



**New Partnership for
Africa's Development (NEPAD)
Comprehensive Africa Agriculture
Development Programme (CAADP)**



**Food and Agriculture Organization
of the United Nations
Investment Centre Division**

GOVERNMENT OF THE REPUBLIC OF SIERRA LEONE

SUPPORT TO NEPAD–CAADP IMPLEMENTATION

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Volume I of IV

**NATIONAL MEDIUM TERM INVESTMENT PROGRAMME
(NMTIP)**

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SIERRA LEONE: Support to NEPAD–CAADP Implementation

Volume I: National Medium–Term Investment Programme (NMTIP)

Bankable Investment Project Profiles (BIPPs)

Volume II: Sustainable Land and Water Resources Development

Volume III: Freetown Fisheries Harbour Complex

**Volume IV: Market–oriented Forestry and Tree Crop Agroforestry
Production Systems**

SIERRA LEONE:

NEPAD–CAADP National Medium–Term Investment Programme (NMTIP)

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Currency Equivalents

Currency Unit	=	Leone
US\$1.00	=	Le 2,750

Abbreviations

ADB	African Development Bank
AFCOD	Artisanal Fisheries and Community Development Project
AGOA	African Growth Opportunities Act
ASR	Agricultural Sector Review
BIPP	Bankable Investment Project Profile
CAADP	Comprehensive Africa Agriculture Development Programme
CBOs/FBOs	Community and Farmer Based Organisations
COSOP	Country Strategy and Opportunities Paper [IFAD]
CSP	Country Strategic Plan [ADB]
DFID	United Kingdom Department for International Development
ECOWAS	Economic Community of West African States
ERSF	Emergency Relief Support Fund
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FBC	Fourah Bay College, University of Sierra Leone
FFS	Farmer Field Schools
FMUs	Forestry Management Units
FRG	Government of the Federal Republic of Germany
GDP	Gross Domestic Product
GOSL	Government of Sierra Leone
GTZ	<i>Gesellschaft für Technische Zusammenarbeit</i>
HIPC	Highly Indebted Poor Countries
IAR	Institute of Agricultural Research
IDB	Islamic Development Bank
IFAD	International Fund for Agricultural Development
INGOs	International Non–governmental Organisations
IMBO	Institute of Marine Biology and Oceanography
IMTs	Intermediate Means of Transport
IPM	Integrated Pest Management
IRDP	Integrated Rural Development Programme
IVS	Inland Valley Swamps
KfW	<i>Kreditanstalt für Wiederaufbau</i>
LGP	Length of growing period
LIFDC	Low Food Deficit Country
MAFFS	Ministry of Agriculture, Forestry and Food Security
MFMR	Ministry of Fisheries and Marine Resources
MTEF	Medium Term Expenditure Framework
NAAS	National Agricultural Advisory Service
NaCSA	National Commission for Social Action
NAFSL	National Association of Farmers of Sierra Leone
NARCC	National Agricultural Research Coordinating Council
NARS	National Agricultural Research System

NEPAD	New Partnership for Africa’s Development
NERICA	New Rice for Africa
NGO	Non–governmental Organisation
NMTIP	National Medium–Term Investment Programme
NSAP	National Social Action Project
NUC	Njala University College, University of Sierra Leone
PEMSD	Project Evaluation, Monitoring and Statistics Division [MAFFS]
PMPs	Pest management plans
PRSP	Poverty Reduction Strategy Programme
RRRS	Rokupr Rice Research Station
SAP	Structural Adjustment Programme
SLEDIC	Sierra Leone Export Development and Investment Corporation
SPFS	Special Programme for Food Security
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development

Preface

*In an effort to halt and reverse the decline of the agricultural sector in the continent, the African ministers for agriculture unanimously adopted, at the 22nd FAO Regional Conference for Africa (ARC) held in February 2002 in Cairo, a resolution laying down key steps to be taken in relation to agriculture in the framework of the **New Partnership for Africa’s Development (NEPAD)**. As a follow–up to this resolution, they subsequently endorsed the **NEPAD Comprehensive Africa Agriculture Development Programme (CAADP)**. The recent **Declaration on Agriculture and Food Security in Africa** ratified by the African Union Assembly of Heads of State and Government during its Second Ordinary Session, held in Maputo in July 2003, provided strong political support to the CAADP. During this session, the Heads of State and Government resolved to revitalize the agricultural sector with the active participation of civil society organizations and other key stakeholders and committed themselves to allocating at least 10 percent of national budgetary resources within five years for the implementation of sound policies for agriculture and rural development.*

*The CAADP provides an integrated framework of development priorities aimed at restoring agricultural growth, rural development and food security in the African region. In its very essence, it seeks to implement the key recommendations on food security, poverty reduction and sustainable use of natural resources, made at recent global conferences. The CAADP comprises **five pillars**:*

- 1. Expansion of area under sustainable land management and reliable water control systems.*
- 2. Improvement of rural infrastructure and trade–related capacities for improved market access.*
- 3. Enhancement of food supply and reduction of hunger.*
- 4. Development of agricultural research, technological dissemination and adoption to sustain long–term productivity growth.*
- 5. Sustainable development of livestock, fisheries and forestry resources.¹*

As an immediate follow–up to the Maputo Declaration, representatives of member countries of NEPAD, international organizations and civil society participated in a meeting held in Rome in September 2003 where the implementation of the CAADP was discussed. As a result, the Director General of FAO approved a comprehensive Technical Cooperation Project (TCP): Assistance in the Preparation of a Medium–term Investment Programme and Formulation of Bankable Projects in Support to the CAADP Implementation.

*The Government of Sierra Leone requested assistance from FAO in the context of this project and the **National Medium–Term Investment Programme (NMTIP)**, presented in this document, has accordingly been prepared by a team of local consultants² supported by staff from the FAO Investment Centre³. The Programme, which draws on work of the recent Agricultural Sector Review and is intended to contribute to the Poverty Reduction Strategy Programme (PRSP), has been*

¹ This pillar was initially not part of CAADP but has been added in recognition of the importance of the sub–sectors.

² Consultants: Messrs Spencer Dustan SC, Kaindaneh Peter, Riddel, Rashid Noah.

³ FAO Investment Center (TCIL): Ms Suzanne Raswant.

validated by a two–day workshop of stakeholders representing government, farmers and other members of civil society and reviewed by an FAO Virtual Project Task Force of technical experts.

The document starts with a brief description of Sierra Leone’s agricultural sector in the context of the country’s economy and poverty and food security situation. This is followed by review of national and development partner strategies and programmes, lessons learned, and an analysis of the principal constraints to as well as opportunities for the development of the sector. Based on this analysis and taking into account existing government strategies and the five pillars of CAADP, priority areas for investment have been proposed and a preliminary list of projects identified for preparation. Three or four of these will be further developed into Bankable Project Investment Profiles (BIPPs⁴). Finally, an attempt is made to estimate the financing gap in terms of additional resources that would be required to meet the target of allocating 10 percent of national budget to the sector by 2008, and a proposal put forward for Monitoring and Evaluation of the NMTIP.

⁴ For the purposes of the present exercise, “Bankable Investment Project Profiles” are defined as documents elaborated in a format and with the information that could make them favourably considered by the financial institutions, donors and private investors foreseen in the Maputo Declaration. These documents should enable cooperating partners to make preliminary indications of interest, and of approximate level of funding commitment. Further feasibility analysis and subsequent processing through the concerned partner(s) regular project formulation systems would follow to obtain a project/programme proposal elaborated to the feasibility study level.

I. INTRODUCTION

A. The Economy

I.1. Sierra Leone is one of the world's poorest countries. It belongs to the group of the Least Developed Countries, and meets FAO criteria for a *Low-income Food Deficit Country* (LIFDC). UNDP's 2003 Human Development Report for 2003 ranks Sierra Leone last out of 175 countries on the basis of the Human Development Index. Sierra Leone has qualified for and has opted to participate in the *Highly Indebted Poor Countries* (HIPC) initiative. Though poverty affects all regions in the country, with nearly 82 percent of the 5.2 million population living below the poverty line of less than US\$1 per day, it is more severe in rural areas, where 88 percent of the population live below the poverty line. Food insecurity is also pervasive and chronic with about 47 percent of the population in 1998–2000 estimated to be undernourished. Nutrition surveys from that period report a high prevalence of childhood stunting (34%), wasting (10%) and underweight (27%). The stunting indicator, in particular, underlines the prevalence of chronic malnutrition.

I.2. Although worsened by the civil war in the 1990s, economic conditions in Sierra Leone had been deteriorating since the mid-seventies as a result of: (i) devastating poor governance; (ii) massive state intervention; (iii) concentration of state spending on the non-poor; (iv) pursuit of policies that held back overall economic activity; and (v) heavily taxed agriculture. During the decade of the 1980s, the growth of GDP declined to just under 1 percent. Coupled with population increase of over 2 percent per annum, this led to a considerable decline in per capita income from over US\$350 in 1981 to only US\$200 in 1989. In the latter year, the Government of Sierra Leone initiated a *Structural Adjustment Programme* (SAP). Disappointing results led to subsequent adoption of a wider-ranging *Economic Reform Programme* which included tax reforms, trade liberalization, introduction of market determined exchange rates and interest rates and the commencement of government divestiture out of activities better suited to the private sector. Reforms of the civil service and financial sectors were also initiated.

I.3. Overall, during the nineties, the volatile war-ravaged economy contracted at a rate of 4.6 percent per annum. Per capita incomes plummeted by 47 percent, leading to an exacerbation of poverty, especially in the rural areas. The cessation of hostilities and the re-establishment of government control over all areas of the country paved the way for the resumption of economic growth. A stable macroeconomic environment has provided a solid foundation for reconstruction, relief and humanitarian assistance. Inflation decreased from 34.1 percent in 1999, to 3.1 percent in 2002 and real GDP has shown positive rates of increase, growing at 3.8, 5.4 and 6.3 percent respectively in 2000, 2001 and 2002. The recovery of the national economy has been attributed primarily to that of the agricultural sector, following the return of rural communities to normal productive activities. The manufacturing, construction and services sectors also expanded during the period.

B. The Agricultural and Rural Sector

(i) Contribution to the Economy

I.4. Agriculture in Sierra Leone is the dominant economic sector. Its annual share of Gross Domestic Product (GDP) averaged about 31 percent in the 1970s, increasing to about 45 percent in the 1990s, as performance of non-agricultural sectors. The sector is also the primary source of employment for the majority of the population.

(ii) Physical

I.5. Sierra Leone has a total land area of approximately 7.2 million hectares, of which 6.1 million ha are uplands and 1.16 million ha are lowlands. About 71 percent of uplands and 90 percent of the lowlands are arable. The lowlands are differentiated in four ecosystems: inland valley swamps (630,000 ha), mangrove swamps (200,000 ha), bolilands⁵ (120,000 ha) and riverine grasslands (110,000 ha). Less than 10 percent of total arable land is cultivated each year (Annex 1, Table 1).

I.6. The climate is a monsoon type humid tropical with two distinct seasons – a rainy season from May to October and the dry season from November to April. Although rainfall is plentiful, ranging from about 2,000 mm/yr in the north to 4,500 mm/yr in the south, its erratic nature and poor temporal and spatial distribution during the rainy season often cause problems to farmers. Unpredictable flooding and drought spells during this season, and the prolonged dry season pose serious challenges for water management in the upland and lowland ecologies. Of the country's total surface and ground water potential of about 160 km³/yr, only about 0.37 km³/yr is withdrawn mainly for agriculture. Average monthly temperature ranges from 23°C to 29°C but is subject to seasonal extremes. Humidity is high all year, especially in the coastal areas. The dry season is characterised by the strong dust-laden wind known as the Harmattan which can cause a sudden drop in humidity.

I.7. The four main physical regions of Sierra Leone provide a basis for the delineation of agro-climatic zones by combining the physical characteristics of these regions with the Length of Growing Period (LGP) for crops as the average duration of the rainfed growing period. In the Savannah agroclimatic region, water deficits of up to 500 mm/yr are common, persisting for 160–170 days (Annex 1, Table 2).

(iii) Structure of Sector

I.8. Subsistence bush–fallow cultivation is the predominant type of farming accounting for about 60 percent of agricultural output and employing two thirds of the farming population. Smallholdings of the 400,000 farm families range from 0.5 to 2.0 ha of cultivated land under food crops. Up to fifteen different crops are traditionally grown in mixed stands in the uplands, with rainfed upland rice dominating.

I.9. Agricultural production was adversely affected by unfavourable macro–economic policies during the eighties and by civil war in the nineties. It is estimated that rice production declined by 40 percent during the decade of the civil war and the production of other food crops except cassava stagnated (Annex 1, Table 4). The output of export crops declined by 70 percent. Over 90 percent of the cattle were either killed or transferred to neighbouring countries. Fisheries production was reduced to 50 percent of pre–war levels. The result has been the spread of poverty and unemployment, malnutrition, increased dependency on food imports, and expanded foreign indebtedness.

I.10. With the end of the war, the agriculture sector responded well to the stimulus provided by resettlement and rehabilitation activities. Paddy production more than doubled to 422,000 mt in 2001/2002 while cassava production, which had continued to increase throughout the war years showing its resilience and usefulness as a food security crop, increased by a further 65 percent. Production of other food crops also increased significantly and this trend appears to be continuing although crop yields remain low.

⁵ The bolilands are lowland depressions in the interior that are seasonally flooded and are generally characterized by fragile soil fertility.

I.11. Tree crops supply the bulk of Sierra Leone’s agricultural exports and domestic palm oil consumption. The main crops are coffee, cocoa, oil palm, and kola nuts. Present yields are low for lack of maintenance and renewal. Fuel wood production is the most important forestry activity and provides a complementary income for most farmers. Logging is of little economic significance, as it is not properly monitored, but has negative impact on the remaining forest reserves.

I.12. Cattle are owned mainly by semi–nomadic herders. Birth rates are low (45 percent), mortality is high and off take is only 7 percent, due mainly to feed deficiencies and uncontrolled parasites and diseases. Poultry are the most numerous and widely owned form of livestock. There are only rough estimates of current animal populations, but indications are that there is a small but steady increase in household stock numbers both in the rural and urban/peri–urban areas and that Fula herders are crossing back into Sierra Leone with their cattle. MAFFS estimates indicate that current cattle numbers are about 100,000 heads, sheep about 80,000, goats 45,000, and 900,000 poultry.

I.13. Fisheries are predominantly artisanal and marine capture, with an estimated 20,000 full–time fisher folk operating with some 6,000 boats. Industrial fishing is done mainly by foreign fleets. Aquaculture is not significant. Inland fisheries are of great importance to rural households and fishing plays also a socially unifying function being practiced by both men and women. In many provincial villages, women are exclusively responsible for post harvest activities and dominate in the scoop net fishing system, by which up to 60 percent of all fresh water fish is caught. Total catch, prior to the civil war, was estimated at 230,000 mt with artisanal fishing accounting for 21 percent. By the end of the war in 2000, the total catch was only 60,000 mt with artisanal fishing accounting for 77 percent.

(iv) *Institutions*

I.14. The *Ministry of Agriculture, Forestry and Food Security* (MAFFS) is the central government agency responsible for promoting the development of agriculture in Sierra Leone. The ministry has five central divisions and twelve district offices headed by District Directors of Agriculture and supported by subject matter specialists drawn from the different divisions.

I.15. *Agricultural extension* is currently part of MAFFS’ Crops Division although other divisions also have their own extension staff. Various policy documents have proposed unification of extension services and delivery of extension messages using participatory and community–based approaches as currently exemplified by Farmer’s Field Schools.

I.16. The *National Agricultural Research Coordinating Council* (NARCC) coordinates and manages *agricultural research*. It manages the activities of the *Rokupr Rice Research Station* (RRRS) and the *Institute of Agricultural Research* (IAR), which carries out research on all other food crops. Funding is provided through a block grant. In addition to the NARCC institutes, the research system consists of Departments of the University of Sierra Leone (the *Institute of Marine Biology and Oceanography*, IMBO; FBC, and NUC), with some very minor activities by a few NGOs and one private sector firm. There is virtually no livestock, tree crop or fisheries research in the country. The participation of the private sector, including NGOs in agricultural research is very limited. As Sierra Leone has not, and is not likely, to be able to sustain a comprehensive research system with its own resources, there is necessarily and appropriately a heavy reliance upon basic and applied research performed in other countries and organizations. This process implies a combination of strong linkages with the sources of innovation and a system to adapt innovations to meet the needs of local farming systems. The agricultural research institutes have therefore developed formal linkages within the country as well as with regional and international research organisations but these are insufficient and need to be further expanded and strengthened.

I.17. The *Ministry of Fisheries and Marine Resources* (MFMR) is responsible for the management and conservation of aquatic resources including all fisheries. A large part of the work of the ministry relates to the monitoring, control and surveillance of Sierra Leone’s Exclusive Economic Zone.

I.18. Both MAFFS and MFMR have very limited capacity at the present time. The problems stem not only from the effects of the war, but also from a range of factors that constrain the performance of the public sector throughout the region (e.g. poor conditions of service, chronic shortages of operational budgets, hierarchical/bureaucratic traditions/mindsets that make it difficult to work effectively for and with clients and partners).

I.19. The current *Decentralization and Local Government Reform Programme* seeks to reactivate local government institutions and to strengthen their capacity to carry out their functions at the local level. The programme also envisages the devolution of authority and the transfer of certain functions, services and responsibilities from the Central Government to elected Local Councils. The proposals cover many of the activities of MAFFS and MFMR

I.20. The *National Association of Farmers of Sierra Leone* (NAFSL) was established in 1987 with the objective of promoting farmers’ interests. The association claims a membership of 1.5 million. The NAFSL is currently trying to gather support and funding from government to implement agricultural development projects, and to engage in farm input supply and agricultural marketing.

I.21. The *National Commission for Social Action* (NaCSA, formerly the *National Commission for Reconstruction Resettlement and Rehabilitation*) was established in 2000 to support post–conflict rehabilitation and development. NaCSA projects are implemented through partner organisations (NGOs, community organisations or the private sector) under supervision of NaCSA staff at district level. During its initial years (2000–03), NaCSA funded a range of agricultural rehabilitation projects through the *Emergency Relief Support Fund* (ERSF) and *Integrated Rural Development Programme* (IRDP). Over this period, agriculture accounted for one–quarter of all projects funded. NaCSA is now managing the *National Social Action Project* (NSAP) designed to empower local communities which may include a few agricultural projects. Another activity is the provision of micro–credit to small–scale producers and traders.

I.22. There is large–scale involvement of *NGOs* in agriculture. Their activities to date have focussed principally upon rehabilitation activities and support to re–establish rural communities. As immediate needs for post–conflict emergency support diminish, many NGOs are shifting their activities towards long–term development programmes. The scale and diversity of donor and NGOs activity in agriculture poses particular challenges for government due to (i) the difficulties of coordinating NGO activities, although MAFFS is attempting to address this through monthly coordination meetings; (ii) imposition of an unforeseen and unaffordable burden on the MAFFS recurrent budget due to the high level of activity; and (iii) loss of a large number of staff to donors and NGOs, who pay higher salaries and are generally better resourced in term of operational and logistical support.

(v) *Financing*

I.23. The periodic reassignment of ministerial responsibilities makes it difficult to track expenditure changes over the years with precision. Sub–sectors with relevance to agriculture are found in several ministries. For example, certain issues relating to land are dealt with in the Ministry of

Lands and the Judiciary. The other major constraint is the changes in the classification of the budget lines items from one year to the other. For ease of reference, only the funding to the two main line ministries (MAFFS and MFMR, and NaCSA are considered in this analysis.

I.24. Annex 1, Table 5 shows the actual public expenditure on agriculture in 2000–03, and proposed allocations for 2004–08. The data is presented in real terms, in constant year 2000 prices. Public spending to agriculture increased 230 percent in real terms over the last three years, rising from Le 6bn in 2000 to almost Le 20bn in 2003. Spending through MAFFS increased 150 percent. As a proportion of total public spending, MAFFS share increased modestly from 2.5 percent of total public spending in 2001–02, to just over 3 percent of spending in 2003. Over the same period, NaCSA spent around Le 3.5bn per year on small–scale agricultural rehabilitation projects under its ERSF and IRDP programmes. In total NaCSA funded almost 200 agricultural rehabilitation projects through these two programmes. Spending through MFMR, which was part of MAFFS up until May 2002, remained relatively constant in real terms at Le 1.2bn in 2002 and Le 1.3bn in 2003.

I.25. The increased spending in agriculture is consistent with the importance attached by government to rapid revitalisation of agriculture. Increased spending to agriculture over these years has coincided with strong growth in the sector. It is likely however, that this growth is attributed as much to the restoration of peace and stability as to government’s rehabilitation efforts.

C. The Strategic Framework

(i) Government Objectives and Strategy

I.26. The overall objectives of GOSL are “...to improve agricultural production and productivity in order to achieve food security, by providing the enabling environment for farmers and promoting appropriate research, extension, input delivery and marketing systems, thereby improving rural incomes, reducing poverty and maintaining the natural environment...”⁶

I.27. The commitment to agricultural development has been given a big political boost by the pledge of HE President Ahmad Tejan Kabbah in his Inaugural Address in 2002, when he stated “*Fellow Sierra Leoneans, my own principal objective in the second leg of our journey together is also centred on a basic right — the right to food. So, today, with the new mandate you have given me, I shall make another pledge. This time I pledge to work even harder, and with greater resolve, to do everything in my power, to ensure that within the next five years, no Sierra Leonean should go to bed hungry*”.

I.28. Government’s strategic priorities are ostensibly set out in the *Medium–Term Strategic Plan for Agriculture, 2003–07*. This was prepared by MAFFS with voluntary support from a small group of national consultants specifically selected by the Minister. However, the plan does not set out any clear priorities, and is clearly unaffordable as it calls for government spending in agriculture of Le 435bn over the five years to 2007 (approximately Le 85bn per year). This is an amount seven times greater than the actual allocation to agriculture in 2003, and up to four times greater than the indicative annual allocations set out in the *Medium Term Expenditure Framework (MTEF)* for 2004–06. The annual expenditure would be about 12% of the projected GOSL budget for 2007.

⁶ Ministry of Agriculture, Forestry and Food Security, *Draft policy for the agricultural sector of Sierra Leone*, Freetown, November 2002.

I.29. The core functions and activities of GOSL in agricultural development can be summarised as follows:

- **Promote growth of agricultural output and incomes:** Develop and promote appropriate policies for poverty reduction and improvement in accessibility of the population to adequate supplies of nutritious food, as well as ensuring increased rural incomes.
- **Statistics and data on agriculture:** In collaboration with other relevant institutions, collect, process and publish production and trade statistics in a timely manner, including data for early warning systems (such as disease incidence, etc.); monitor and evaluate public and private agricultural development programmes and projects.
- **Community based extension service:** Develop, maintain and support a decentralised extension delivery service for small–scale farmers, staffed with appropriate Subject Matter Specialists including provision of veterinary, pest control and land use planning services. The aim is to assist rural communities in developing greater self–reliance and taking responsibility for their own basic needs by providing them with appropriate skills to acquire and manage post harvest and other rural economic infrastructure facilities to sustain higher quality of production and achieve better living standards. Special attention is to be given to participatory approaches in identifying critical needs and to providing and sustaining them individually or in groups.
- **Agricultural research development:** The purpose is to generate appropriate and profitable technologies for use by the stakeholders to develop sustainable crop and livestock, forestry and fisheries production.
- **Agricultural marketing:** Stimulate private sector participation in all agricultural production and trade activities, including promotion of increased domestic use and export of non–traditional commodities, input supply (including credit), and marketing systems.
- **Rural Infrastructure:** Collaborate with other institutions to improve rural infrastructure, such as feeder roads, irrigation and drainage schemes, post harvest systems, not only to increase production, but also to provide access to both the input and output markets.
- **Appropriate standards:** In collaboration with other institutions (e.g. Pharmacy Board, National Standards Board) draw up acceptable standards for veterinary medicines, agrochemicals, and other agricultural, forestry and fish products, issue licenses and monitor the application of the standards.
- **Safety nets:** Collaborate with other agencies to ensure supply of food to vulnerable groups, and implementation of appropriate safety–net schemes.
- **Water resources:** Collaborate with key stakeholders to undertake the comprehensive development of the country’s under–utilised water resources for multi–purpose use, including legislation and the development of specific water use infrastructure such as irrigation and drainage schemes.
- **Land tenure:** With a view to addressing land use and administration issues, land tenure and conflict resolution, develop a comprehensive land policy.

I.30. In order to implement the above strategy, a number of proposals have been put forward for the reorganisation of the sectoral ministries, with the overriding objective of providing the required incentives for private sector participation in future agricultural development. There is also the need to

accelerate all legal reforms that would have bearing on the decentralization, with detailed recommendations on all laws relating to agriculture (including veterinary related statutes affecting pastoralists).

(ii) *Major Partners Strategies*

I.31. In the past, there were many donors active in the agriculture sector. Each of the major donors has been involved in supporting one or more of the integrated agricultural development projects, and some kind of institutional project. This wide range of support has provided Sierra Leone with access to a variety of approaches to the solution of a given problem and has permitted some projects to continue their existence as the primary focus of the different donors shifted over time. It has also contributed to the proliferation of administrative structures and helped complicate Sierra Leone's internal budget and evaluation processes.

I.32. ***The World Bank:*** Up to recently, agriculture has not been identified as a priority sector for World Bank support in Sierra Leone, a reflection of the concentration of Interim PRSP funding on social issues. While there are strong indications of a shift towards giving priority support to the sector, the World Bank is unlikely to directly finance anything in the agricultural sector before FY2006 (starting July 2005). The Bank is waiting for the completion of the *Agricultural Sector Review* and the PRSP.

I.33. ***The African Development Bank (ADB):*** In its overall development plan for Sierra Leone, the ADB assigns priority to increased investment in agriculture. The *Country Strategic Plan (CSP)* is being developed, and is likely to give prominence to agriculture and rural development. Ongoing projects are the *Artisanal Fisheries Development Project* (UA10.0m for 2003–2008) for increasing income of small scale fisher folk, the *Agricultural Sector Rehabilitation Project* (US\$15.0m, for 2005–2009), with the main objective of reducing poverty and enhancing food security through rehabilitation of the agricultural sector; the *Rhombe Swamp Development Project Feasibility Study* for increased food production (US\$2.0m); and the *NERICA Rice Dissemination Project*, a regional project, which aims to contribute to poverty reduction and food security through enhanced access to high yielding NERICA upland rice varieties (US\$5.0m).

I.34. ***The International Fund for Agricultural Development (IFAD):*** The current IFAD *Country Strategy and Opportunities Paper (COSOP)* was developed in December 2002. The strategic niche identified is “to build on its experience in the country and elsewhere, to assist the government in moving quickly into the sustainable development phase. The main thrust of the strategy would shift from support to government's institutions to priority given to supporting the livelihood strategies of households at the community level. Household food security, rural infrastructure and natural resource management will receive high priority, with emphasis on innovative aspects that could improve productivity and prevent environmental degradation”. IFAD intends to support rural poverty reduction efforts through specific interventions with a lending programme of about US\$50–70m over five years. US\$20–25m has already been approved for the *Rehabilitation and Community–Based Poverty Reduction Project*, focussed in Kono and Kailahun districts, due to start this year.

I.35. ***The European Union (EU)*** has not financed agriculture sector development since the closure of the *Kambia Integrated Rural Development Project* in 1985. Participation has been limited to fisheries development projects (*Artisanal Fisheries and Community Development Project*, AFCOD). However, discussions with the EU Representation indicates that about US\$15m is likely to be invested in agriculture over the next five years, although the focus of such investment is has not yet been decided.

I.36. FAO has been particularly active in providing post–conflict emergency assistance in the form of planting material and other agricultural inputs, and is currently supporting agricultural extension using *Farmer Field Schools* under the FAO *Special Programme for Food Security* (SPFS). FAO has also provided capacity building support to MAFFS, including for the preparation of the *Interim Statement of Policy Intent*, and support to the *Agriculture Sector Review* (2003).

I.37. ***The Government of the Federal Republic of Germany (FRG)***: Sierra Leone has been identified as a priority country for German foreign aid. For 2004/2005, FRG has allocated €2.7m as contribution to *Food Security, Reconstruction and Conflict Mitigation* project in Kono and Kailahun Districts. GTZ is the executing agency for the project. GTZ is also involved in short term reintegration work, mainly skills training funded by UNHCR, KfW and DFID. GTZ is currently funding the *Rights to Food Secretariat* in the Vice President’s office.

I.38. ***The United Kingdom Department for International Development (DFID)***. Although Britain has been one of Sierra Leone’s largest bilateral donors, and is committed to the country’s development efforts to reduce poverty, it has no visible activities in agriculture. Projects are implemented through NGOs.

I.39. ***The Islamic Development Bank (IBD)*** has been actively involved in the poverty reduction efforts of Sierra Leone and was one of the first donors in the post war era to get involved in funding the agriculture and rural development sector, through the *Integrated Rural Development Project*. The objective of the project is poverty reduction through diversification of food production (US\$3.4m between 2002 and 2004). There is an ongoing Project Completion Evaluation, the results of which will throw light on the success or failure of the project in achieving its objectives.

I.40. ***The United States Agency for International Development (USAID)*** is increasing its interest in agricultural development as reflected by the fact that it now has a permanent office in Sierra Leone. The main activity with respect to agriculture is going to be the *Community Reintegration Transition Project*, scheduled for 2004–2006 in Kono, Kailahun and Koinadugu for about US\$8.5m. Bids are currently being solicited for implementation of the project which aims to help establish the foundations for viable communities, stimulate agricultural production, and rehabilitate public infrastructure. USAID is also funding a *Food Security Project*, implemented by 5 NGOs, starting March 1, 2004 for 3 years with its *Food for Peace* funds, for about US\$8m. The area focus for this project is also Kono, Kailahun and Koinadugu Districts. Components include: agricultural development — provision of seeds and small tools as well as agricultural extension; health; and community development.

(iii) ***Lessons Learned***

I.41. Most of the more recent assistance outlined above has been provided in context of the post–conflict situation and has focussed on emergency relief and rehabilitation. Even where there is some development orientation, choice of location for the activities remains heavily influenced by perception of the areas requiring most post–conflict assistance, with a concentration of activities in the eastern areas of the country. It is somewhat premature to draw lessons with respect to rural development activities from the more recent projects. In the past, major donors were involved in supporting one or more of the integrated agricultural development projects, and some kind of institutional project. While this wide range of support provided Sierra Leone with access to a variety of approaches to the solution of a given problem, it has also contributed to the proliferation of administrative structures and helped complicate internal budget and evaluation processes.

I.42. Past experience has shown that too much government intervention was not sustainable. The fact that the government directly participates in agriculture is costly in terms of the long–term development of the sector due to the market distortions so created and the budgetary implications arising from that. There is therefore need to undertake reforms that will involve reducing the extent of government’s involvement in agriculture.

I.43. The key to agricultural modernisation and poverty alleviation for the small, subsistence farm, is the formulation, in response to farmer demand, of a menu of low–cost measures for agronomic and economic improvement that are within the management and husbandry capability of the farmer and that do not place his family finances at risk.

I.44. It is clear that much improvement in the agricultural sector will be impossible without significant rehabilitation and expansion of the supporting rural infrastructure. In particular, the scarcity and poor condition of all–season feeder roads from major producing areas to markets are major obstacles. The poor road system leads not only to severe delays and difficulty of passage in the rainy season but also to transport costs so exorbitant as to preclude profitability of input supply and marketing operations.

I.45. Past experience has also shown that a growth strategy emphasising agricultural intensification offers the best opportunity to meet economic development and poverty alleviation objectives. The focus on intensification is necessary because of land pressure in areas with high agricultural potential and the need for protecting soil fertility and the remaining natural resources to assure that long–term growth can be sustained. Intensive agriculture requires higher investments in factors of production, reliable input supply, relevant extension service, accessible and reliable marketing service, and attractive financial rewards to farmers. The growth strategy should also seek to improve the efficiency of producing traditional export crops — cocoa, coffee and oil palm — through both price and non–price factors, given that Sierra Leone has a comparative advantage for export promotion of these crops if improved technologies are used. Export diversification should also be pursued as an additional objective, not as a substitute for traditional exports.

(iv) ***Project Pipeline***

I.46. It is difficult to come up with a specific project pipeline at this stage as the PRSP is still under preparation, and MAFFS documents do not provide such information. Projected GOSL expenditures under the Medium Term Expenditure Framework are shown in Annex 1, Table 5. Apart from the projects described above, which have been incorporated into the figures in Table 5, only two ADB projects (*Peri–urban Agriculture*, and *Livestock Development*) can be regarded as pipeline projects although detailed designs have not yet been prepared for them.

I.47. Relationships between government policy and ongoing and planned agricultural development programmes and projects and the five NEPAD–CAADP pillars⁷ are shown in the Annex 2. While GOSL’s policies are directed at addressing all the CAADP pillars, current and pipeline projects virtually ignore the long–term Pillar 4 (*Agricultural research, technology dissemination and adoption*). This is a major gap in the current agricultural investment programme of Sierra Leone that needs to be addressed.

⁷ See *Preface*.

II. CONSTRAINTS AND OPPORTUNITIES

A. Weaknesses and Constraints

II.1. **Increased pressures and threats to macroeconomic stability.** The recent growth in economic output has not matched the growth in aggregate demand and inflationary pressures are building up in the economy. Under these conditions GOSL will face major challenges during the next three to five years, as it attempts to maintain a stable and conducive macroeconomic environment as pressure is likely to build up for protectionist measures, such as export bans, import tariffs and increased government expenditures to finance subsidies and public sector wage demands.

II.2. **Constraints to expansion of crop area.** While less than 10 percent of the land considered to be suitable for the cultivation of crops on a sustainable basis is cultivated annually, there are a number of factors that limit the possibilities for expansion of the annual cropped area. These include the need for upland fallow in order to prevent land degradation, the need for forest cover to protect swamp ecosystems, the need for land for mining, plantation crops, and other purposes, high labour requirements to bring virgin swamps under cultivation, lack of feeder roads to access many lowland ecosystems, and the adverse environmental impact of land clearing.

II.3. **Soil fertility limitations.** Upland soils are generally ferralitic, shallow and infertile. Soil organic matter content is low (10.6 percent) and depth ranges from 3–9cm, with low pH (4.0–5.0), and low nutrients (NPK), high aluminium content hence their inherent infertility. Although lowland soils are more fertile with Inland Valley Swamps (IVS), mangrove swamps and riverain grasslands all rich in organic matter, bolilands and some IVS have problems related to high iron and aluminium content. Further, water logging, inadequate drainage and poor water control are problems in IVS, seasonally flooded bolilands and the mangroves.

II.4. **Inadequate research and extension systems.** Physical infrastructure of research facilities has been almost totally destroyed, there is a dearth of trained manpower in the various areas of applied research and existing researchers have very limited access to current information. In this situation, a policy decision is required about the future direction of research in Sierra Leone and, in particular, the extent to which reliance can be placed on adaptation of research in neighbouring countries and regional institutes. Consultation with the principal stakeholders (researchers, extension agents and farmers) in the process of technology generation, diffusion and adoption will be of paramount importance in reaching this decision.

II.5. While agricultural extension is accepted as a means to expedite agricultural growth, the current situation in Sierra Leone is one of anarchy. Delivery used to be managed and funded mainly by MAFFS, government research institutions, and parastatals, but the public funded extension delivery service came to a virtual standstill due to the decreased level of support from the government and the war. The demands of post-war emergency relief encouraged a shift in the activities of the NGOs from the distribution of seed and tools to increased involvement in broader extension and on-farm activities. NGOs with their decentralised structure are now providing much of the extension advisory service replacing the hierarchical structure of government services. There are particular challenges in the coordination of NGOs, but, at the same time, an opportunity to reassess extension strategies and weigh different options in achieving various objectives. Currently, major emphasis is on the development of community based extension systems, with increased stakeholder participation and funding such as *Farmers Field Schools*.

II.6. **Poor and inadequate rural infrastructure.** The rural transport system in Sierra Leone is grossly inadequate with less than 6,000 km of rural roads, giving a density of about 80 km/1,000 km².

Furthermore, much of the existing network is in a poor state of repairs. It is clear that the level of coverage of feeder roads in Sierra Leone will be inadequate for a long while to come, constraining the pace of development of swamplands, many of which are not currently accessible.

II.7. ***Lack of agricultural finance.*** The liquidity problems and general lack of agricultural credit is seen by many as one of the core constraints to full tapping of Sierra Leone’s agricultural sector potential. Economic fundamentals favour commercial banks lending to government and commerce rather than the productive sector. Despite the fact that 80 percent of the population live and work in the rural areas, formal financial institutions do not provide financial services within these areas. A general problem is the inability of many lower–income people to meet lenders’ requirements for formal physical collateral.

II.8. Farmers in Sierra Leone are generally paying interest rates above 40 percent. This situation increases factor costs of production, limits modernization and expansion of farming enterprises and acts as a barrier to investment in agriculture. Recent attempts by GOSL to develop sustainable higher purchase schemes for machinery and other input supply are an encouraging step towards dealing with this problem.

II.9. The closure of the rural banks, initially due to the poor management and later as a result of the war, left a vacuum of regulated access to rural finance. Compared to the demand, the recent launching and plans for *Community Banks* (a maximum of 5) is likely to make only modest impact on the provision of rural financial services in the country.

II.10. Micro–finance activities through NaCSA, and some NGOs are taking place around the country and a UNDP/KfW/UNCDF programme for “*Development of a Sustainable Pro–Poor Financial Sector in Sierra Leone*” has recently been approved. There is however, no defined government policy regulating these activities.

II.11. ***Lack of a comprehensive and reliable climate data base.*** The absence of a reliable climatic data base required for the development of an early warning system on the occurrence of floods, droughts and pest incidents can severely hamper agricultural development.

B. Strengths and Opportunities

II.12. ***A currently favourable macroeconomic environment.*** While the maintenance of a favourable macroeconomic regime over the next 3–5 years presents a challenge to the GOSL, the current environment provides an opportunity for significant agricultural growth and development. The new investment code should make adequate provisions for agricultural enterprises and the proportion of GOSL revenues devoted to agricultural sector needs to be increased, in line with the stated policy of giving priority to agricultural development and commitments in the context of NEPAD. Reforms should continue to focus on creating a facilitating environment for agricultural transformation, assuming that the private sector will play an increasingly important role in the process. The public sector will increasingly focus its efforts on the policy and regulatory frameworks required for sustainable transformation.

II.13. ***High political commitment to agricultural development.*** With the re–election of President Ahmad Tejan Kabbah in May 2002, agricultural development was effectively moved to centre stage. The belief that agricultural development is a critical element in economic development and poverty alleviation now pervades all GOSL actions, and the government fully subscribes to the high

importance that the NEPAD ascribes to the development of agriculture as reflected in the *Comprehensive Africa Agriculture Development Programme* (CAADP).

II.14. **Comparative advantage.** As part of the *Agricultural Sector Review* (ASR), an assessment of the comparative advantage for the major crop production activities in Sierra Leone was undertaken. The analysis demonstrated that Sierra Leone has a comparative advantage in domestic production of rice for import substitution thereby providing economic justification for the country's emphasis on attainment of self-sufficiency in rice production. The analysis also showed that moving to an export price regime (export to regional markets) implies a substantial decline in economic profitability for all rice cropping systems. However, Sierra Leone still maintains a comparative advantage with the improved IVS systems.

II.15. The ASR analysis showed that Sierra Leone lacks any comparative advantage for the expansion of areas under coffee, cocoa and oil palm for export, under existing farming practices and local varieties. However using new technologies, i.e. higher yielding varieties and attendant improved farming practices) that are already available in the country; there is a comparative advantage for export promotion. There is also a potential comparative advantage for production of organic cocoa and coffee for export.

II.16. Groundnut, cassava, and pepper are shown to have higher net profits than rice in both financial and economic terms. The analysis provides justification for GOSL's policy of crop diversification, especially for cassava, which also holds a lot of promise for industrial use. While these minor food crops have the highest potential for exploiting comparative advantage in the future, the importance of rice in the consumption pattern of the population suggests that agricultural policy in Sierra Leone should initially be directed towards exploiting the country's comparative advantage in domestic rice production to satisfy local demand. Subsequently, attention could be given to the exploitation of the country's comparative advantage in export of rice to other ECOWAS member countries.

II.17. **Agricultural growth rates for economic development and poverty alleviation.** As Sierra Leone emerges from its devastating civil war and resumes the path of economic development the rate of growth in GDP was 3.81 percent in 2000, 5.4 percent in 2001 and 6.6 percent in 2002. It is projected to be 7 percent in 2003,⁸ and 6.5 percent in 2004.⁹ While these growth rates are acceptable, there is a strong desire that higher growth rates are required if the country is to make significant progress in growing itself out of poverty within a socially and politically acceptable time frame.

II.18. To achieve the millennium development target of halving poverty by 2015, Sierra Leone's GDP estimated at Le 1,965bn in 2002, would need to increase to at least Le 5,460bn at current prices. With agriculture contributing 50 percent of GDP, the required growth rates of the agricultural sector over the 15-year period range from 8 percent per annum if there is a combined growth rate of 8 percent in the non-agricultural sectors, to a low of 3.0 percent if the non-agricultural sectors grow at an average of 12 percent per annum. If Sierra Leone is able to sustain the GOSL target GDP growth of 7 percent or more over the next 15 years, a formidable challenge, it should be able to meet the Millennium Goal for poverty reduction in the country.

II.19. **Suitable agroecologic conditions exist.** The minimum requirement for rice growing is 1,000 mm annual rainfall. Much of the country receives between 2,100–3,000 mm annual rainfall, providing a very favourable environment even for upland rainfed rice cultivation. With regards to

⁸ Source: *Sierra Leone Statistics*, Bank of Sierra Leone and the Ministry of Finance.

⁹ Source: IMF.

swamplands, there are extensive areas, which despite the lack of water control structures could be used for large scale rice production schemes. Nine suitable swamp areas have already been identified for initial development, covering about 190,000 ha, about half of which are in the riverain grassland areas, but the total area may be as large as 450,000 ha. Further more, the Savannah and the Forest–Savannah Transition agro–climatic regions offer opportunities for large–scale irrigated crop production, using appropriate methods of water management.

II.20. ***Improved organisation and increased empowerment of farmers and stakeholders.*** The extension service of MAFFS is being decentralized on the basis of contiguous operational units (Circles) within which extension service providers and researchers interact with selected groups of farm families to constitute the hub of the research–extension–farmer–input marketing linkage system. As a result of these decentralization efforts of the GOSL, and the work of NGOs a lot of *Community and Farmer Based Organisations* (CBOs/FBOs) have come into existence both as informal groups and more formal farmer associations. Using these institutions, the opportunity now exists to accelerate the pace of development, particularly with respect to extension and marketing. However, they will need further strengthening.

II.21. ***A limited stock of improved technologies exists.*** Agricultural productivity needs to increase significantly if incomes and poverty are to be reduced in Sierra Leone. In the medium to long term, the agricultural research system will have to generate an appropriate mix of technological improvements. However, in the short term, reliance can be placed on modification and adoption of technology that is already available, and can be quickly experimented with and modified to suit the needs of local farming communities. Technologies are available for: (i) ***rice***: both improved local varieties and the recently developed *New Rice for Africa* (NERICA) rice varieties; (ii) ***sweet potatoes***: locally grown, high yielding and resistant to common diseases; (iii) ***cassava*** with good consumer qualities, higher yielding and resistant to important pests and diseases; (iv) ***pig and poultry farming*** in terms of knowledge of improved breeds, ration formulation and animal husbandry; (v) increased production of ***sheep and goats*** through greater production of crops and the associated residues and adequate veterinary services; (vi) ***artisanal fisheries***: use of appropriate crafts and improved skills drawing on experience of other countries in the sub region; (vii) ***forestry***; (viii) ***crop and soil management***; (ix) ***water control/irrigation***: appropriate swamp development techniques and simple systems of lifting water with potential for improved vegetable production; and (x) ***processing***: such as an improved oven for fish drying, many improvements in this area are reliant on improvement in the electricity supply situation.

III. INVESTMENT PROGRAMME

A. The Strategy

III.1. Despite the constraints discussed above, the potential for agricultural sector growth is substantial in Sierra Leone, given the favourable population/land ratio, abundant and diversified resources, and present low yields for almost all the crops. From the demand side, a growing population in Sierra Leone and neighbouring countries will require more locally produced food, a world market for traditional exports is available with a new niche for organic produce, and potential untapped demand exists both within and outside the ECOWAS sub–region for tropical fruits and transformed products.

III.2. A growth strategy emphasising agricultural intensification offers the best opportunity to meet these objectives. The focus on intensification is necessary because of land pressure in areas with high

agricultural potential and the need to protect soil fertility and the remaining natural resources to assure that long–term growth can be sustained. Intensive agriculture requires higher investments in factors of production, reliable input supply, relevant extension service, accessible and reliable markets, and attractive financial rewards to farmers.

III.3. The growth strategy should also seek to improve the efficiency of producing traditional export crops — cocoa, coffee and oil palm — given that Sierra Leone has a comparative advantage for export promotion of these crops if improved technologies are used. Sierra Leone will have to rely on factors such as effective extension advice, research for higher yields, and the existence of an appropriate rural infrastructure.

III.4. Export diversification should be pursued as an additional objective, not as a substitute for traditional exports. A strategy for export diversification would be to remove policy and institutional constraints, such as infrastructure bottlenecks, and complicated procedures for investment and export. One way of achieving this is through a comprehensive and private sector friendly Investment Code. Government can also pursue a more aggressive policy in searching for potential untapped markets in tropical fruits, organic products, timber, vegetables and value addition through processing.

III.5. The growth strategy should be accompanied by a rational development of Sierra Leone’s rich natural resources. Policy changes in favour of long–term timber concessions and the association of the private sector/local communities in the regeneration and protection of forests are needed to ensure the existence of renewable resources for future growth. While incentives are needed for establishing forest industries to increase export revenues and value added for the country, the government should ensure that the private sector in the wood processing industry also contributes through conservation and reforestation.

III.6. Environmental degradation is also a cause for concern in highly populated areas, like the Western Area, and in the mining areas of the Eastern and Southern Provinces. While migration to less populated areas (even if feasible) can help alleviate problems in the immediate term, measures will have to be taken to prevent further environmental degradation in the longer term. The reduction in the fallow periods and the subsequent decline in soil fertility and soil erosion call for increasing attention to micro–level problems associated with crop and livestock management. There is also the need for integration of cropping, livestock and forestry systems. To this end, land tenure security is important for promoting land improvements.

III.7. In pursuing this growth strategy, the government must delineate its role in the agricultural development process, in line with basic economic and social objectives and with its available resources. Government intervention is often less efficient than allowing other institutions such as the private sector and cooperatives to carry out tasks and provide services. The potential for private sector participation in service provision has not yet been exploited fully. There is an urgent need to strengthen community–based organizations, which will form the basis of effective grassroots private sector. The government should focus on priority activities for which public management is essential and offers clear advantages.

B. The Programme

III.8. Identification of an investment programme for the agricultural sector, based on the ASR is currently ongoing in the context of the preparation of the PRSP. The programme outlined below is an attempt at identifying priority projects within the CAADP pillars, in accordance with GOSL’s strategic framework, taking into account the plans and objectives of major donors, and the constraints and

opportunities highlighted in previous sections. The linkages to the CAADP Pillars are shown in the Annex 2. The projects were identified at a *Stakeholders Workshop* in which participants were drawn from government Officials, research organisations, farmers and fisher folk, farmer and fisher organisations, NGOs, and private sector producer and marketing firms, with adequate gender balance. At the workshop stakeholders provided a brief summary of on–going activities/projects in each CAADP programme area, followed by a brief sketch of new projects/activities that are needed over the next 5 years to enhance food security, income generation and poverty alleviation. A total of 33 projects were identified. They also provided a priority ranking between the CAADP Pillars and of projects within each pillar.¹⁰ The projects have been grouped and consolidated into nine priority projects in order to remove duplication. They are briefly described below under each CAADP Pillar.

CAADP Pillar 1: Expansion of area under sustainable land management and reliable water control systems

III.9. The low rate of utilisation of the country’s water resources, the long dry season, with its attendant moisture stress in some agro–ecologies, and the relatively high radiation input during the dry season, offer opportunities for extending the crop growing period into the dry season. Given the water deficiency in the dry season, poor drainage, flooding of lowlands and the hazards of water erosion, water control and soil management measures remain the most suitable vehicle for future development. This resolution could greatly negate the problems currently faced by the country and usher in the prospect of self–sufficiency, and eventually, possible export. The focus on the development of water control technology is also critical from the prospective that traditional form of, in the long run, non–sustainable shifting cultivation has serious implications on environment and needs to be modified. A single comprehensive project is proposed.

NMTIP Project 1: Sustainable Land and Water Resources Management

III.10. ***Lowland Rehabilitation/Improvement.*** With less than 0.4 percent of potential IVS presently under cultivation, there is a need to intensify this activity so that more area can be brought under cultivation. The main activities include the initial rehabilitation of 20,000 ha, improving water control in abandoned, undeveloped and traditionally cultivated swamps.

III.11. ***Small–scale Lift Irrigation.*** Intensive vegetable cultivation in the IVS, stream/river terraces and other low–lying areas where water can be lifted manually and applied to crop beds. The major factor limiting expansion of cultivated area is the drudgery involved in manual irrigation. Such drudgery can be alleviated by introducing and promoting the pressure treadle pump in combination with drip kits. This activity will complement the development of Peri–urban Agriculture.

III.12. ***Water Harvesting and Soil Conservation.*** Presently, the surplus rainfall, which appears as runoff and ground water, is not utilized for crop production. Such water can be impounded by the construction of farm ponds. The impounded water can later be used for the irrigation of crops grown downstream in the valley bottom or it can be lifted using the treadle pump for irrigating crops grown on the slopes and fringes of the inland valley. The water can also be used for establishing fast – growing tree species on the crests, thus conserving this part of the landscape, as well as for fish farming.

¹⁰ Strasser–King, E. E., 2004. Workshop Report on National Medium Term Investment Programme, Bintumani Hotel, May 11–12, 2004. Ministry of Agriculture, Forestry and Food Security, Ministry of Marine Resources, and Food and Agriculture Organisations, Freetown, Sierra Leone.

III.13. **Large-scale Irrigation.** A couple of large scale irrigation schemes will be developed with particular reference to the use of waters from hydro schemes and from major rivers in feasible areas for the production of food and cash crops.

III.14. **Capacity Building.** Significant capacity building in land and water resources management should be provided, including establishment and/or rehabilitation of Agro–meteorological stations at agro–ecological level, human resource development, and provision of logistics to implementing agencies in land and water resources management.

CAADP Pillar 2: Improvement of rural infrastructure and trade–related capacities for improved market access

III.15. The programme in this area should be jointly supported by other sectoral Ministries (e.g. Roads, Works, Environment, Trade and Industry, etc.). MAFFS programmes could focus on markets, storage and irrigation facilities. The main purpose of the improvements of basic rural infrastructure is ultimately to increase output of produce from the farms to marketing and processing outlets. It is expected that interventions will be made on a nationwide basis with emphasis on improving the quality and quantity of production. The *overall objective* should be to set in place essential support infrastructure to facilitate increasing the pace of agricultural production, to reduce poverty and improve the welfare of rural communities. A more *specific objective* should be to fully rehabilitate and increase the coverage and effectiveness of the agricultural support services and provide a critical mass of basic economic infrastructure at the community level.

III.16. The main activities should contribute to the provision of a critical mass of essential rural infrastructure to fulfil the overall objectives, as follows:

- Rehabilitation and construction of new feeder roads in selected locations as identified by the MAFFS and in keeping with the overall objectives of agricultural development.
- Provision of community service infrastructure appropriately designed to eliminate bottlenecks, from the initiation of the cultivation process to marketing of produce. This should include construction of farm market centres, daily retail markets, access roads and tracks, motorized and non–motorized Intermediate Means of Transport (IMTs); irrigation schemes (inland valley development, recession agriculture, community watershed management); etc.
- Provision of appropriate production infrastructure, within easy access of communities for post–harvest processing of produce at on–farm and village level. This should include fish processing and storage, village drying floors and crop store, rice hulling, processing of various crops and animal products, grain and other materials milling, mixing animal feeds, etc.

III.17. Rural infrastructure development priorities should be determined from predetermined criteria. Having identified general geographical areas for intervention, specific sub–projects should be designed that address actual needs as determined by the user communities. The required infrastructure should be appropriately designed, taking into consideration past experiences with similar interventions but with strong community participation.

III.18. The criteria for selection of locations for the specific infrastructure inputs are critical to the sustainability of the planned infrastructure and its economic justification:

- There is a need for prioritisation that should consider, among other things, productivity ratios and community interactions and village to technical support linkages.
- The selection process cannot be entirely demand driven but should be subject to an appropriate level of direct planning, related to the specific crops to be produced and other logistical considerations. The community demands will need to be synchronized with criteria developed in keeping with project objectives and purpose.
- Each sub–project will need to reflect a positive cost/benefit; have the potential to meet targeted production levels and clearly indicate the percentage of community matching funds (in cash or in kind). Projects in most needy communities could receive up to 100 percent grant funding.

NMTIP Project 2: Construction of Feeder Roads and Rehabilitation of Minor Trunk Roads

III.19. The rural transport system in Sierra Leone is grossly inadequate with less than 6,000 km of rural roads, giving a density of about 80 km/1,000 km². Furthermore, much of the existing network is in a poor state of repairs. It is clear that the level of coverage of feeder roads in Sierra Leone will be inadequate for a long while to come, constraining the pace of development of swamplands, many of which are not currently accessible.

III.20. The main activities should contribute to the provision of a critical mass of essential rural infrastructure to fulfil the overall objectives, including rehabilitation and construction of new feeder roads in selected locations as identified by the MAFFS and in keeping with the overall objectives of agricultural development.

NMTIP Project 3: Construction of a National Fish Harbour Complex

III.21. There is great need for construction of a National Fish Harbour in Sierra Leone. This will enable fishing trawlers to berth easily for bunkering, monitoring of transshipment, reduction in poaching and piracy, all of which will contribute to increased revenue generation.

III.22. The harbour should have docking facilities for at least four trawlers at a time with the necessary fish landing and storage facilities, including cold storage facilities for the catch of at least ten trawlers. Fish processing facilities for export should meet EU standards. Dry docking facilities for repair and out fitting of trawlers should also be available.

III.23. The Harbour Complex should have a Training School attached for trawler captains and staff, and the project should include funding for expatriate trainers to man the school while Sierra Leonean trainers are undergoing overseas and local training.

III.24. The Complex should also have a factory for the production of fishing gears for trawlers as well as small scale artisanal fishing boats (nets, hooks and maybe the assembly of outboard motors).

NMTIP Project 4: Efficient Provision of Agricultural Inputs, Rural Finance and Marketing Services by the Private Sector

III.25. The main objective of this priority project should be to facilitate the development of a competitive, efficient and transparent private–sector led agricultural marketing system for the

domestic as well as export market. It is expected this would contribute to the generation of increased incomes from farming, marketing, trading and agro–processing.

III.26. Although it is clear that one of the key constraints currently affecting Sierra Leone’s agricultural sector is the lack of finance for medium term investment by smallholder as well as medium scale farmers, there is much uncertainty as to the correct mix of institutions, and the scale of intervention needed to address the rural financial needs of the country. Consequently, a necessary first step in developing programmes in this area is a thorough assessment of the current situation and evaluation of best practices from regional experiences. There is therefore the need to investigate how to improve farmers’ access to credit and increase the volume of affordable credit provided to the farming community.

III.27. Key areas of support could include provision of complementary funding for the undertaking of a feasibility study of the performance of existing micro–finance operations in rural areas and the options for their consolidation and integration into a rural financial system, and also provision of funding for the development of special windows of agricultural credit to be provided by commercial banks.

III.28. ***Provision of credit to small farmers and communities to intensify input use:*** The aim is to raise fertiliser and seed supply (crops, fisheries and livestock) to sustainable levels and stimulate demand through easy access to input credit. To ensure sustained access to credit requires appropriate institutional mechanisms. The programme will provide line of credit to private sector importers of agricultural inputs that would also stimulate the extension of their business activities to farmers. The lines of credit would also be available to small and medium indigenous firms to encourage competition, as well as to existing or new micro finance and community banking institutions. It would provide a mechanism that would enhance the linkage between existing informal savings and credit groups and the bank(s) using the lines of credit to provide them with capital. The important prerequisites would include a wide spread network of informal savings and credit associations/groups and a recognition they have a role to play in rural natural resources development. This would provide the leverage to extend the prudential and regulatory framework to the informal sector and ensure that inaccessible/remote areas could access input and consumption credit.

III.29. ***Provision of lines of credit for domestic and export trade:*** The programme would strengthen private trader investment in marketing services by provision of support for NGOs, traders and farmers associations to facilitate their access to and management of credit from banks for investment in infrastructure and equipment for processing, packaging, storage transportation and marketing of agricultural products, and implementation of grades and standards. A pilot warehouse receipt project would be introduced to further enhance access to credit and improve sustainability.

III.30. ***Capacity building:*** Smallholders, large–scale farmers, producer organisations, traders and processors for whom profitable crop production, trade and processing is feasible, need to play a critical part in the market. Programmes that build their capacity to take up this challenge therefore form an integral part of market development. This should include improvement of capacity to interpret and implement international trade agreements by:

- Building the capacity of existing institutions and agencies both the private and public sectors to take advantage of the *African Growth Opportunities Act (AGOA)* and *The Everything but Arms Initiative* of the EU;

- Developing the capacity for understanding and assessing the impact of International Trade Agreements on our Economy to help in negotiating trade agreements under the various Trade Organizations;
- Building the capacity of farmers organizations at grassroots and national levels so as to effectively take part in marketing produce; and
- Implementation of small business training programmes

III.31. **Trade diversification:** Export markets for Sierra Leonean agricultural products have been restricted to few countries in Europe. The prospect for diversifying the client base for Sierra Leonean products is not well known and needs to be explored. The main institution responsible for export promotion is *Sierra Leone Export Development and Investment Corporation (SLEDIC)*. This government body was set up in the early 1990s with the objective of export promotion and attracting foreign direct investment into the country. It has had limited success due mainly to lack of funding to enable it to function effectively.

III.32. GOSL should aggressively negotiate trade agreements under the ECOWAS protocols, especially with Nigeria, for traditional commodities such as rice, palm oil and fish, for which it has a comparative advantage in supplying the Nigerian market. In addition, Sierra Leone should take advantage of its abundant natural resources and location to diversify into the production tropical fruits, off–season vegetables and horticultural products and cassava for the regional as well the European market. With the existence of the AGOA window, Sierra Leone can also enter the lucrative US market, with specialised organic products particularly cocoa and coffee, for which there is growing demand.

III.33. Success of the rural finance project will depend on complementary actions that provide support to the agricultural system by improving infrastructure, strengthen rural marketing systems, increase private trader investment in marketing services, and increase the supply of appropriate crop production, conservation and marketing technologies.

CAADP Pillar 3: Increasing Food Supply and Reducing Hunger

III.34. The connection between poverty and food insecurity is important. Food production is significant because, for the majority of the poor, agriculture is the main source of livelihood. However, it is only when poverty can be alleviated or diminished that the level of food insecurity is reduced. Consequently, the long–term solution to food insecurity lies beyond the production of additional food and includes the need to address rural livelihoods in general. Social safety nets of various sorts are also part of the solution to absolute poverty and food insecurity, not only in the exceptional circumstance of the conflict, but also over the long periods required to arrive at socially inclusive sustainable solutions.

III.35. The target groups to be addressed by the food security strategy would be, principally: small farmers, landless rural dwellers, impoverished urban families. The objective is to raise in the medium term the daily per capita energy intake from the current 1,800 kcal to 2,200 kcal by year 2007, and to 2,400 kcal by year 2010. This strategy objective includes food distribution as payment for work in rehabilitation of infrastructure, and promoting the increase of subsistence production. The food to be distributed would be constituted of internally purchased surpluses, imported food and international grants.

NMTIP Project 5: Expansion and diversification of crop production to ensure food security

III.36. ***Implementing a Right to Food, and Food Safety Net Programme:*** The Government of Sierra Leone has indicated its strong determination to end hunger in Sierra Leone by the year 2007. As so many line ministries have a role to play in connection with food and nutrition security including safety nets, it may be necessary to set up a Commission that is in charge of coordination. It should be composed of members of the relevant line Ministries, donor agencies and the civil society. It should have focal points in each of the Ministries and donor agencies. As a first step, a *Right to Food Secretariat* has been established in the Office of The Vice President to coordinate the programme.

III.37. The *Ministry of Labour Social Security and Industrial Relations* has been charged by GOSL with the design and implementation of a *Social Safety Net (Social Assistance) Scheme*. In its recent Concept Paper it has defined *A Social Safety Net for the Old and Needy* “as a Scheme for people who have no regular income and unable to work with no means of support and at least Sixty (60) years old. In the case of the disabled, widows and separated children (orphans) the age criterion shall not apply”. The Scheme is non-contributory, with funding from GOSL, including grants from donor agencies, national and international and other friendly governments. It is proposed that the social safety net should ensure that vulnerable persons have basic income support or food, adequate shelter, access to basic health care, and access to rehabilitation in the case of the disabled.

III.38. Since the local community is best placed to identify eligible persons, the community’s participation is essential. It is proposed that a Committee should be established in each local community (such as Chiefdom in the provinces). Each Committee is expected to: (a) identify those persons who are old and needy according to the established criteria; (b) maintain and up-keep a database for all beneficiaries and potential beneficiaries; (c) maintain relevant records on the operation of the Scheme in their communities or areas of operation; (d) determine the form of assistance (cash or kind or a combination of both), that will meet the needs of those who are to receive the assistance; (e) identify and develop the poor with access to health care and housing e.g. health centres or homes for the poor; and (f) identify the strategy of reintegrating separated children (orphans) back into the community.

III.39. ***Participatory development of quality seed and planting materials:*** This sub project should restore and improve upon a system of participatory selection and multiplication of seeds and planting materials, and production of breeding stock that is still available through the agricultural research system, MAFFS district agricultural offices and about 3,000 experienced farmers. The programme would operate in the *Farmers Field school/Operation Feed the Nation* framework. Individual farmers and groups would be supported to undertake seed and planting material multiplication by accessing credit to purchase required inputs. Multiplied planting material would gradually be made available on sale to an increasing number of farmers. Activities would include rehabilitation and re-equipment of RRRS and IAR outstations, MAFFS clonal and seed gardens for the provision of foundation and registered seed and planting materials; promotion of community/farmer-led variety selection and improvement crops and livestock; promotion of private sector participation in seed and breeding stock production.

III.40. ***Rehabilitate and diversify tree crop production:*** The most important agricultural export commodities from Sierra Leone since World War II have been cocoa, coffee and palm kernel, ginger and piassava. In addition to the two main products of cocoa and coffee, which account for over 80 percent of agricultural GDP, Sierra Leone also exported palm oil, palm kernels, piassava and ginger. The new policy of crop diversification by MAFFS, has led to the introduction of improved

ginger varieties, which are higher yielding. The aim is to get back into exporting this crop for which it had a comparative advantage about 3 decades ago.

III.41. Sierra Leone should take advantage of its abundant natural resources and location to diversify into the production tropical fruits, off–season vegetables and horticultural products for the European market. With the existence of the AGOA window, Sierra Leone stands to enter into the lucrative US market, with specialised organic products, for which there is growing demand.

III.42. **Promotion of Farmers Groups:** This sub project should include the organisation and promotion of Cooperatives and farmers organisations to enhance the production, processing and marketing of agricultural produce. It should provide small–scale funding for existing farmers and encouraged partnerships among agriculture graduates plus the provision of set–up funding for the establishment of agricultural enterprises.

III.43. **Provision of efficient phytosanitary services:** Pest management plans (PMPs) will be developed for targeted crops. The focus will be to build plant protection capacity as integral components of each commodity targeted. Emphasis will be on developing national capacity to enforce Africa Union plant quarantine guidelines; facilitate early warning and monitoring of plant health problems; promote environmentally friendly IPM options and encourage dealer and user compliance with international guidelines on pesticides. PMPs are being developed for MAFFS for selected crops; e.g., peri–urban/urban vegetables, cassava, tree crops. The development of PMPs increases the need for a national IPM policy with an overall IPM oversight committee.

III.44. **Encouraging fair and remunerative farm prices:** While a strategy to improve the overall macro–economic environment is necessary for agricultural incentives to improve, it may not be sufficient for bringing about investments in improved agricultural production and natural resource management practices such as use of improved fallows. Trade agreements and contract farmer arrangements should be encouraged with a view to providing some measure of price security.

CAADP Pillar 4: Agricultural Research, Technology Dissemination and Adoption

III.45. Although the private sector has an important role to play, the GOSL has primary responsibility for efficient provision of services to the agricultural sector, particularly with respect to research, extension and data collection. One major consolidated project is proposed under this pillar.

NMTIP Project 6: Efficient provision of agricultural services

III.46. **Research:** In the context of Sierra Leone, where there are currently existing but unapplied improved technologies, priority should be given to *adaptive research* undertaken in the context of agroecological zones and focusing on solving immediate problems holding back production in these areas. Close links with the extension service, by way of participation in the same project, would ensure quick feedback from farmers and an indication of what needs further research.

III.47. In so far as is feasible, *long term research*, centred at the agroecological research stations, should bring together the results of the adaptive efforts and provide a backup support for these efforts as national research capacity expands. How far in the direction of actual development of agricultural technology long term research capacity should be extended remains to be determined. Reinstatement of a fully–fledged NARS is unlikely to be practical, but priority could be given to strengthening links with international research institutions and improving the testing and screening capabilities of new technologies available internationally, especially of minor crops.

III.48. **Extension:** The programme seeks to create a semi–autonomous *National Agricultural Advisory Service* (NAAS), which will gradually take over the agricultural extension delivery and management from MAFFS. Primary responsibility at grassroots will be vested in the farmer groups that will be the prime clients of the advisory services. Various stakeholders will also be intimately involved in the Programme as partners at all levels. Key among the partners shall be private sector organizations, professional bodies, research and training institutions, NGOs, community–based organizations, Local and Central Government development agencies, development partners and donors.

III.49. This strategy is predicated on the strengthening of the farmer–based and community–based organizations, so that they would be in the advantageous position to partake in the service delivery opportunities. The benefit to the farmers and the communities generally is not difficult to discern, giving that they will be serving themselves, and would be easily accountable to the other members. This means that any extension programmes developed, must have a component that aims at strengthening these grassroots organizations. The extension programme should be enhanced by constantly receiving practical farm information from research. Extension also needs to be closely tied with research to feed back information from farmers. These factors make it necessary to strengthen the linkages between farmers, extension workers and researchers.

III.50. **Data collection and market information systems:** Policy makers and planners, including private sector participants and donor agencies, need reliable and timely agricultural statistical information for the formulation, monitoring and evaluation of developmental strategies and programmes, especially those in support of increased food security and agricultural production. The development of effective and efficient marketing information systems is critical for the commercialization of Sierra Leone’s agricultural sector. This will enable farmers make informed decisions about their cropping portfolio and increasing their bargaining power during the marketing season.

III.51. Short and long term programmes are proposed for implementation by PEMSD of MAFFS. The short–term programme focuses on the immediate improvement of the scope and coverage of current data collection activities by: (a) training of more staff to collect data at field level and ultimately increasing the number of households from whom information is collected; (b) improved data collection at the field level by the introduction of better designed questionnaires; (c) adequate preparation for undertaking an agricultural census; and (d) establishing an embryo *Data Processing Unit* with the necessary equipment.

III.52. The longer–term programme focuses on building the capacity of an agricultural statistics unit by: (a) improving the capacity and capability of PEMSD to properly collect, process, analyse and disseminate agricultural statistical data; (b) developing a scientific statistical survey design for collecting agricultural data; (c) establishing an improved Data Processing Unit capable of processing agriculture survey results using state–of–the art computer software packages; and (d) conducting an *Agricultural Census*.

CAADP Pillar 5: Other (Livestock, Fisheries, Forestry)

NMTIP Project 7: Livestock Development

III.53. The government’s main objective should be to increase domestic livestock production and improve capacity of the livestock sub sector to meet growing demand. The need for such strategy is even more profound after the war, which saw the virtual wiping out of livestock within the country.

III.54. In order to achieve this objective, the strategy is to put greater emphasis on the private input supply and production sectors, gradual modernization of traditional production units; support for more capital intensive poultry and piggery enterprises; and better government services on a cost recovery basis. This strategy also focuses on small ruminants.

III.55. There is need, to provide herders with access to land so that they are encouraged to maintain, and possibly improve, long–term land carrying capacity.

III.56. Setting up and operation of stock breeding farms for production of all forms of livestock (large and small ruminants, pigs and poultry) should be an important component of the project, and the Vet services would be reformed and partnerships established with the private sector to provide expanded and cost effective services to the livestock sector.

III.57. The project should also: (a) establish a rural poultry development programme for women; (b) rehabilitate and expand the poultry facilities at *Njala University College* to provide necessary stock to poultry farmers; (c) rehabilitate the pig and poultry processing plant at Kissy Dockyard, in Freetown and construct feed mills and processing plants at provincial headquarter towns (community owned and operated plants); (d) train paravets at Teko and NUC for the provision of extension services at Chiefdom levels; and (e) encourage foreign domestic investment into large–scale poultry production activities.

NMTIP Project 8: Artisanal Fisheries Development

III.58. Government policy is to encourage private undertakings with priority given to developing the artisanal fisheries (based on coastal communities) and provision of viable collection and marketing services.

III.59. The project should first of all undertake a comprehensive assessment of all the fisheries (marine, freshwater, shellfish etc., as well as a detailed stock assessment), and development of medium to long term plans for monitoring of the fish stocks.

III.60. The project should identify coastal communities that would benefit from public investment to increase small scale artisanal fishing, and then:

- support the improvement of public infrastructure and facilities for landing and the fish production–handling–processing–marketing system in key fish landing sites.
- develop the capacities of the artisanal fisher folk to harvest off–shore pelagic stocks as well as high value demersal fish stocks through pilot activities centred on the transfer of appropriate fishing technologies from other countries in the sub–region;
- train fisher folk, fish processors and fishmongers by improving their abilities to add value to artisanal catches, while stimulating increased private sector participation in fish exports by sensitising potential business investors
- link fisher folk with local and external demand for fish (for which a selective assessment of fisheries would be required); and
- assist artisanal fisher folk to exploit offshore resources by graduating into semi–industrial fishers (i.e. fishing for export).

III.61. Other project activities should include the identification of suitable locations for aquaculture development, then:

- development of strategically located fingerling production centres to supply farmer managed fish ponds;
- promotion of freshwater fish farming by encouraging business investment in aquaculture, and
- provision of training and extension services to fish farmers.

III.62. The project should build capacity to monitor, control and provide surveillance of the territorial waters by (a) provision of patrol boats and air surveillance as well as radar facilities, (b) provision of appropriate training for surveillance crews, and (c) preparation and implementation of a business plan to ensure that the operation becomes self-sufficient within a short period such as three years.

NMTIP Project 9: Sustainable Forestry, Agroforestry and Wildlife Management

III.63. Efforts will be made to restore the integrity of protected areas and strengthen the management and integrity of Communal Forests with attention to ways in which benefits can be shared and encroachment controlled. The project should also explore innovative funding options to expand sources of revenue and improve revenue collection procedures.

III.64. Sustainable forest and wildlife management would include a number of activities covering: (i) wood production; (ii) fuelwood supply; (iii) integrated land use planning of mangroves; (iv) bushfire management; (v) community involvement in wildlife management; (vi) forest-derived foods and (vii) peri-urban social forestry. The project should formulate national guidelines on sustainable agricultural practices for the conservation and development of soil, water, forest and biodiversity resources. Farmers would be encouraged to incorporate trees into their farming systems and mitigate the impact of unsustainable agricultural practices.

III.65. Given the favourable outlook for demand and supply, the forestry subsector can contribute significantly to rural employment and income. The strategy should aim at rationalizing forest exploitation for industry, fuel wood and agriculture.

III.66. First, there is an urgent need for a comprehensive inventory taking of the forest resource. When this is done, the next stage is a forest resource utilization plan to guide forest authorities as they design and implement the forest exploitation strategy. With the anticipated decentralisation exercise, the development of district forest management plans, provided with an outline of land use regulations, is recommended.

III.67. Forest resource utilization should be determined according to the type of land use. In zones devoted to agriculture, regulations should allow a quick exploitation of forest resources. In zones devoted to forestry, regulations should promote sustained management in *Forestry Management Units* (FMUs), established on the basis of forestry potential indicated by the forest inventory. Issuance of logging permits according to FMUs would enable the phasing of complementary construction of road infrastructure. This will make it financially more profitable for private logging concessions to extract larger number of species from the forest. This recommendation could and should be implemented immediately after resource inventories are completed.

III.68. Forest resources utilisation plans should be accompanied by a reform of the present lease system. Such reform is necessary to provide incentives for the private sector to regenerate forests, to install modern saw milling equipment, and to reduce uncoordinated agricultural encroachment. This in turn would provide a steady source of off farm employment and income for the rural labour force in the area.

III.69. **Forest industrialization:** There is scope and economic justification for developing forest industries. Incentives such as export duty draw and adherence to the liberalization of internal prices would have to be provided. In addition grades and standards for sawn wood need to be implemented to ensure a consistent quality for export wood. An important additional investment should be the training of Sierra Leonean technicians and managers to take an active role in the development of the subsector. Given the inadequate base for capital investment, joint ventures should be encouraged to participate in the forest industry development plan. Finally there is need to integrate exports and local production to improve the overall conversion rate of logs to sawn wood products.

III.70. **Environmental action:** There is considerable interest from the international scientific community in providing bilateral and multilateral funding for development and protection of forest reserves all over the world. Sierra Leone should take advantage of this. Efforts should first be made to update the status of existing parks and reserves, and then identify areas to be included in the protected zones. The creation of buffer zones surrounding the protected areas should also constitute part of the national environmental action plan.

III.71. Action plans and programs to rationalize the use of fuel wood would also help in protecting existing forests. These should be developed under an overall household energy strategy for which there is an urgent need of several studies on resource assessment, wood fuel marketing and distribution, charcoal production, urban energy demand, potential substitution, and pricing policies. The likely tools to implement this strategy would be sensitisation of the rural and some urban populations to use improved stoves, improve charcoal production, using waste from the wood processing plants, and manage natural forest resources for fuelwood production. Evidence from other countries like Cameroon, show that investments in fuelwood plantations are most likely to be unprofitable.

III.72. Soil conservation can also be greatly facilitated through community forestry investment and investments to encourage good land use practices by farmers. These incentives could include security of land tenure, improvement of productivity, and even good storage and processing techniques.

III.73. **Institutional framework:** The number of institutions responsible for forestry and the environment should be reduced and responsibilities should be clarified. Efforts should be made to institutionalise planning and programming of research activities with the institutions that would be identified as responsible for the forestry and the environment, after the ongoing functional reviews of all the ministries are completed.

III.74. There maybe reason to revise the existing forest legislation in order to support the proposed policy for forest utilization. This could mean revising the license system and providing legal responsibilities to local communities for managing forest resources. Forest taxation needs to be revised in order to increase tax revenues

III.75. **Wildlife:** Priorities are outlined in the *Biodiversity Strategy Action Plan* should be implemented and capacity building and security for all game sanctuaries provided.

C. Bankable Project Selection Criteria

III.76. One major project selection criterion, used in the identification of the above investment programme priorities, is government priority. Others have been the preferences of stakeholders expressed at the national validation workshop of the NMTIP and donor interest. In the identification of bankable projects for preparation with FAO assistance, the following additional criteria have been used:

- **Technical feasibility and sustainability.** This is the crucial test of whether the proposal makes technical sense and can be seen as sustainable in terms of resource utilization. Examples of previous projects or projects in similar areas, which have proved their technical viability, are useful indicators in this respect. This criterion also covers likely effects upon the environment. Proposals indicating the scope for synergy between various interventions will receive favourable consideration.
- **Financial and economic feasibility.** At the early stage of project identification, it is difficult to obtain more than a vague idea of the financial and economic viability of a project, but enough information should be included to justify continuation of the project preparation process. Indicative crop budgets can suggest whether a particular technical process is financially viable in the current pricing and marketing context. A rough idea of irrigation investment costs per hectare in comparison with returns from the crop(s) likely to be grown will give an indication of the financial viability. Wherever possible, a preliminary comparison of the benefits with the costs of the project should be made, possibly using a simple cost/benefit ratio in financial terms.
- **Absorptive capacity.** In the light of depleted government services and inadequate rural infrastructure, this is an important criterion in the context of Sierra Leone. It is a difficult factor to judge, especially at a time of change and reorganisation. However, a subjective judgement may be made in the context of the experience of the particular department/institution(s) concerned with the proposed technology or approach, and their manpower capacity.
- **Ease of implementation.** Experience indicates that projects with complicated implementation mechanisms have difficulty in attaining their objectives in a timely fashion. For this reason, priority will be given to projects with well designed implementation mechanisms, suitable to the proposed activities, with clear demarcation of responsibilities.
- **Existing projects and plans.** There are a number of existing projects which partially cover some of the activities proposed above, and a number of donors have indicated interests in formulating projects on some areas. These have been taken into consideration in order to avoid duplication of efforts, and increase the probability of donor follow up.

C. Preliminary Identification of Projects for Development with FAO Assistance

III.77. Using the criteria above three projects were selected for development with FAO assistance. These are summarized below and the detailed project profiles (BIPPs¹¹) are given in Volumes II to IV of this document.

III.78. A fourth Project was also selected: The NMTIP *Project 6 – Agricultural Services Project*. This proposal remains at the stage of a project idea as it proved too ambitious to develop into a bankable project at this stage. The two main areas which require further development are: (i) the need for Sierra Leone to focus on research based on adapting sustainable technology developed in regional and international situations to local conditions, and (ii) the scope for testing and applying approaches to extension which differ from unsuccessful models adopted in the past.

III.79. ***BIPP 1 (NMTIP Project 1): Sustainable Land and Water Resources Development.*** This project addresses the identified need for water control technology in order to address the issue of water deficiency in the dry season and permit extension of the cultivation period thereby enabling a sustained increase in agricultural production. It is fully in line with the new draft policy on water resources management. Specific objectives are to: (i) rehabilitate and put into food production previously developed/partially developed IVS; (ii) promote small–scale community irrigation, especially by women market gardeners, for the production of non–rice food crops, as a contribution to food security and poverty reduction, and (iii) strengthen institutional capacity in water resources management, with a focus on agriculture.

III.80. The five year project has three components, which together constitute the first phase of a medium–to–long term programme on land and water resources development for agriculture. The components are: (i) rehabilitation of IVS and development of new swamps; (ii) promotion of small–scale community irrigation and (iii) strengthening of institutional capacity in water resources management. The first two components will be supported by credit arrangements with a view to providing a basis for sustainable development, while the institutional strengthening component will lay the foundation for the initiation and implementation of larger–scale follow up projects. The proposed project area covers four agricultural/administrative districts, which together account for about 45 percent of all the IVS in the country and are major rice producing areas, as well as the Rural Mountain District in the Western Area, which has a very high concentration of market gardeners. In selecting the districts, consideration was also given to incidence of poverty and vulnerability and the areas of influence of existing projects. Total project cost is of the order of US\$32.3m, of which 70 percent would be required from donors. Beneficiaries would be expected to finance about 17 percent of the cost mainly through provision of labour for implementation of the IVS component. It is estimated that about 46,000 farmers would benefit directly from the swamp rehabilitation/development activities while there would be many indirect beneficiaries of the increased availability of food.

III.81. While MAFFS would have overall responsibility for project implementation, the project would be managed by the new Smallholder Irrigation Development Authority, which would have a team of senior professionals recruited from outside, and local professional counterparts. A technical implementation team, drawn from professionals in irrigation, water resources development, crop production, post–harvest mechanization and agricultural extension would be responsible for planning and implementing all the technical aspects of the project.

¹¹ See *Preface*.

III.82. ***BIPP 2 (NMTIP Project 3): Freetown Fisheries Harbour Complex.*** This project has been a government priority since the 1970s and has benefited from a series of designs and feasibility studies. The development of a fish harbour complex is an important component of the Ministry of Fisheries' development policy for the industrial fishing sector which is currently dominated by foreign owned vessels. The primary objectives of this policy are to ensure that responsible fishing is practiced and that adequate fisheries resource rent (licenses and royalties, etc.), is obtained, adequate employment opportunities are created and that the regulations governing industrial fishing are adhered to.

III.83. The objectives of this five–year project are to maximize foreign earnings, income and employment from Sierra Leone's fisheries sector through controlled transshipment and the provision of services and repairs to industrial fishing vessels. It also aims to provide good quality fishery products to the domestic and export markets, and to enhance the local population's access to fish protein. There are essentially three main components: (i) Infrastructure, including the required detailed design of the structures; (ii) Complementary measures in support of the environment including marine surveillance and management of surrounding urban areas; and (iii) Project management and institutional capacity building, which would include technical assistance. Preliminary cost estimates are of the order of US\$52.5m, but financial and economic feasibility analysis remain pending and might suggest a smaller structure is more likely to be viable in the context of the severe depletion of the country's marine fishery resources.

III.84. The project would be implemented under the overall supervision of the Ministry of Fisheries and Marine Resources through a special Project Implementation Unit (PIU) to be established in the Ministry. There might be potential for the PIU to evolve into a Harbour Management Authority, after construction of the project. All construction work would be contracted to appropriate private sector firms using Standard International Competitive Bidding practices.

III.85. ***BIPP 3 (NMTIP Project 9): Programme for the Tree Crops and Forestry Subsectors.*** Rather than a single project, a programme has been developed for these important subsectors. Covering the whole country, the programme aims to meet the ministry's national target of establishing 16,000 ha of community forestry reserves and woodlots and the protection of an estimated 400,000 ha of national forest reserves: and the rehabilitation of 135,200 ha of tree crop plantations, the replanting of 16,000 ha of old plantations and establishment of 140,000 ha of new plantations for both the public and private sectors. The main objectives of the programme are to: (i) to improve sustainable forest resource management and utilization in order to conserve soil moisture and fertility for increased agricultural productivity at community level for poverty reduction; and (ii) to develop tree crop plantations and related infrastructure with a view to increasing their capacity and diversifying their outputs so as to improve incomes of rural people and increase foreign exchange earnings.

III.86. The programme highlights possible areas of investment in the tree crops and forestry subsectors that would need to be supported if these subsectors are to develop to levels that would alleviate rural poverty and earn foreign exchange for the country. Six possible areas of investment for the development of the tree crops and forestry subsectors are identified and three specific projects described in some detail namely: (i) Forest resource assessment/inventory/mapping; (ii) Reforestation of 1,000 ha of degraded areas around catchment areas and (iii) Replanting of old and low–yielding cocoa and oil palm plantations. Because of the extensive amount of preparatory work required to finalize six bankable project proposals, detailed costing is provided for this together with the initial resources needed for pre– inventory ecological survey of the forest estate. The total amount required for this preparatory activity is estimated at US\$106,500.

IV. FINANCING GAP

IV.1. Heads of State and Government in Africa have pledged themselves to “...allocating at least 10 percent of national budgetary resources for the implementation of CAADP ... and sound policies for agricultural and rural development within five years”. In the process of providing additional public resources for the sector, so as to meet the national objective of increased agricultural production, the GOSL is aware of the key role of the private sector in accelerating agricultural development through production, processing, marketing, storage, transport and export services. Increasing public investment is basically geared to providing leverage for the acceleration of private investment and efficient utilization of all investments, both public and private.

IV.2. Increasing public allocation should go to those priority areas identified in Section III that take into consideration the national priorities that are in communion with the PRSP and other national policy documents that preceded it, with strong links to various CAADP pillars. However, it is important to keep in mind that accelerated agricultural growth does not depend on increased public expenditures alone, but also on: (i) a conducive overall policy and institutional environment; (ii) the quality of the public expenditure programme; and (iii) the efficiency of public resource use and of public service delivery.

IV.3. The periodic reassignment of ministerial responsibilities makes it difficult to track expenditure changes over the years with precision. Sub–sectors with relevance to agriculture are found in several ministries. For example, certain issues relating to land are dealt with in the Ministry of Lands and the Judiciary. The other major constraint is the changes in the classification of the budget lines items from one year to the other. To simplify, only the funding to the two main line ministries (MAFFS and MFMR, and NaCSA are considered in this analysis.

IV.4. Annex 1, Table 5 shows the actual public expenditure on agriculture in 2000–03, and proposed allocations for 2004–08. The data is presented in real terms, in constant year 2000 prices. Public spending to agriculture increased 230 percent in real terms over the last three years, rising from Le 6bn in 2000 to almost Le 20bn in 2003. Spending through MAFFS increased 150 percent. As a proportion of total public spending, MAFFS share increased modestly from 2.5 percent of total public spending in 2001–02, to just over 3 percent of spending in 2003. Over the same period, NaCSA spent around Le 3.5bn per year on small–scale agricultural rehabilitation projects under its ERSF and IRDP programmes. Spending through MFMR, which was part of MAFFS until May 2002, remained relatively constant in real terms at Le 1.2bn in 2002 and Le 1.3bn in 2003.

IV.5. The increased spending on agriculture is consistent with the importance attached by government to rapid revitalisation of agriculture. While the rise in spending has coincided with strong growth in the sector this may be attributed as much to the restoration of peace and stability as to government’s rehabilitation efforts.

IV.6. In spite of recent significant increases in allocation of the national budget to agriculture, the allocation is still well below the CAADP target. As shown in the table, expenditure on agriculture in 2003 came to 4.2 percent of the budget.

IV.7. GOSL spending on agriculture is focused almost exclusively on the supply of inputs and equipment for crop production. This is consistent with the priority on self–sufficiency set out by MAFFS. This approach, however, suffers from a number of drawbacks. While it may have been appropriate as a post–conflict expediency, it is not well suited for a programme geared to long–run growth. It is expensive, unlikely to serve the poor and pre–empts the creation of a private sector supply chain for inputs and equipment. Moreover, the goal of adequate crop production would be reached

faster and in a more cost–effective manner if farmers were given access to research and extension services that would let them use their inputs more productively. Cross–sector linkages are also important: farmers cannot market their produce in the cities or overseas without a good road network.

IV.8. Using currently available projections in GOSL’s MTEF, in which it is shown that GOSL expenditure on agriculture will remain under 5 percent over the next three years (Annex 1, Table 6), the estimated funding gap relative to the CAADP target of 10 percent, will be between Le 39bn and Le 100bn each year, i.e. an under allocation of 4.5–6.6 percent of government budget.

IV.9. The gap could be closed if GOSL increased spending on MAFFS programmes, including donor supported programmes by 20 percent in 2005 and 25 percent thereafter. In the case of MFMR, an increase of 10 percent is required from 2005 to 2008. A 20 percent annual growth of the GOSL budget is expected.

V. MONITORING AND EVALUATION

V.1. The monitoring of the NMTIP in Sierra Leone should be undertaken within the context of the PRSP as well as by the PEMSD of MAFFS. The overall monitoring and evaluation of the NMTIP will incorporate the production of quarterly and annual reports that will be made available to all key stakeholders. Care has been taken to select indicators that will give an overall idea of the progress of agricultural development and its impact on poverty reduction. More detailed indicators would be monitored in the context of specific projects by the project management units. The key indicators at the national level could include:

- The self–sufficiency ratio for staple food crops, especially rice and palm oil;
- The rate of growth agricultural GDP;
- The growth in the value of agricultural exports;
- Growth in the agricultural loan portfolio of financial institutions;
- Growth in area planted to improved varieties and yield;
- Growth in area under irrigation (the command area);
- Number of farmer associations and extension workers trained;
- Change in the proportion of chiefdoms that are classified as medium to highly vulnerable.

V.2. The indicators will be measured against data collected from a number of institutions. This will include baseline data specifically generated for NMTIP and data contained in annual progress reports. Implementation of the M&E programme would require significant investments in training, equipment and statistical software.