). Funding is disaggregated into a) loan and b) grant from IDA and EC as the main donors. Data presented in the estimate indicate that a high percentage of the finances are expected to be provided by donors with minimal input from the government. There is also a suspected fall in funding as the estimate progresses in to 2012 for the MTEF period. In 2010 the funding process is further segmented into four quarterly bases: Q1, Q2, Q3, and Q4, with a corresponding indication in 2011 and 2012. However, the pattern and process of funding shows that the Sierra Leone economy is still traditionally donor driven. It also shows the incapability of the government to effectively run the state by adequately addressing the elements of the Agenda for Change as reflected in the second generation poverty reduction strategy paper. It is therefore likely that much would not be expected especially in the arena of agricultural productivity when one considers the fact that donor funding is based on a complex frame of conditionalities that often do not prove practical in the context of domestic realities. The fact that substantial amount of funding from donors is in the form of loans further complicates matters and render the government powerless.

In terms of expenditure relating to poverty reduction for 2010 priority is given to non salary non interest recurrent than domestic development. The financial budget is broken down to include allocation of finances at sector levels focusing only on those ministries considered as priority to government. These include Ministry of Agriculture, Health, Transport, Education and Energy. While there seems to be an increase in funding from FY 2010- FY2012, priority is given to education, road, health, and agriculture which is second at the bottom.

By and large, much of the funding of agricultural programmes, strategies and expenditure frameworks involve a bureaucratic process which often impedes progress. As a result, agricultural activities are most times slowed down spanning across a longer period. This is true particular with regards funding from donors to agencies of government and from government to other stakeholders including local community based organizations and subsidies to private sectors. As a centrepiece of this analysis, government should institute a system whereby direct and less sophisticated means of funding is enacted so that agricultural programmes can be easily funded without delay.

### CHAPTER 3. MATCHING OF THE STRATEGIES/POLICIES/PROGRAMMES AND EXPENDITURE FRAMEWORKS WITH NRDS SUB-SECTORS:

Summary: This section outlines strategies/programmes and expenditure frameworks and matches these with the NRDS sub-sectors articulated in the Sierra Leone Strategy Document. The matching exercise provides a valuable insight into the funding arrangements by the Government of Sierra Leone, Development institutions such as the World Bank and the Islamic Development Bank and technical agencies such as IFAD and the FAO amongst others.

The mapping of resource flows reveals strong interventions in the research and extension components of the NRDS but considerable weaknesses in the other NRDS sub-sectors. (Ref: 3.1 &3.2) This state of affairs provides the Government with a platform for discussion with external agencies and governments as well as providing a window of opportunity to re-align resources in the short to medium term to deal with the gaps.

**Reminder of NRDS Sub-sectors:**

<p><b>NRDS Sub- Sectors</b></p> <p>Principal objectives: <b>Government Agricultural Development Policy</b></p> <p>Rice being the staple food and main agricultural commodity, Government’s policy for its development is embedded in the general agricultural development policy, the main elements of which are summarised below.</p>	
<b>Sub-Sector</b>	<b>Strategy</b>
<b>Seed system</b>	<p>By delivering high quality seeds of improved rice varieties to the major ecosystems where the varieties have been proven to be suited, the seed programme can play a key role in agricultural development and the attainment of national food security goals.</p> <p>Formulation and implementation of a national seed policy will provide a defined and stable framework for the development of an effective and sustainable seed system.</p> <p>Under the authority of the minister of Agriculture Forestry and Food Security, a national Seed Board (NSB) shall be established and charged with the overall responsibility for advising the Government on all matters relating to the Seed Policy and ensuring legislations and protocols as well as seed industry planning and implementation.</p> <p>For variety evaluation, release and withdrawal, a variety Release Committee (VRC) shall be constituted under the authority of the NSB. In the national seed programme a four generation system of seed multiplication will be followed. This means that recognition will be given to four seed classes: breeder, foundation, registered and certified seed.</p> <p>Good quality seeds should have high varietal and physical purity, high germination ability and vigour, meet the minimum requirement of seed moisture and have a sound phyto sanitary rating. Standards reflecting the above attributes shall be drawn up in consideration of the local needs as well as regional and international requirements in order to facilitate seed trade and use. Particularly, Sierra Leone will contribute to support efforts to harmonize seed standards in ECOWAS sub region.</p> <p>Government will upgrade existing seed quality control facilities into a) a central Seed Testing Laboratory in Freetown and b) at least four regional satellite seed testing laboratories, for</p>

	<p>effective coverage in the country. The required level of skilled manpower resources necessary for the running of the seed testing laboratories as well as the programmes of field inspection and seed trade monitoring will be ensured through recruitment of additional staff and appropriate training in both local and overseas training institutions.</p> <ul style="list-style-type: none"> <li>• International assistance will specifically be sought for capacity development through <ul style="list-style-type: none"> <li>i. Manpower development and use of subject matter specialist</li> <li>ii. Infrastructure and institution development</li> <li>iii. Entrepreneurial development and privatisation.</li> </ul> </li> </ul>
<p><b>Post Harvest and Marketing</b></p>	<p>The main implementation strategies are:</p> <p>(i) Storage  Government will encourage research institutions to explore appropriate and affordable means and technologies to facilitate on-farm storage of produce;  Government will encourage and motivate the private sector to efficiently assemble and store surplus agricultural products off farm.  Government will encourage and assist the immediate processing of perishable agricultural products, while appropriate technologies are explored/developed for their storage in fresh forms.</p> <p>(ii) Processing  Government will promote investment in agro-processing (especially in rural areas) through credit guarantee facilities, infrastructural facilities and other incentives for farmers' associations and private entrepreneurs ;  Government will undertake an assessment of current crop specific post-harvest losses; and  Government will encourage research institutions to explore and develop simple improved practices of post-harvest handling and processing to reduce crop loss.</p> <p>(iii) Marketing  Government will promote a free, fair and competitive marketing environment for agricultural commodities.  <u>Government will restrict all procurement of rice for public institutions to domestic rice only</u>  Offer a range of attractive incentives to commodity producers and exporters;  Individual entrepreneurs, associations and limited liability companies will be free to export agricultural commodities;  Subject all exportable commodities to grading and certification to maintain acceptable quality standards;  Subject all commodities (for both import and export) to normal customs examination;  Maintain a general surveillance over the free commodity market operations;  Encourage the evolution of marketing cooperatives which will principally be private sector initiatives;  Provide an appropriate framework for marketing research and the dissemination of market information (relating to all agricultural products);  Continue to provide adequate infrastructure for the rapid development of agricultural marketing. Efforts will be intensified to open up more rural areas through the construction and maintenance of rural roads as well as facilitating the construction of more rural markets and improve storage facilities for such markets; and  The Ministry will continuously liaise with appropriate institutions to ensure the safety of food for consumption.</p>
<p><b>Water Resources Management</b></p>	<p>Passing of a national water resources legislation to regulate the development and exploitation of water resources;  Continuing to implement flood and erosion control measures in affected areas;  Encouraging the development of both small and large scale irrigation schemes in suitable areas;  Encouraging the efficient use of water resources through participatory methods; and  Encouraging both Governmental organizations and non-Governmental organizations involved in water resources development to upgrade their capabilities for constructing water</p>

	infrastructure.
<b>Mechanization</b>	<p>Government will promote and facilitate the involvement of the private sector in the mechanization of the agricultural sector;</p> <ul style="list-style-type: none"> <li>• The Ministry shall work closely with entrepreneurs and farmers' associations: To ensure that equipment imported into the country are suitable for the intended agro-ecologies.</li> </ul> <p>To encourage the standardization of machines imported, thereby making the stocking of spares easy; and</p> <p>To ensure that machinery operators and mechanics are adequately trained. T</p> <ul style="list-style-type: none"> <li>• The work-oxen training and extension programme will be reactivated and strengthened and, a pilot mechanization programme involving adaptive research and the development of various types of farm power will be initiated;</li> <li>• Encouragement and support will be given to research institutions in accelerating the development and local fabrication of suitable equipment for use by small scale and intermediate farmers. The participation of the private sector in the development and eventual commercialization of prototypes will be actively pursued.</li> </ul>
<b>Research</b>	<p>Research is geared towards the relevant and practical needs of Sierra Leonean producers (i.e research will be producer-driven and will be designed to solve male and female producers' problems);</p> <p>Appropriate mechanisms will be designed to co-ordinate and monitor research activities;</p> <p>Research bodies will be adequately funded, for as long as necessary to ensure the attainment of results. Research funding will, as much as possible, be tied to specific activities with measurable goals.</p> <p>Government will promote close liaison between research institutions and extension agencies and ensure that the research agenda responds to farmers' knowledge needs and that relevant research findings are accessible to users; and</p> <p>Government will encourage all relevant stakeholders (including farmers) to be actively involved in the development and funding of research.</p>
<b>Extension</b>	<p>Establishment of a community based participatory extension system, making use of farmers' associations and other groups;</p> <p>The training and continuous education of frontline extension workers who are generalists (i.e with knowledge in crops, livestock, forestry management, water management and data collection);</p> <p>Promotion of training programmes on integrated – crop/livestock- farming systems;</p> <p>Enhancing the capacity of farmers to acquire relevant knowledge to make well-informed choices on how to best manage their resources;</p> <p>Redressing gender based constraints in extension services delivery; and facilitating effective communication channels and networks among researchers, extension agents and farmers.</p>
<b>Human Resources Development</b>	<p>Assessment of manpower and training needs of MAFFS, research- and other relevant institutions; Preparation and implementation of appropriate manpower development programmes for various cadres of agricultural workers, from vocational to professional levels;</p> <p>As women feature prominently in agricultural pursuits - especially food crop production, processing and marketing – a special focus of the human resources development drive will be the increase in the number, and training of, female agricultural workers. Furthermore, all MAFFS staff will be trained in analyzing gender based constraints in agricultural support programmes;</p> <p>Provision of appropriate incentives, in terms of remuneration and other conditions of service, for agricultural workers.</p>
<b>Agricultural Finance/Credit</b>	<p>A two-pronged approach will be pursued: the first relates to fiscal and monetary policies as they affect the sector, while the second, outlines desirable changes in the operations of lending institutions which provide loans to the agricultural sector.</p> <p>Fiscal and Monetary Policies will focus on:</p> <p>The elaboration of a finance/credit policy for agricultural development;</p> <p>Encouraging private lending institutions to adopt policies that are suited to the needs of agricultural investment;</p> <p>Enhancing the capacities of farmers/farmers' groups and associations to access credit; and</p>

	<p>Establishment of a government monitoring system to ensure that credit guidelines are observed.</p> <p>Changes in Operations of Lending Institutions will involve:</p> <ul style="list-style-type: none"><li>Encouraging an increase in the number of branches and share capital of Commercial banks, Development banks and Rural banks thereby facilitating the penetration of remote rural communities and the mobilization of rural savings; and</li><li>Encouraging the granting of bulk loans to farmers and farmers' groups/associations, relying on customary rights and securities.</li></ul>
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### 3.1 MATCHING OF THE VARIOUS STRATEGIES/POLICIES/PROGRAMMES AND EXPENDITURE FRAMEWORKS WITH NRDS SUB-SECTORS:

#### Part A:

NRDS Sub-Sectors	Existing Strategies/Policies/Programmes										
	Seed Multiplication Project	NERICA Rice Dissemination Project	Mano River Rice Project	Hybrid rice production	Links project by CORAD	Use of STABEX Transfers Project	Rural Finance and Community Improvement Programme	National Agricultural Response Programme	Agricultural Sector Rehabilitation project	Diversified Food Production Project	
Policies and Strategies		Improve access to NERICA seed for farmers	Improve rice yields in the Mano River Basin	Promotion of improved rice technology	Recovery and Rehabilitation of small farmers	Production, Processing and Marketing of rice	Improve food security and poverty reduction	Increased food production	Expand agricultural production and increase farmer income	Food sufficiency and poverty alleviation	
Budget	Le 2.4 billion	\$ 5 m	Le14.6 billion	N/A	N/A	\$ 2.1m	\$ 10.9 m	\$100m Multi-donor funded	UA 14.10m	\$ 11.87m	
Seed system	Field of support									Field of support	
Post Harvest and Marketing						Field of support		Field of support			
Water Resources Management										Field of support	

Mechanization						Field of support				
Research		Field of support		Field of support	Field of support					
Extension		Field of support		Field of support	Field of support	Field of support		Field of support	Field of support	Field of support
Human Resources Development										
Agricultural Finance/Credit							Field of support			Field of support

**Part B: 3.2**

NRDS Sub-Sectors	Existing Strategies/Policies/Programmes									
	Seed Enterprise Enhancement and Development	Purchase for Progress	Intensification of rice production							
Policies and Strategies	Privatisation of seed multiplication units		Food security via increased rice production							

Budget	\$2.2 m	N/A	N/A	
Seed system	Field support	of	Field support	of
Post Harvest and Marketing	Field support	of		
Water Resources Management				
Mechanization				
Research				
Extension				
Human Resources Development				
Agricultural Finance/Credit				

Key: N/A – data unavailable.

Field of support – Intervention supported by relevant project

Blank cells are an indication that there are no clear or specific links either at the policy or operational levels with the relevant NRDS sub-sectors.

### 3.2 MATCHING OF THE EXPENDITURE FRAMEWORK WITH THE NRDS SUB-SECTORS

#### Part A:

NRDS Sub-Sectors	Existing Strategies/Policies/Programmes									
	Seed Multiplication Project	NERICA Rice Dissemination Project	Mano River Rice Project	Hybrid rice production	Links project by CORAD	Use of STABEX Transfers Project	Rural Finance and Community Improvement Programme	National Agricultural Response Programme	Agricultural Sector Rehabilitation project	Diversified Food Production Project
Seed system	Le 2.4 billion									\$ 11.87m
Post Harvest and Marketing						\$ 2.1m		\$100m Multi-donor funded		
Water Resources Management										\$ 11.87m
Mechanization						\$ 2.1m				
Research		\$ 5 m grant - AfDB		Expenditure not publicly available	Expenditure not publicly available					
Extension		\$ 5 m - AfDB		Expenditure not publicly available	Expenditure not publicly available	\$2.1m		\$ 100m Multi-donor funded	UA 14.10m	\$ 11.87m

Human Resources Development										
Agricultural Finance/Credit							\$ 10.9 m			\$ 11.87m

**Part B:**

NRDS Sub-Sectors	Existing Strategies/Policies/Programmes									
	Seed Enterprise Enhancement and Development	Purchase for Progress	Intensification of rice production							
Policies and Strategies	Privatisation of seed multiplication units		Food security via increased rice production							
Seed system	\$2.2 m		Field of support							
Post Harvest and Marketing	\$2.2 m	N/A								
Water Resources Management										
Mechanization										

Research				
Extension				
Human Resources Development				
Agricultural Finance/Credit				

## CHAPTER 4: DETERMINATION OF UNSATISFIED NEEDS

As mentioned in an earlier chapter, rice is imported in Sierra Leone in substantial amounts. These imports have, in fact, greatly affected the domestic rice price and production in recent years. In terms of policies and strategies employed, we note that there seems to be abundant goodwill on the part of donor nations and organisations to support the efforts of the Government of Sierra Leone for rice development. **What appears to be lacking from the perspective of the researcher is a sense of a coordinated strategy that aligns the efforts and resources of the donors with the core priorities of the Government.**

The mapping exercise reveals a mis-match between the certain NRDS sub-sectors and the current interventions by the Government as well as her Development Partners. For example, the irrigation component which forms the core of the water resources management component only attracts a fraction of the \$11.87million grant funded by the Islamic Development Bank, whereas the Investment Programme of the NRDS sets out a cost of \$27.1million. Another critical area lacking investment is mechanisation which only attracts a percentage of a \$2.1 million grant from the European Union.

However it has proved problematic in ascertaining the actual funding gaps as some of the NRDS sub-sectors are not costed in the Strategy Document and some of the funding arrangements were not in the public domain. Rather, we have sought to use a thematic approach looking at the coverage of the sub-sectors in relation to the available and planned projects. This alternative approach also reveals the weakness of the Agricultural Development Plan in Sierra Leone.

In relation to the seed system sub-sector the main players are the Government of Sierra Leone investing approximately \$6,000,000, and a fraction of funds the Government of Germany of \$2.2 million and the Islamic Development Bank of \$11.8 million. We could not accurately determine what percentage of funds from the German Government and the Islamic Development Bank actually went to the seed system sub-sector as well as the full investment needed in this sub-sector due to lack of costings as mentioned earlier.

The second sector mentioned in the NRDS; Post Harvest and Marketing attracted a percentage of \$2.1 million from the European Union and a percentage of \$100 million from a multi-donor facility. The NRDS requires \$5.55 million for this sub-sector but the reasons mentioned above also affected our analysis.

The same state of affairs could be also said for the following sub-sectors; Water Resources Management, Mechanization, Research<sup>2</sup>, Extension, Human Resources Development and Agricultural Finance/Credit. In short, we would recommend that the NRDS be updated to determine the funding requirements of the different sub-sectors and discussions and design of future projects be guided by the needs of the relevant sub-sectors.

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<sup>2</sup> These sub-sectors are costed as one unit in the NRDS

#### 4.1 NEEDS IN THE ENABLING ENVIRONMENT INCLUDING HUMAN RESOURCES

Despite the fact that rice is a major staple in Sierra Leone, the country's enabling environment is particularly limiting. A seed law for rice is just being legislated. With good seed and related management practices, the yields for paddy rice could almost immediately be increased to double the current amounts—from 2 to 4 MT/ha. With the addition of pesticides and fertilizer and improved management methods, the potential yields could double again to 8 MT/ha. (2007) Pesticide and fertilizer laws are weak or nonexistent, making the farmers wary of using the products that are on the market. The prices of these production aiding inputs are high due to import taxes and the failure of the credit system to serve farmers.

These are limitations that can be readily eliminated. Increased yields would make it possible for farmers, millers and storage firms to obtain better equipment. "Throughput" is the way money is made in these parts of the value chain. Doubling the throughput in milling or storage would make these activities profitable and encourage the purchase of better and more efficient machines. Making this part of the industry more effective and efficient will be important in the future. If the projected production levels materialize, Sierra Leone could become a net exporting nation.

There are also implications for importers and for storage and other facilities up-country and at the port. Policies to encourage the proper storage of rice and other measures will need to be taken to accommodate the shift to surplus. Tax holidays for the construction and operation of bonded warehouse facilities, the establishment of a commodity exchange, a warehouse receipting system and loan guarantee programs have been used effectively in many countries to make the transition to a value chain that is orientated to export markets.

Finally, the Ministry of Agriculture and Food Security needs to be restructured to work in the market economy that is being developed through the application of value chains. This would involve recruiting and maintaining staff with the skill sets need to further the NRDS. There is currently a civil service reform ongoing but the progress of such an exercise would be largely dependent on funding. We mention this here because rice is the dominant staple crop and the production and distribution system is changing rapidly. The ministry must adapt if the sector is to move with the speed that it has the capacity to achieve. It is important that activities such as tractor services, pesticide distribution, seed production (privatization of seed centres), and rice production extension services are moved quickly out of the ministry and shifted to private providers. Research and extension divisions need to be scaled down, consolidated, and made more responsive to private seed developers and input service providers. Source (Analysis of six value chains in Sierra Leone. ACIDI/VOCA – World Bank 2007).

## **CHAPTER 5: OPPORTUNITIES FOR BRIDGING THE GAP.**

At the present moment the most reasonable opportunities that would exist to bridge the gap would tend to be short or medium term. In the short-term, the Government, if it has the flexibility, could re-align some of its resources to match the gaps identified in the resource map in Chapter 3. At the governmental level, the Ministry of Agriculture should also advocate for re-alignment of resources from the Ministry of Finance during the budget discussion exercises for the next fiscal year or during mid-term budget review processes. However, this flexibility might not be very easy for donor organisations as the process of grant identification, approval and funding is multi-layered going as far up as the Vice-Presidency and Presidency for organisations such as the World Bank, and for some organisations this would mean a complete shift in terms of programming.

The exercise also provides the government policy makers with a tool to further refine the NRDS as certain critical sub-sectors were not costed and further integrate the NRDS into the Agricultural Master Plan of the country.

## CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

### **What are the actions required for improving the status of rice value chains in the different national strategies and investments plans?**

Sierra Leone has excellent conditions for growing rice and had demonstrable competitive advantage as a rice producer. However, there are major constraints in the value chain:

- Production is dominated by small scale farmers producing primarily for subsistence;
- Yields are extremely low by international standards with poor farming practices, low use of improved inputs (seeds, fertilizer) and little access to finance to purchase them. Increased production over the past 5 years has resulted essentially from increased cultivated area.
- Rice cultivation in Sierra Leone is very labour intensive but labour is in short supply. Scarcity of labour will check the growth of cultivated area and hence production.
- There is a shortage of processing capacity and the dominant processing technologies used are small scale, inefficient and produce poor quality rice. There are no large scale processors that could form the basis of contract farming to improve the functioning of the value chain;

Market infrastructure is poor and market systems under developed with information and coordination failures;

- Transport costs and local government taxes promote informal exports to neighbouring countries;
- The failures in the value chain for domestically produced rice results in a disconnect in the market for rice. Domestic rice is consumed mainly on farm. Freetown and other urban centres are served mainly by imports, consuming little domestic rice. Addressing the failures in the value chain could make the country much less reliant on imported rice and less vulnerable to developments in international markets. In the longer term, the country could become a major regional producer of rice serving at least the Mano River Union. But there is a real challenge in finding sustainable solutions to address the functioning of this fragmented value chain.

To mitigate hardship in the short run, the following policy options have been developed in the country:

1. The Ministry of Trade and Industry (MTI), in conjunction with importer/wholesalers, publish a recommended retail price for rice. This is a sensible measure to discourage profiteering. However, it will do little to reduce hardship.
2. On top of the reduction of duty already announced by the government, remove the duty on rice altogether. However, this is likely to have only a marginal impact on rice prices of say 3%-5%.
3. Subsidize the cost of imports till international prices fall to more acceptable levels, The cost of such a policy is likely to be around \$ 15-\$25 million depending on how much rice is sold at the subsidised price and how fast prices fall in the international market. The policy will also be waste full, subsidising the well off as well as the poor, encourage hoarding by the rich and costs could rise appreciably if there are large leakages to neighbouring countries. The price of domestic rice will also fall which will harm the incomes of large numbers of rice farmers when the next harvest comes in and reduce the incentive to produce more rice in subsequent years.

4. Provide cash or vouchers to the poor. The problem with this theoretically sound solution that is favoured by the World Bank and others is the practical difficulty of establishing who the poor are in Sierra Leone. With widespread poverty, it would be likely that most people would attempt to qualify and, it is likely that a secondary market in vouchers would develop helping the rich to benefit as well as the poor. The administrative costs of such schemes would also be much higher than an across the board subsidy given to importers.

5. Provide rice free or at subsidized prices to target groups through school feeding programs, programs run by the World Food Programme and food for work programs such as the Youth Employment Scheme. This would reduce administrative cost and ensure more effective targeting of subsidies. It is likely to be more affordable and more efficient than either a general subsidy or a voucher scheme. However, it would leave those not covered by these programmes no better off. Despite this limitation, this appears the most appropriate policy response.

As long term strategy, the appropriate policy response that would provide greater protection against future increases in international prices, provide better incomes and greater employment opportunities and turn Sierra Leone into a major exporter is to develop a public-private partnership that will increase domestic rice output through increasing productivity. In developing policies to achieve this objective, it is important to start with the understanding that government and donor initiatives to distribute tractors and imported seeds that are currently under discussion will do little to stimulate a sustained increase in productivity. **What is required are interventions that will remove the constraints to the problems of poor farming practices accessing improved inputs, finance and labour in a systemic and sustainable manner.** This will call for action by the public sector as well as the private.

Moreover, whilst measures to improve the incomes of poor smallholder farmers are to be commended for their objective of reducing rural poverty, they will do little to increase the supply of domestic rice to the urban market let alone for export. That requires private sector development to increase investment in processing and marketing. Providing access to finance and technical assistance to the limited number of domestic processors and marketers capable of producing domestic rice that can compete with imports and linking them to small holder farmers through out grower schemes would provide a huge stimulus to increasing the amount of domestic rice marketed internally. If large scale investment in processing can be attracted to the country and linked to out grower schemes it would transform the rice value chain.

(Source: The Diagnostic Trade Integration Study 2006).

**In conclusion, there needs to be clarity of policy in terms of design as well as implementation.** Subsidized rice policies such as reduced import tariffs are leading to smuggling as well as local market distortions by proving to be a disincentive for local producers. **The critical question is: Does Sierra Leone prefer to pursue a regional agenda as envisioned by the development in the ECOWAS Common Investment Market in which agricultural produce such as rice will service regional market centres and where proximity to market will bring greater incomes for rural farmers and with urban markets being served by imported rice making up for the gap in local production?** This whole policy dialogue would then center on rice-security in terms of the quantum, quality and price as available in the open market versus rice self-sufficiency in terms of production capacities at the local, regional and national levels.

## 6.1 ASSESSMENT OF THE ROLES OF KEY STAKEHOLDERS AND MARKET LINKAGES

Vertical cross-actor relationships involve everything from the farm to the export and domestic market. Domestic market actors and exporters will need to change as Sierra Leone becomes an exporter of rice. Storage and marketing relationships will have to change to accommodate the dramatic change in structure. Storage and access to the port in Freetown will have to be improved and reoriented. Joint space for storage organized for broad participation by farmers, wholesalers, retailers and others in the system will be needed. Something similar to bonded warehouses and warehouse receipts will have to be developed to permit safe storage and to give maximum participation.

At the milling and wholesale levels, improved technologies will have to be developed and implemented to ensure that rice intended for export is of high grade. In this regard a grading system is essential to ensure that the product is what it is said to be. Among other things, this implies the consideration of a grading system which has integrity, unlike the cocoa system administered by the Ministry of Trade and Industry, which is apparently open to fraud and misuse. A grading system will have to be developed that is consistent with world market participation. This grading system will have to be developed and administered in a way that makes it acceptable to international markets. These grades will have to permeate the rice production and distribution system.

At the producer level, cooperation must be undertaken to get better seeds and other inputs more widely distributed. This could involve cooperation with the Extension Service of the Ministry of Agriculture and Food Security in developing demonstration plots, improving credit by participating in groups, and group participation in storage and other functions. Tractor and other services should be transferred from the ministry to private-sector providers. This will, incidentally, free up ministry funds to finance extension and research, which are major public goods. And, as noted elsewhere, the labourers must be considered in such financing exercise.

Financial mechanisms such as bonded storage and warehouse receipts can be developed for storage that permits all participants in the sector to participate. Cooperative ownership of milling and polishing facilities is another possibility. These can be designed so that everyone in the value chain can participate and take risks that they are comfortable with. Index insurance schemes have shown themselves to be viable in environments where loss is difficult or costly to establish. Trading in future markets by larger traders and wholesalers is another way to stabilize the price of rice in the country.

All of these measures will make Freeport a more desirable place to trade. The idea is to develop services that are valued in the country and keep trade within the country, rather than try to stop illicit trade, which will continue if in-country systems are not functioning. (Source: The Diagnostic Trade Integration Study 2006).

There are many elements of supporting markets for rice, which need to be immediately introduced or enhanced in Sierra Leone:

- seed market and privatization;
- seed regulations that are credible and secure;
- pesticide and fertilizer regulation and private sector markets;
- warehouse receipts;

- indexed crop insurance;
- extension and research partnerships with the private sector;
- grading systems and enforcement.

These are all essential to active participation in the market and rice should be the commodity around which they are organized.

Firm-level upgrading is essential to the rice value chain and its success in the growing agricultural economy. Producers must find themselves in an environment that encourages adoption of new seed and modern input packages. Farm records are an important part of this transition. This upgrading will require a credit system and perhaps a crop insurance system to help the producers manage the risk levels of the change. Yields of paddy rice can quadruple if the system is appropriately developed and applied.

Processing firms or cooperative ventures must be improved and come to world class operations. This does not mean that facilities must be large, just that they must operate efficiently. Producers and middlemen and wholesalers, traders and retailers must all participate in these upgrading efforts—and not to forget the foreign sector which should be welcomed to participate in the necessary investments. To reach international levels will require an active and innovative set of actors in the rice sector.

The storage industry must also change and get the confidence of the market participants. This will require grading, bond-guaranteed storage, warehouse receipts and active trading so that all members of the industry can participate in this function of a successful value chain. The upgrading of processing firms must be in financial management as well as in equipment and other attributes.

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## LIST OF PERSONS MET

Mr. H.K. Tarawalie. Director. Ministry of Agriculture, Forestry and Food Security.  
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Dr. Kevin Gallagher. Resident Representative. Food and Agricultural Organisation of the United Nations.  
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Ms. Akiko Tatsuta. Project Formulation Adviser. Japanese International Cooperation Agency.  
Mr. Peter Kamara. Head, National Rice Development Strategies, Ministry of Agriculture, Forestry and Food Security.  
Mr Prince Kamara, NSADP/CAADP Coordinator. Ministry of Agriculture, Forestry and Food Security.  
Mr. Chukuemeka Chikezie. Coordinator, Private Sector Development Strategy, Ministry of Trade and Industry.

**MATRICE 1 ON NATIONAL STRATEGIES/POLICIES- ONGOING & PLANNED WITH INPUTS FOR NRDS**

Examples of Line Ministries <sup>3</sup>	Strategies / Policies	Status and Period	Matching with NDRS sub-sectors	Remarks
Agriculture and Food Security	Rural Private Sector (Jointly implemented with the Min. of Trade) funded by the WB	2008 -	Infrastructure	
Agriculture and Food Security	National Rice Development Strategy  National Sustainable Agriculture Development Plan	2009  2010 -2030	All NRDS sub-sectors	The NRDS is currently structured within the Min. of Agriculture as a project. It needs to be viewed in terms of the larger strategy for food security.  Secondly, since the NRDS was formulated a couple of years after the development Agricultural Master Plan it does not fit in very well with the current Plan and programming. There is need for the Master Plan to be re-worked and the NRDS to be main-streamed into it.
Energy and Water Resources	WATSAN Policy	2007	Water resources management	
Trade and Industry	(a) See 1 above. (b) Private Sector Development Strategy	2008 - 2010	Capacity building	Project will close in March 2010
Finance and Economic Planning	MTEF	2010 - 2012		
Works, Housing and			Infrastructure	

<sup>3</sup> The contents and the names of the line ministries can vary according to every country

Infrastructure				
Research – The Sierra Leone Agricultural Research Institute			Research	

**MATRICE 2 ON FUNDING FRAMEWORKS- ONGOING & PLANNED WITH INPUTS FOR NRDS**

Name of funding framework	stakeholder (s) / (champion(s) or leaders	Coverage	Category and type	Status and Period	Total Budget	Matching with NDRS sub-sectors & related budget	Remarks
<p><b>1) National funding frameworks</b> - MTEF</p> <p>Programme for the intensification of rice production</p>	<p>Min. of Agric</p> <p>Min. of Fin.</p> <p>Association of farmers.</p> <p>Association of importers</p> <p>Min. of Agric Govt. of Sierra Leone</p>	Nationwide	Budget allocation	<p>2010 – 2012</p> <p>2003 – present</p>	<p>Le 21 Billion</p> <p>N/A</p>	Seed	On-going
<b>2) International funding frameworks</b>	WB. MTI, Min. of Agric	Nationwide	Grant	2009 –		Provision of critical infrastructure	
Seed Multiplication Project	GTZ/FAO	Nationwide	Grant	N/A	Le. 2.4 Billion		
NERICA Rice Dissemination Project	African Development Bank	Nationwide	Grant	2005 -2010	\$5. million	R&D. Technical Coop. Extension.	
Mano River Rice Project	IDA	Nationwide	Grant	N/A	Le 14.6 Billion		

Hybrid rice production	PR China	Nationwide	Grant.		N/A	Technical Coop. Production.	Ending 2010. Uptake limited
Links project by CORAD	USAID	Nationwide	Grant		N/A	Technical Coop. Production	
Use of STABEX Transfers Project	EU	Nationwide			\$2.1 million	Technical Coop. Mechanisation.	2007 - 2009
Agricultural Development Project in Kambia	JICA	Nationwide	Grant/National Budget	2006 - 2009	\$3.5 million	Technical Coop. Production	New project being developed.
Rural Finance and Community Improvement Programme	IFAD	Nationwide	Grant	2007 - 2013	\$10.9 million		Ongoing
National Agricultural Response Programme (NARP).	AfDB, IFAD, EC Food Facility, FAO, Irish Aid, Islamic Development Bank	Nationwide	Grant	2008 - present	\$100 million	Extension & training. Production. Marketing. Post harvest.	As of May 2009 not all of the programme funds had been achieved.
Agricultural Sector Rehabilitation project	African Development Bank	Nationwide	Loan	2005 – 2010	UA 14.10 million	Technical Coop. Infrastructure development	Ongoing
Diversified Food Production Project	Islamic Development Bank		Loan	2006 – 2009	\$11.87 million	Extension. Irrigation. Credit. Seed. Infrastructure	Ongoing

Seed Enterprise Enhancement and Development	Govt. of Germany		Grant	2009 – 2011	\$2.2 million	Production. Marketing. Post-harvest.	On-going
Purchase for Progress	World Food Programme		Grant	2008 -2012	N/A	Marketing	On-going

**MATRICE 3 ON FRAMEWORKS OF POLICIES DIALOGUE- ONGOING & PLANNED WITH INPUTS FOR NRDS**

Name of the framework of policies dialogue	Stakeholders (champion(s) or leaders	Status and period	Agenda	Matching with NDRS sub-sectors	Remarks

**MATRICE 4 ON PROJECTS/PROGRAMMES OF PARTNERS IN DEVELOPMENT- ONGOING & PLANNED WITH INPUTS FOR NRDS**

Partners in Development	Name of Project /Progr.	Coverage	Category	Status <sup>4</sup> & period	Type (loan or grant)	Total Budget of Project /Progr.	Matching with NDRS sub-sectors & related budget	Remarks
JICA	Sustainable Rice Development Project			2010 - 2013	Grant	\$1.3 million		3yr project currently in development
WB								

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<sup>4</sup> Status: Ongoing or in the pipeline.