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# **USAID OFFICE OF FOOD FOR PEACE SIERRA LEONE BELLMON ESTIMATION**

August 2009

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**Fintrac Inc.**

[www.fintrac.com](http://www.fintrac.com)

[info@fintrac.com](mailto:info@fintrac.com)

US Virgin Islands  
3077 Kronprindsens Gade 72  
St. Thomas, USVI 00802  
Tel: (340) 776-7600  
Fax: (340) 776-7601

Washington, D.C.  
1436 U Street NW, Suite 303  
Washington, D.C. 20009 USA  
Tel: (202) 462-8475  
Fax: (202) 462-8478

**USAID-BEST**

Washington, D.C.  
1436 U Street NW, Suite 104  
Washington, D.C. 20009 USA  
Tel: (202) 742-1055  
Fax: (202) 462-8478

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.



# PREFACE

In June and July 2009, the Bellmon Estimation Studies for Title II (BEST) team undertook an analysis aimed at generating recommendations for a Bellmon Determination to be made by USAID. The purpose of the analysis was to determine that the direct distribution and monetization of U.S. agricultural commodities provided for use in Sierra Leone during FY2010 through Title II meet the criteria set forth in the Bellmon Amendment.

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# ACRONYMS & NOTES

AER	Annual Estimate of Requirements
BCC	Behavior Change Communication
BEST	Bellmon Estimation Studies for Title II
CARD	Coalition for African Rice Development
CDSO	Crude Degummed Soybean Oil
CFA	Committee on Food Aid
CIF	Commodity Insurance and Freight
CMAM	Community Management of Acute Malnutrition
CORAD	Consortium for Rehabilitation and Development
CRS	Catholic Relief Services
CSB	Corn Soy Blend
DFID	Department for International Development (UK)
FANTA-2	Food and Nutrition Technical Assistance Project
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning Systems Network
FFA	Food For Assets
FFE	Food For Education
FFP	Food For Peace
FFT	Food For Training
FFW	Food For Work
FOB	Free On Board
FSCF	Food Security Country Framework
FY	Financial/Fiscal Year
GDP	Gross Domestic Product
GOSL	Government of Sierra Leone
HA	Hectare
HDI	Human Development Index
HH	Household
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HRW	Hard Red Winter (Wheat)
IGC	International Grains Council
IMF	International Monetary Fund
IPP	Import Parity Price
IPRSP	Interim Poverty Reduction Strategy Paper
IR	Intermediate Result
IYCF	Infant and Young Child Feeding
KG	Kilogram
LEAD	Livelihood Enhancement and Asset Development Project

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M	Meter
M&E	Monitoring and Evaluation
MCHN	Maternal Child Health Nutrition
MT	Metric Ton = 2,204.62 pounds
MYAP	Multi-Year Assistance Program (PL-480 Title II)
NGO	Non-governmental Organization
NRDS	National Rice Development Strategy
NRS	National Recovery Strategy
PM2A	Prevention of Malnutrition in Children Under Two Approach
PRRO	WFP Protracted Relief and Recovery Operations
PRSP	Poverty Reduction Strategy Paper
RM	Regional Monetization
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USDA-FAS	US Department of Agriculture - Foreign Agricultural Service
USG	United States Government
VAM	Vulnerability Assessment Mission
VGf	Vulnerable Group Feeding
WFP	World Food Programme
WVI	World Vision International

**Exchange Rate:**

*The exchange rate used throughout this report is Leone (Le) 3,100 = \$1.*



# 1. EXECUTIVE SUMMARY

This report presents findings and recommendations for making a Bellmon Determination in advance of the implementation of an FY2010 Multi-Year Assistance Program (MYAP) in Sierra Leone. It is based on a desk study and fieldwork conducted in June and July 2009. Since monetization is likely to fund at least a portion of MYAP activities, BEST conducted a market analysis of key commodities that could potentially be monetized. In addition, current food aid programs and proxy indicators of additionality were investigated, to estimate the potential effect of a Title II program on local production and marketing of relevant food commodities.

## 1.1 MONETIZATION ANALYSIS – FINDINGS/RECOMMENDATIONS

The BEST team analyzed food production and consumption figures and trade patterns for Sierra Leone, past monetization sales, and the food consumption characteristics of the Sierra Leonean population, with an aim of identifying the commodities most suitable for monetization in the future.

Commodities were considered for monetization based on:

- Eligibility for exporting the commodity from the US;
- Eligibility for importing the commodity to Sierra Leone;
- Domestic demand of the commodity;
- Whether domestic supply shortfalls of the commodity are filled through commercial imports and food aid;
- The existence and degree of competition for the purchase of the commodity; and,
- The expectations that a fair market price for the commodity can be obtained.

The commodities assessed in this Bellmon analysis are: *Rice US Grade #5 or better* with 20 percent maximum broken, *Hard Red Winter (HRW) Wheat US Grade #2 or better*, and, in a preliminary manner, *refined vegetable oil*.

### Findings:

- This Bellmon recommends monetizing up to 10,931 metric tons of US Grade #5 or better rice with 20 percent maximum broken during FY10, because there exists a substantial market and demand for that rice in Sierra Leone; because there exists what is considered to be an adequate degree of competition for the purchase of the rice in Sierra Leone; and because the actual sale event can be used to strengthen rice markets in that country.

- This Bellmon does not recommend monetizing US Grade #2 or better Hard Red Winter (HRW) wheat in Sierra Leone during FY10, because there is only one buyer for that commodity and because the sales price obtained historically for Title II wheat is far below what would be obtained through normal commercial marketing of that commodity.
- Should the need arise to monetize something other than the maximum volume of US Grade #5 or better rice with 20 percent maximum broken recommended herein for FY10, this Bellmon recommends further investigation into the appropriateness of monetization of refined vegetable oil in Sierra Leone.
- Should the need arise to monetize something other than the maximum volume of US Grade #5 or better rice with 20 percent maximum broken recommended herein for FY10, this Bellmon recommends further investigation into the feasibility of regional monetization (RM) of rice, wheat, Non-Fat Dried Milk or Crude Degummed Soybean Oil. RM is a legally-compliant alternative for awardees who find themselves operating in a country with less than fully competitive domestic commodity markets. RM provides awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

## 1.2 DISTRIBUTION ANALYSIS – FINDINGS/RECOMMENDATIONS

The BEST distribution analysis is based on the assumption that a well-designed and executed food aid program that targets the needs of beneficiaries will have little to no impact on the market or local production incentives. Once effective application of beneficiary criteria has accurately identified households in need of food assistance, maximum food security impact and minimum leakages are ensured when the ration size and composition, as well as the timing and frequency of ration delivery, correspond most closely to a household's perceived food needs.

There is broad scope and range for a wide array of Title II-funded development interventions in Sierra Leone. For the upcoming MYAP cycle, two modalities for *distributed* food aid appear most likely to address these priorities: Food for Assets (FFA) and Maternal Child Health Nutrition (MCHN) interventions, likely in the form of a Prevention of Malnutrition in Children Under Two Approach (PM2A). To help ensure proposed programs will not result in substantial disincentive or disruption of markets, the BEST distribution analysis outlines key considerations for the design of FFA and MCHN programs from a Bellmon perspective. Special emphasis is placed on those aspects of a PM2A intervention which are most important from a Bellmon perspective: (1) geographic targeting and program coverage; and (2) strategic use of food rations to achieve maximum impact on nutritional outcomes.

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## **PM2A Geographic Targeting and Program Coverage**

PM2A presents both an opportunity for long-term human capital investment, and a unique challenge to avoid disincentives in the short-to-medium term. While the traditional recuperative approach targets children who are already malnourished and may have severe, irreversible physical and cognitive damage, the PM2A provides food aid to all pregnant and lactating mothers, and all children between the ages of 6 and 24 months within a targeted geographic area on a year-round basis. Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, the program has greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food-deficit households will help avoid disruption of local production and markets.

There are no current Title II awardees implementing MCHN programs. Therefore, it is difficult at this stage to anticipate what geographic coverage or ration might be proposed for distribution, should a MYAP propose a PM2A as one part of, or an entire MCHN program. Beneficiary targeting will likely focus on regions identified as chronically food insecure in the USAID Food Security Country Framework Strategy (FSCF) for Sierra Leone for FY2010-2014.

This analysis uses the two proxy indicators of additionality (percentage of households in extreme poverty, and prevalence of chronic malnutrition in children under five) to provide additional geographic targeting guidance. Extreme poverty and chronic malnutrition are the best available indicators of the relative absorptive capacity of food aid on a sub-national basis for Sierra Leone. Where high rates of extreme poverty and high rates of chronic malnutrition coincide, poor nutritional outcomes are more likely related to poor access to food, as well as poor food utilization. By geographically targeting areas with a high prevalence of extremely poor households and chronically malnourished children under five, a PM2A intervention will help ensure that any given PM2A beneficiary household will more than likely increase overall household food consumption, and therefore represent additional consumption, relative to households in other geographic areas with lower rates of poverty and chronic malnutrition.

Targeting a PM2A intervention towards the poorest communities within any one or more of the three districts of Bombali, Kailahun and Kenema would be least likely to pose any Bellmon concerns, and would reach the largest number of extremely poor households, in communities with rates of chronic malnutrition above the rural average. Whether it will be feasible or appropriate to concentrate resources into communities in more than one district will depend on overall funding and integrated program design.

## **Strategic Use of Food Rations to Achieve Maximum Impact on Nutritional Outcomes**

Individual PM2A rations must cover all pregnant or lactating mothers and children under two years of age within a catchment area on a year-round basis, with the size and composition of the individual ration designed to meet their special nutritional needs. Household rations, however, should be designed with the objectives of protecting the individual rations from diversion or dilution, and ensuring household members have an adequate incentive to participate in program activities.

Potential awardees will need to conduct formative research to understand issues of intra-household sharing and barriers to participation in order to determine the appropriate size, composition, beneficiary coverage and frequency of delivery of household rations. The preventive approach that was successfully piloted in Haiti provided a household ration composed of blended foods, pulses and oil to all households within the catchment area on a year-round basis, regardless of household wealth status or food deficit. Caution is warranted regarding the provision of household rations year-round to all PM2A-eligible households in Sierra Leone due to dependency and a sense of entitlement which still exists in some communities as a result of the civil war and its aftermath. While extreme poverty certainly constrains access, effectively encouraging increased agricultural production and income-generating activities, while simultaneously providing household rations year-round under the umbrella of a PM2A intervention, has a higher likelihood of introducing disincentives. Special care should be taken in designing any integrated development intervention that might send counter-acting messages to beneficiary communities.

Future awardees may consider different household ration designs depending on a variety of factors (e.g., community needs, food preferences and logistics, etc.), which may lead to a more strategic use of household rations, both in terms of household ration composition, size, and frequency and timing of delivery. Two such options for the provision of household rations are explored in this report:

1. Target household rations to *all* PM2A-eligible households, regardless of household food insecurity or wealth status
2. Target household rations to all PM2A-eligible households, but limit distribution of household rations to the lean season months

Based on formative research, future awardees may consider these and other household ration designs, any one of which will require ongoing monitoring and evaluation to ensure the household ration is sufficient to ensure protection of individual rations while maintaining acceptable levels of program participation.

The total magnitude of coverage is important from a Bellmon perspective because not only does it translate into a volume of food aid commodities being introduced into a local area (and therefore potentially affecting markets and incentives to produce), it hints at the non-food ration costs that must be available to effectively support all of the other program activities. Behavior Change and Communication, and other health and nutrition services, are essential inputs into any program designed to address many of the underlying causes of early childhood malnutrition which are *not* a function of lack of food availability and access. Particularly where malnutrition is heavily influenced by the status of women and poor feeding practices, as in Sierra Leone, sufficient cash resources to support the strategic use of food rations in a PM2A designed to affect long-term nutritional outcomes through behavior change will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant.

Whichever modalities are proposed, it will be important to avoid duplication of ration coverage, on the one hand, and capitalize on complementary services through coordination of development interventions on the other.

### 1.3 ADEQUACY OF PORTS, STORAGE AND INLAND TRANSPORTATION

The only port in Sierra Leone capable of receiving and discharging ocean-going cargo is the port in Freetown. That port is notoriously inefficient; therefore, heightened supervision is required for all arriving cargo, particularly non-containerized cargo.

The awardees and WFP have sufficient and adequate warehouse space in Freetown and up-country for the amount of Title II commodities imported. The BEST team inspected some of those storage facilities, and found them to be adequate and properly equipped and administered.

In-land transport capacity is sufficient for the amount of Title II commodities recommended for FY2010. Inland transport is relatively costly and increasing at the time of this analysis. Other factors contributing to high transport costs are vehicle maintenance costs, including tires and spare parts, as well as the high level of structural wear and stress on trucks caused by the poorly-maintained road network. The cost of inland transport will have to be assessed in depth in terms of planning for any future Title II direct distribution effort.

## 2. COUNTRY BACKGROUND & OVERVIEW

### 2.1 ECONOMIC OVERVIEW

Sierra Leone is one of the poorest countries in the world. Since the mid-1980s, the country has suffered economic decline and political instability, having endured five military coups and a brutal armed conflict that lasted for 11 years (March 1991-January 2002). The civil war in the 1990s further derailed the economic reform effort. With the signing of the Lome Peace Accord in July 1999, the GOSL, supported by the IMF (Emergency Post Conflict Assistance Facility) and the World Bank (Economic Recovery and Rehabilitation Credit), European Union, and DFID adopted additional comprehensive economic recovery programs. The cessation of hostilities and eventual restoration of security strengthened confidence, which facilitated economic recovery during 2000–2004. The years 2001 and 2002 saw real GDP grow in the double digits.<sup>1</sup> This growth was largely on account of a broad recovery in the agriculture, mining, manufacturing, construction and services sectors.<sup>2</sup> From 2004-2007, economic growth slowed, close to 7 percent per year, with double digit inflation ranging from 10-16 percent per year, taxing some of the gains of growth.<sup>3</sup>

Sierra Leone had an estimated population of 5.9 million in 2007.<sup>4</sup> According to the 2008 Human Development Index (HDI) of the United Nations Development Program (UNDP), which is a summary measure of human development, Sierra Leone ranks 179th out of the 179 countries.

Sierra Leone still remains a partner of several bilateral and multilateral trade agreements. There is a growing volume of imports, particularly manufactured goods from China, Japan, the United Kingdom and the Netherlands.

See Annex 1 for more economic data and trends.

### 2.2 AGRICULTURE OVERVIEW

Seventy-four percent, or a total of 5.4 million hectares (ha), of the total land area of Sierra Leone is potentially cultivable. The country has four major agro-ecologies: rainforest, transitional rainforest/savannah woodland, savannah woodland, and coastal plains. Across these agro-ecologies, the uplands dominate. Smallholder farms cover approximately 60-80 percent of

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<sup>1</sup> The World Bank

<sup>2</sup> GOSL, 2005a

<sup>3</sup> The World Bank

<sup>4</sup> Ibid

uplands, and 20-40 percent of the lowlands.<sup>5</sup> Despite the amount of cultivable land and favorable climatic conditions, agricultural production has yet to meet local consumption requirements, particularly for the country's staple, rice.

The crop sub-sector, which is dominated by rice, contributes about 75 percent of agricultural GDP. Fisheries and livestock contribute 21 percent and 4 percent of GDP, respectively, and forestry contributes about 9 percent since 1984/1985. Over 90 percent of domestic energy needs for heating and cooking are provided by fuel wood. Tree-crop plantations, which are found mainly in the eastern part of the country, constitute the bulk of agricultural exports and the domestic cooking oil supply. The main export crops are coffee, cocoa, kola nuts, and palm oil.

On upland rice farms, farmers traditionally intercrop rice with a number of other crops, such as cassava, yams, maize, sorghum, pigeon peas, broad beans, and vegetables including garden eggs (an African vegetable used in the preparation of stews and sauces), pumpkins and cucumbers. Many of these crops cannot be grown with lowland rice because of water-logging conditions; hence lowland rice is invariably grown alone. The mixed-cropping opportunity in the uplands provides farmers with numerous advantages, including efficient planting regimes wherein most crops are sown at the same time, rapid and efficient ground cover that makes for effective control of weeds, and the opportunity to harvest crops over a longer period of time.

In addition to rice, many other foods are available, particularly root and tuber crops like cassava and sweet potato, that can efficiently supplement rice in terms of caloric requirements; and, inevitably, the rural people rely on cassava to varying degrees as a rice substitute.

Food preferences, i.e. overwhelmingly rice, coupled with farming practices are increasing the vulnerability of households, as available food that could reduce vulnerability may not be consumed. In addition, limited amounts of cash, which could be used for other key expenditures, such as input supplies, school fees, or medicines, are being consumed to purchase rice to meet these preferences.

In addition, the resource poor farmers who make up the bulk of the farming population lack the capital to purchase the required machinery that will ease farming operations and facilitate expansion in production. The existing system of labor-intensive farming is not attractive to young people; they are drawn to urban areas for easier jobs, contributing to a reduction in the supply of farm labor.

See Annex 2 for more agricultural related data and trends.

## 2.3 POLICY OVERVIEW

The Government of Sierra Leone (GOSL) has made progress in areas of strategy development with its Interim Poverty Reduction Strategy Paper (IPRSP), National Recovery Strategy (NRS) and Vision 2025. Those strategy plans focus on economic and structural reforms as a way

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<sup>5</sup> Sierra Leone FSCF June 2009

forward following conflict with an emphasis on the government's priority to address the challenges of transition from war to peace.

More recently, the GOSL prepared a Poverty Reduction Strategy Paper (PRSP) for the period 2005 – 2007 to reverse poverty and its underlying causes, thereby following a new strategic direction to build towards the Millennium Development Goals targets and Vision 2025.

Post-conflict economic growth has been steady, with broad recovery in agriculture, mining, construction and service sectors. Broad-based economic reforms have lowered current account deficits and domestic borrowing and stabilized the exchange rate and prices, but this situation is uncertain in the wake of the global oil and food-price increases in 2008/2009.

### **Food Aid Strategy and Policy**

Sierra Leone is well organized in terms of coordination of food aid related activities. The Committee on Food Aid (CFA) has a Food Aid Strategy and Policy, adopted in May 2002, which outlines the current strategies of all major food aid agencies. In order to better implement food programs, to prevent duplication of assistance, and to ensure comprehensive country coverage. Please see Annex 15 for more information about CFA goals and priorities.

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## 3. ADEQUACY OF PORTS, STORAGE & TRANSPORTATION

### 3.1 PORTS

The only port in Sierra Leone capable of handling ocean-going vessels is the port in Freetown. It is a sheltered natural harbor; has a minimum depth at its entrance of 11.6 meters (m), and dry cargo berths with a draft of 10.5 m; and handles approximately 650,000 MT of imports and 82,000 MT of exports per year.<sup>6</sup>

The Freetown port is renowned for its inefficiency, poor storage and lack of security. Customs and port authorities intentionally delay the release of goods and commodities from the port knowing that the longer they can detain those goods and commodities inside the port, the more that can be diverted. Importation of bagged commodities and non-containerized cargo is particularly susceptible to pilfering and diversion. In short, heightened supervision is required for all cargo arriving in Sierra Leone by oceangoing vessels, and discharged cargo must be moved to secure storage areas in a timely manner.

### 3.2 STORAGE

There exists sufficient, adequate storage for the Title II commodities currently being imported into Sierra Leone, for both monetization and direct distribution. According to food aid program managers, additional warehouse space is available and can be rented, if necessary, both in Freetown and up-country.

CRS, the CORAD consortium Commodity Manager, maintains two warehouses in Freetown, with a total capacity of 4,000 metric tons, used to hold cleared commodities for onward forwarding to the up-country warehouses of CRS and the other CORAD members. Up-country the awardees maintain six warehouses, details which are provided in Annex 12.

The BEST team inspected the CARE warehouse in Makeni, the CRS warehouse in Kabala, and the Africare warehouse in Daru, and saw from the outside the CRS warehouse in Segbwema. All appeared to be secure, adequate in terms of capacity, and properly equipped.

WFP maintains compounds with offices, vehicle workshops, warehouses, and rubble halls in four locations, Kailahun, Kailahun District; Kenema, Kenema District; Magburaka, Tonkolili District; and Port Loko, Port Loko District. Those warehouses are reportedly sufficient for the amount of

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<sup>6</sup> Lloyd's Register – Fairplay Ports and Terminals Guide, July 15, 2009

commodities imported by WFP. Two of those warehouse facilities were seen by the BEST Team, and were deemed secure and adequate in terms of the commodity stored there.

### 3.3 INLAND TRANSPORT AND TRANSPORT COSTS

While an in-depth review of the transport sector was beyond the scope and duration of this assignment, the BEST team did speak with trucking contractors operating in Sierra Leone. According to the truckers, the major problems facing the Sierra Leone transport sector are: a) the inadequacy of the road network and the poor condition of roads; b) the poor quality and high cost of tires and spare parts; and, c) the high cost of fuel.

Most roads, except for those in the major population centers of Freetown, Bo, Makeni, and Kenema, and the main arteries between those towns, are unpaved; and even those that are paved are potholed and in varying stages of disrepair, made worse during the rainy season. As an example, the trip from Makeni to Kabala, a distance of approximately 50 miles, took roughly 2.5 hours on a paved road in a Land Cruiser. Paved roads do not exist in and around the town of Kabala and other small towns visited.

Contracts between CRS, on behalf of the CORAD consortium, and truckers, list the prices currently paid for hauling 1 MT of a food aid commodity from the CRS central warehouses in Freetown to various points in Sierra Leone, as ranging from \$20.97 (Lunsar) to \$67.74 (Mattru Jong). For more information about rates, please see Annex 14.

According to the contract for the transport of the food aid commodity from the CRS stores in Kabala, Koinadugu District, to 14 project and direct distribution sites in the districts of Koinadugu and Tonkolili, the average cost of transporting 1 metric ton of the food aid commodity is \$104, with a low of \$46.13 per metric ton and a high of \$172.90 per metric ton as of July 2009.

Inland transport capacity and costs have a relatively small impact on the monetization aspect of the Title II program in Sierra Leone, since the buyers have been responsible for the cost of transport to their stores of the sold commodity in all sales to date, including small-lot sales of rice to up-country small traders. With respect to wheat, that commodity has been discharged directly to Seaboard's silos located in the port. However, while it is not possible to predict future inland transport costs of the commodity for direct distribution, without knowing the quantities and destinations of that commodity, the rising cost of inland transport will have to be carefully considered in the design and conceptualization of any future Title II direct-distribution program.

Concerning transport capacity, over the past five years there has been a decrease in the amount of commodities imported for direct distribution – from 10,000+ MT in FY2005 and FY2006 to less than 3,000 MT in FY2009. Based on those figures and reports concerning the size and extent of the humanitarian relief effort mounted in the aftermath of the war, it can be assumed that the amount of food and relief supplies and equipment imported and distributed during that period was far in excess of the amounts currently imported, and that there should be, therefore, excess capacity available for the inland transport of food aid commodities.

## 4. FOOD AID OVERVIEW

### 4.1 PREVIOUS INITIATIVES

#### 4.1.1 Awardees Operating In-Country

The Awardees currently managing food aid projects in Sierra Leone are: Africare, CARE, Catholic Relief Services (CRS), and World Vision International (WVI). The World Food Programme (WFP) distributes food aid commodities in Sierra Leone (see below), but, for the purposes of this report, WFP was not considered an awardee because it is not currently distributing Title II food commodities.

Africare, CARE, CRS, and WVI jointly participate in and manage a Title II consortium entitled CORAD (Consortium for Rehabilitation and Development). CORAD monetizes and directly distributes Title II food aid commodities in support of food security objectives of the LEAD (Livelihood Enhancement and Asset Development) Project, which is managed in discrete geographical areas by the four consortium members (see map for graphic representation of area(s) of operation of each cooperating sponsor). In addition to monetization to support the LEAD Project, food aid commodities are distributed directly under two categories of beneficiaries, i.e. Food for Assets (FFA) and Vulnerable Group Feeding (VGF). The LEAD Project has been granted a no-cost extension through the first six months FY2010 (ends March 31, 2010).

CORAD has operated two Title II program cycles in Sierra Leone, (FY2004-2006, and FY2007-2009). Africare joined CORAD during FY2007-09 cycle. Each consortium member receives a share of monetization proceeds, based on the ratio of the value of their approved budgets. Table 1 shows the total annual monetized food aid by commodity and year. CARE, CRS, and WVI each perform a specific administrative or management function within CORAD. This process is explained in more detail in Annex 13.

#### 4.1.2 Total Annual Monetized Food Aid by Donor and by Commodity

**Table 1: Total Annual Monetized Food Aid by Donor and Commodity**

Commodity	Donor	2004	2005	2006	2007	2008	2009
Wheat (HRW-#2 bulk)	Title II	3,000 MT	3,000 MT	3,000 MT	3,000 MT	0 MT	7,500 MT
Rice (US #5 bagged)	Title II	3,500 MT	5,600 MT	6,500 MT	9,000 MT	0 MT	0 MT

Source: CRS as commodity manager for CORAD

#### 4.1.3 Total Annualized Distributed Food Aid by Year and by Commodity

Title II food aid commodities distributed directly through the CORAD consortium by Africare, CARE, CRS, and WVI are shown in the following table:

**Table 2: Summary of Annual Estimate of Requirements (AERs) – Direct Distribution Only -CORAD/Sierra Leone**

Commodity(MT)	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	Total
<b>Beans, Kidney</b>	-	-	-	300.0	-	-	300.0
<b>Bulgur</b>	4,220.0	7,7800.0	8,050.0	1,860.0	2,680.0	1,530.0	26,120.0
<b>Corn Soy Blend (CSB)</b>	-	800.0	-	-	-	-	800.0
<b>Lentils</b>	910.0	750.0	1,620.0	-	-	-	3,280.0
<b>Peas, Green Whole</b>	-	230.0	-	-	580.0	-	810.0
<b>Peas, Yellow Split</b>	-	70.0	-	-	-	330.0	400.0
<b>Vegetable Oil</b>	330.0	430.0	510.0	130.0	190.0	100.0	1,690.0
<b>Grand Totals:</b>	5,460.0	10,060.0	10,180.0	2,290.0	3,450.0	1,960.0	33,400.0

Sources: AER for each year

Notes: FY2004, 2005, and 2006 totals combine commodities for both emergency and non-emergency programs.

As noted above, the LEAD Project has been granted a no-cost extension through March 31, 2010, however, the AER for FY2010 shows that no commodities are required for that period.

Title II commodities distributed by WFP through their PRRO are shown in the table below.

**Table 3: Summary of Title II Commodities Distributed by WFP**

Commodity(MT)	FY 2005	FY 2006
<b>Bulgur</b>	3,500.0	2,750.0
<b>CSB</b>	350.0	-
<b>Peas, Green Split</b>	-	200.0
<b>Peas, Yellow Split</b>	-	320.0
<b>Peas, Yellow Whole</b>	200.0	-
<b>Vegetable Oil</b>	290.0	340.0

Source: WFP data provided by FFP

## 4.2 PLANNED INITIATIVES

In addition to new USAID/MYAP food aid activities in the pipeline, it should be kept in mind that the food commodities to be distributed by Africare and WVI through school-feeding initiatives, being planned for implementation with WFP support and discussed below, form part of the total quantity of food to be imported by WFP.

### 4.2.1 World Vision in Collaboration with WFP

WVI is seeking to expand its collaboration with WFP, both geographically and programmatically. Two proposals are currently being reviewed with the aforementioned expansion in mind. One proposal is for WVI to implement a WFP-supported school-feeding program for 45,000 beneficiaries in Pujehun District, requiring approximately 1,300 metric tons of food aid commodities per year; the other is for WVI to implement WFP-supported Food-for-Assets (FFA) and Food-for-Work (FFW) projects, with approximately 6,655 beneficiaries in Nimikoro and Gorama chiefdoms of Kono District, requiring approximately 500 metric tons of commodities. Commodities to be distributed for FFA, FFW, and school feeding will be cereals, pulses, and vegetable oil in amounts conforming to WFP established rations for those beneficiary categories.

#### 4.2.2 Africare in Collaboration with WFP

Africare plans to initiate a school-feeding and related school development activity for approximately 20,000 school children, over half of whom are girls, in the Western Urban area, with food from WFP and in the same manner as the WVI school feeding project supported by WFP. BEST was unable to ascertain the precise amount of commodities required for this program. However, based on established WFP school feeding rations per child, it will likely approximate 600 metric tons of commodity in the form of cereals, pulses, and vegetable oil

#### 4.2.3 UNICEF CMAM Therapeutic Feeding Program & CARE

UNICEF is implementing a nationwide Community Management of Acute Malnutrition (CMAM) program, which seeks to provide timely and adequate care and supplementary feeding to children suffering from moderate and acute malnutrition. The CMAM program has two broad intended outcomes. An increase in the percentage of children fully rehabilitated from moderate and severe malnutrition; and an increase in the percentage of women who practice optimal infant and child feeding practices, including exclusive breastfeeding, early initiation of breastfeeding, and appropriate complementary feeding. The CMAM program is currently serving mothers, children, and other stakeholders in 94 communities nationwide and has resulted to date in the creation and staffing of 9 in-patient facilities where acutely malnourished children are provided therapeutic feeding. UNICEF and CARE are entering into a partnering agreement whereby CARE will implement the CMAM program in Koinadugu District; and UNICEF is actively seeking additional partners to manage the program in other districts. The food aid requirement for this program is for therapeutic foods such as plumpy-nut like products.

## 5. MONETIZATION

The BEST team analyzed food production and consumption figures and trade patterns for Sierra Leone, past monetization sales, and the food consumption characteristics of the Sierra Leonean population, with an aim to identifying the commodities most suitable for future monetization.

Commodities were considered for monetization based on:

- Eligibility for export of the commodity from the US;
- Eligibility for import of the commodity to Sierra Leone;
- Domestic demand for the commodity;
- Whether domestic supply shortfalls of the commodity are filled through commercial imports and food aid;
- The existence and degree of competition for the purchase of the commodity; and,
- The expectations that a fair market price for the commodity can be obtained.

The commodities assessed in this Bellmon analysis are: *Rice US Grade #5 or better* with 20 percent maximum broken, *Hard Red Winter (HRW) Wheat US Grade #2 or better*, and, in a preliminary manner, *refined vegetable oil*. The BEST recommendation is to continue monetizing US Grade #5 or better Rice with 20 percent maximum broken, up to a maximum of 10,931 MT; cease monetization of Hard Red Winter (HRW) Wheat US Grade #2 or better due to insufficient competition; and, should the need arise to monetize another commodity, to conduct further research into the competition and market for refined vegetable oil and investigate the feasibility of regional monetization of rice, wheat, rice, Non-Fat Milk Powder and CDSO.

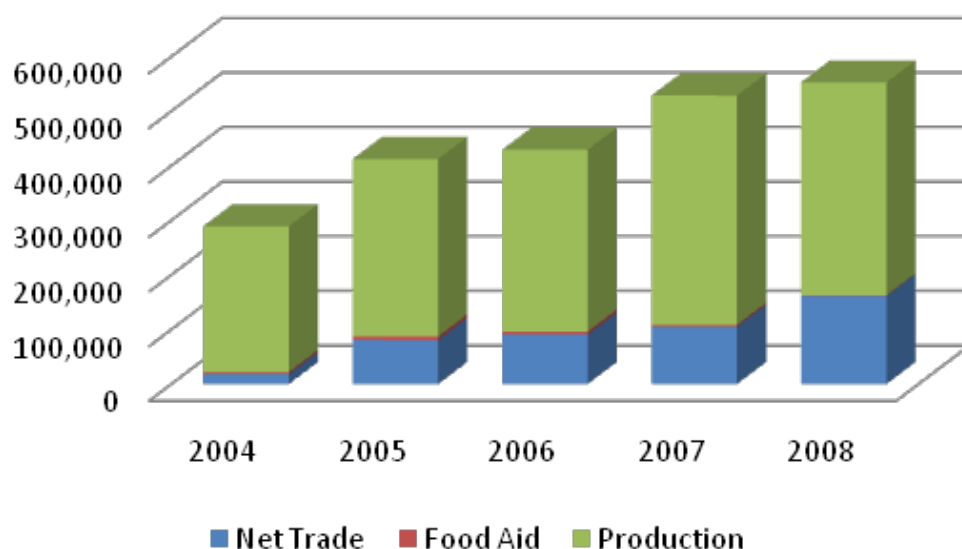
These commodities are discussed in more detail below.

### 5.1 RICE

Rice, (US Grade #5 or better with 20 percent maximum broken) is the recommended commodity for monetization in Sierra Leone, based primarily on its acceptability, the large market for imported rice, and the relatively high degree of competition that exists for its purchase. Title II rice has been successfully monetized in large lots in Sierra Leone on six occasions since FY2004. A relatively small amount of rice has also been sold successfully in small lots to small traders (see below for details).

### 5.1.1 Supply Summary

**Figure 1: Sierra Leone – Domestic Rice Consumption (MT)**



Sources: Comtrade, FAOSTAT, IGC, USDA-FAS

**Table 4: Sierra Leone: Domestic Rice Consumption (MT)**

	2005	2006	2007	2008	Average
1 <b>Total Rice Imports</b>	80,711	90,393	105,000	161,161	109,316
2 <b>Total Rice Exports</b>	-	-	-	-	-
3 <b>Net Trade</b>	80,711	90,393	105,000	161,161	109,316
4 <b>Food Aid</b>	6,500	5,750	3,625	1,395	4,318
5 <b>Production (milled)</b>	325,000	333,000	420,000	390,000	367,000
6 <b>Total Consumption</b>	412,211	429,143	528,625	552,556	480,634

Sources: (1) 2005-2006: FAO TradeStat; 2007: USDA-FAS; 2008: GOSL National Revenue Authority; (2) no data; (3) imports minus exports; (4) IGC; (5) USDA-FAS; Ministry of Agriculture, 2008; (6) Sum of lines 3,4,5.

Rice import volumes reflect the imbalance between domestic demand for Sierra Leone's staple and the current domestic rice volumes available for consumption. Farmers in Sierra Leone continue to produce food crops, particularly rice, at below subsistence levels. Current constraints to expanded rice yields include lack of agricultural credit and inputs; lack of any substantial mechanization; aging seed stock; extremely high post-harvest losses (estimated at 40+%, depending on the report), and lack of rural labor.

Sierra Leone's inability to produce sufficient volumes of rice to meet local consumption demand for over four decades was severely aggravated during the decade-long civil war (1991 – 2002). Rice production has steadily increased since the end of the war in 2002. Despite recent gains,

production is still far below the local consumption requirement. In 2007, production of paddy rice reached 637, 983 MT, which represented only 69% of the projected national requirement.

Increasing demand through population growth also exacerbates efforts to meet demand through domestic rice production. Sierra Leone has one of the highest crude birth rates in the world (44.73 births per 1000 persons). Moreover, rapid urbanization, fed by increased rural-urban migration, particularly among the young, results in a shortage of agricultural labor in the countryside and further exacerbates low production levels. Finally, the strong preference for rice over all other foods by Sierra Leoneans results in low demand for other available foods, such as cassava.

There is awareness on the part of the GOSL that agriculture in Sierra Leone, in particular the production of rice, is critical to the realization of social and economic progress. Accordingly, the MAFFS has submitted a draft National Rice Development Strategy for support through the Coalition for African Rice Development, an initiative of the government of Japan. According to the draft NRDS, the strategy for increasing rice production is two-pronged: 1) increase the area cultivated, mainly in the lowlands where there is much under-utilized capacity; and, 2) increase productivity per unit area in all ecosystems. The NRDS has the following specific objectives:

- Ensure an increase in the sustainable productivity and production of rice in Sierra Leone;
- Promote appropriate post-harvest handling, processing and marketing of rice;
- Develop appropriate infrastructure for rice production and marketing; and,
- Improve the capacity of stakeholders and institutions involved in the rice sector.

While the goal of the GOSL is to achieve rice self-sufficiency by 2013, at present roughly 30 percent of the rice consumed in Sierra Leone is imported, which equates to a commercial market estimated currently at 160,000 metric tons to 200,000 metric tons per year.<sup>7</sup> Rice imported into Sierra Leone comes primarily from a number of Asian countries, foremost among them Pakistan, Thailand, Vietnam, India (prior to its ban on the exportation of rice), and Burma. The total amount of Title II rice imported as food aid and monetized during the period FY2004-2009 was approximately 24,600 metric tons.

### 5.1.2 Competitive Environment

Value chains for food commodities in Sierra Leone are, at best, extremely weak, with a handful of large traders controlling the commodity markets. This results in relatively little competition in terms of commodity purchases.

However, in the case of rice, there does exist some competition with three major importers, TAJCO (SL) Ltd., Hussein Ibrahim Bazy & Sons, and the Commodities Trading Corporation

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<sup>7</sup> According to one of the largest traders, the annual market for rice in Sierra Leone is approximately 160,000 MT-200,000 MT.

(CTC), and a sizeable number of small traders eager to bid for the commodity if provided the opportunity. Based on past Title II monetization sales, except for two of the small-lot sales of approximately 1,000 metric tons of rice discussed in more detail below, TAJCO and CTC have purchased all the Title II rice monetized in Sierra Leone, of which, TAJCO has purchased fully 85 percent of that amount.

The small-lot sales mentioned above consist of two sales events: an odd lot of approximately 135 metric tons sold in 2006; and about 900 metric tons of a total of 9,000 metric tons of Title II rice monetized in 2007, 8,000 metric tons of which were sold in one lot. The latter sale of about 900 metric tons was specifically aimed at assisting the small trading sector and was sold at ex-CRS stores in Freetown over a six-month period to 149 small traders doing business in Makeni, Kabala, Kenema, and Kono. The maximum lot size of that sale was 50 bags (2,500 kilograms), and the maximum purchase allowed was four lots (200 bags, or 10,000 kilograms). The average price obtained through the small-lot sales was \$571 per metric ton, or \$28.60 per 50-kilogram bag.

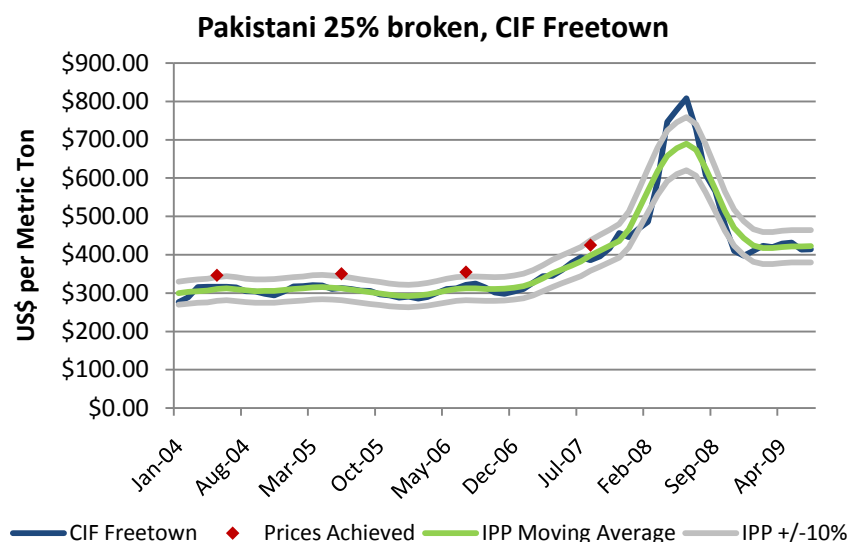
### 5.1.3 Sales Platform

Except for the latter of the two small-lot sales discussed above, of which a small amount was sold through direct negotiation, the overwhelming bulk of the Title II rice monetized in Sierra Leone, in both large and small-lots, was sold through the closed bid method. We recommend this platform be continued.

### 5.1.4 Monetization Past Performance

The Import Parity Price (IPP) analysis reviewed four monetization sales of rice, in May 2004, June 2005, July 2006 and August 2007, and found that the overall average of these sales was 111 percent of the estimated IPP. Details of IPP calculations for rice are in Annex 16.

**Figure 2: IPP for Rice<sup>8</sup>**



Sources: FAO rice price monitor, FearnSearch, The Rice Trader, Distances.com

### 5.1.5 Impact Analysis Summary

In line with the above, it is recommended that no less than 25 percent and up to 50 percent of the total amount of Title II rice monetized in Sierra Leone be sold in small lots to small traders. While the small-lot sales methodology is more complex, will result in a longer sales event, and will complicate safeguarding the commodity, it will result in the strengthening of the small trader sector and market and that, coupled with the resulting higher sales price, we believe outweighs the disadvantages of having to secure the rice for a longer period. Furthermore, the call-forward process can be utilized to plan more precisely the small-lot sales and reduce the time the commodity will be kept in storage while the small-lot sales are underway. This Bellmon recommends monetization of up to 10,931 MT of US Grade #5 or better Rice with 20 percent maximum broken, which represents 10 percent of the 4-year average commercial import volumes. With the price of rice at \$349.29 per metric ton, monetizing 5 percent of commercial imports will generate approximately \$1.9 million; and 10 percent will generate approximately \$3.8 million.

### 5.2 WHEAT

Hard Red Winter (HRW) Wheat, US #2 or better, was the second commodity evaluated by the BEST team. Bulk wheat imported into Sierra Leone has to be of the “hard” variety, as the equipment of the only mill that can process wheat will accept only “hard” wheat. HRW wheat

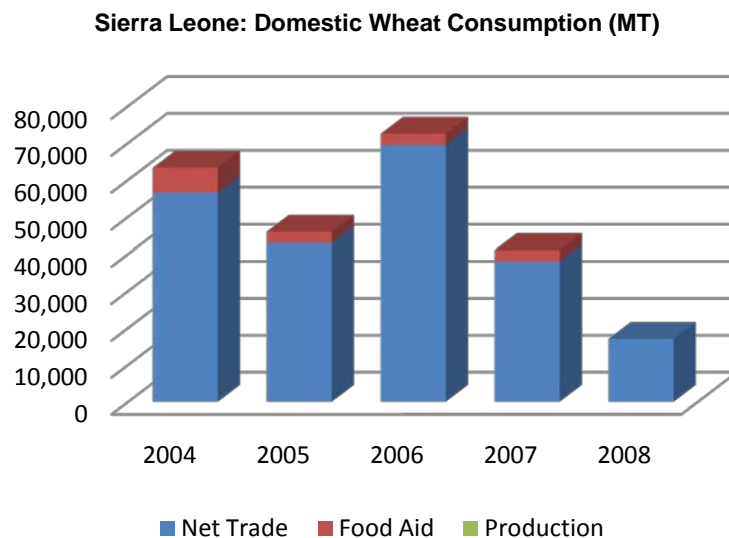
<sup>8</sup> Note that this calculation is based on the price series for Pakistani 25% Broken as this rice dominates commercial imports and therefore would be the rice against which the US grade monetized rice would compete.

has been monetized in Sierra Leone on five occasions from FY2004 through FY2008. An additional quantity of wheat has been monetized in FY2009, and was awaiting arrival of the vessel in Freetown to conclude the transaction at the time of the BEST team field visit. Including that last transaction, a total of six (6) sales of Title II wheat have been made in Sierra Leone since FY2004, totaling 19,500 metric tons. Due to insufficient competition, which has resulted in below-fair market sales prices, wheat is not recommended for monetization in FY10.

### 5.2.1 Supply Summary

The Managing Director of Seaboard West Africa Ltd., the only flour mill in Sierra Leone, declined to speculate on the size of the market. The Seaboard mill does have a milling capacity of 4,500 metric tons of wheat per month or 54,000 metric tons per year. Its silos are capable of holding 8,500 metric tons of bulk wheat; and it is currently operating on a full schedule. Sierra Leoneans, whose preferred staple food is rice, are increasing their consumption of bread as rural-urban migration increases, and they adapt to the more hurried pace of city life. Most of the bread produced is of the “baguette” variety, and much of it appears to be sold on the street by youth hawking a few loaves at a time.

**Figure 3: Sierra Leone – Domestic Wheat Consumption (MT)**



Sources: USDA-FAS, FAO, IGC

**Table 5: Sierra Leone – Domestic Wheat Consumption (MT)**

	2004	2005	2006	2007	2008	Average
1 <b>Total Wheat Imports</b>	56,530	42,942	69,471	38,000	17,024	44,793
2 <b>Total Wheat Exports</b>	0	0	0	0	0	0
3 <b>Net Trade</b>	56,530	42,942	69,471	38,000	17,024	44,793
4 <b>Food Aid</b>	6,706	3,000	2,985	3,000	n/a	3,923
5 <b>Production</b>	0	0	0	0	0	0
6 <b>Total Consumption</b>	63,236	45,942	72,456	41,000	17,024	47,932

Sources: (1) FAO and USDA-FAS; (2) no data available; (3) Imports minus exports; (4) IGC; FAO 2004; (5) no data available; (6) Sum of lines 3,4,5.

### 5.2.2 Competitive Environment

Seaboard West Africa Ltd., is the sole buyer, importer, and processor of wheat in Sierra Leone. It owns and operates the only flour mill in the country. One of the major traders of rice in Sierra Leone, Hussein Ibrahim Bazy, has become a part-owner of Seaboard West Africa Ltd.

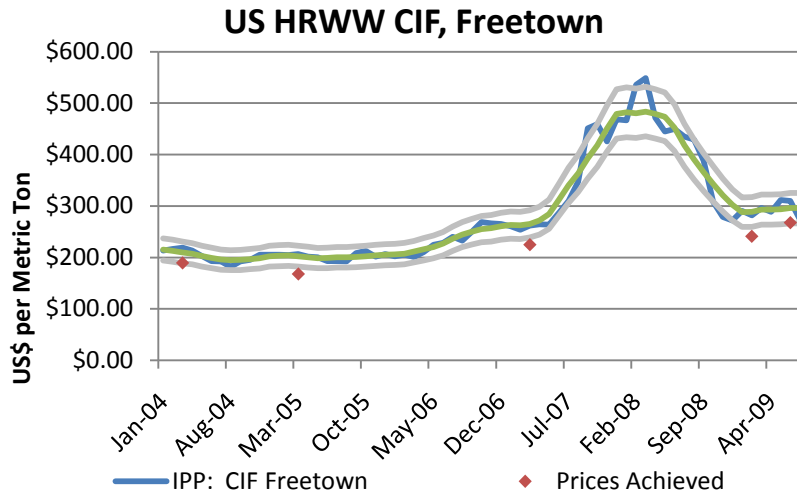
### 5.2.3 Sales Platform

All sales of Title II wheat have been by direct negotiation. In recent years, the sales agreement has been negotiated between CRS Headquarters representatives and Seaboard in the US. The commodity is sold at the port in Freetown, and is vacuated from the vessel holds directly into Seaboard's silos located in the port.

### 5.2.4 Monetization Past Performance

The IPP analysis reviewed five monetization sales of wheat, in March 2004, March 2005, March 2007 and February and June 2009, and found that the overall average of these sales was 85 percent of the estimated IPP, with a high of 87 percent and a low of 81 percent.<sup>9</sup>

<sup>9</sup> Note that a sixth sale was negotiated in January 2006 and delivered in June 2006. This transaction has been excluded as an outlier in the above analysis because the BEST team was unable to resolve an uncertainty as to whether the GOSL rebated the CS for duties and port fees originally included in the negotiated price. The exclusion of this sale would not change the current recommendation since, even under the assumption that all fees were rebated, the originally negotiated sales price was below IPP at the time (personal discussions with Seaboard, 7/2009; personal discussion with CRS, 9/2009).

**Figure 4: IPP for Wheat**

Source: US Wheat Associates, USDA FAS Livestock &

Sources: US Wheat, USDA FAS Data - Livestock & Grain Market News (LGMN)

### 5.2.5 Impact Analysis Summary

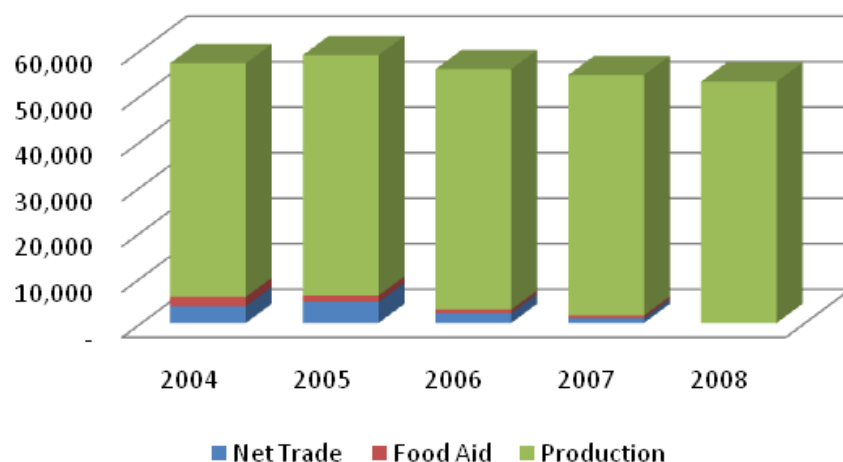
Although trade data is not available through the GOSL, we estimate that the annual demand for wheat averages approximately 44,793 metric tons per year, and if other criteria were met, a total of up to 4,479 metric tons of wheat could be monetized. However, since Seaboard is the only buyer of wheat in Sierra Leone, there is insufficient competition, and wheat cannot be recommended for monetization.

## 5.3 VEGETABLE OIL

Palm oil is the preferred vegetable oil used in Sierra Leone, and is produced at the household and village level. Refined vegetable oil from sources other than palm is imported primarily from Malaysia. Interviews with wholesalers and traders indicate that this market is very small and centered in the Freetown area. Because import duties on refined oil are 38 percent, traders report that a significant portion of the annual supply of vegetable oil enters illicitly from neighboring countries. Since there is a limited demand identified by the BEST team for quality refined Title II vegetable oil, it is not recommended for monetization at this time.

### 5.3.1 Supply Summary

The only vegetable oil produced in any quantity in Sierra Leone is palm oil, which is produced from both the kernel and the fruit of the palm. Imported vegetable oil comes mainly from Malaysia.

**Figure 5: Sierra Leone Domestic Oil Consumption**

Sources: Comtrade, FAOSTAT, IGC, USDA-FAS

**Table 6: Sierra Leone: Domestic Oil Consumption (MT)**

	2004	2005	2006	2007	2008	Average
1 <b>Total Oil Imports</b>	6,695	7,759	5,273	5,000	5,000	5,945
2 <b>Total Oil Exports</b>	3,023	3,139	3,065	4,000	4,000	3,445
3 <b>Net Trade</b>	3,672	4,620	2,208	1,000	1,000	2,500
4 <b>Food Aid</b>	2,059	1,407	719	636	n/a	1,205
5 <b>Production</b>	51,350	52,820	52,820	52,820	53,000	52,562
6 <b>Total Consumption</b>	57,081	58,847	55,747	54,456	54,000	56,026

Sources: (1) 2002: UNComtrade; 2003 - 2006: FAO TradeSTAT; 2008: USDA FAS PSD; (2) 2002: UNComtrade; 2003 - 2006: FAO TradeSTAT; USDA-FAS; (3) Imports minus exports; (4) IGC; (5) USDA-FAS; 2008 production is estimate based on previous year's production; (6) Sum of lines 3,4,5.

### 5.3.2 Competitive Environment

The main importer of vegetable oil in Sierra Leone is TAJCO (SL), Ltd. It is difficult to determine the amount of vegetable oil imported into Sierra Leone. Customs records are extremely unreliable, as much of the vegetable oil reportedly enters the country illegally over the border with neighboring countries, to avoid the relatively high duty of 38 percent assessed on imports of that commodity.

Vegetable oil has not previously been monetized in Sierra Leone. However, were vegetable oil to be monetized in the future, it could probably be sold to small traders, given the number of small traders that deal in it and the shelf life and ease of handling of that commodity.

## 5.4 REGIONAL MONETIZATION

When competition in a commodity market is severely limited, monetization activities in that market run the risk of introducing or intensifying market distortions, reinforcing those factors

which frustrate the development of an open and fully competitive market, thereby contributing to either excessive profits or barriers to entry. By denying producers and consumers the opportunity to operate within a competitive market, the monetization activity over time could lead to reduced national economic efficiency and assign indeterminate costs to producers and consumers. Monetization in such a market would be contrary to the legal prescription of the U.S. agricultural legislation which requires that monetization does not introduce local market or production disincentives.

Regional monetization (RM), or third-country monetization, can offer a legally-compliant alternative for Awardees who find themselves operating in a country with less than fully competitive domestic commodity markets. RM provides Awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. With competition, there is increased assurance that the monetization will not distort the market and will generate higher revenues than if the monetization is conducted in a domestic market with limited or no competition. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides the Awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

Because of highly limited competition and low imports of likely Title II commodities in the Sierra Leonean market, RM is a reasonable option.

#### FFP 2009 Guidelines for Regional Monetization

Monetization in the recipient country is preferred over monetization in a “third” country, a country where the food security activities will not be take place. If it is not feasible to monetize in the country where proceeds will be utilized, monetization may be carried out in another LIFDC in the region, i.e. “third country”. A list of low-income food-deficit countries (LIFDCs) can be found on FAO’s web site at <http://www.fao.org/countryprofiles/lifdc.asp?lang=en>. If the LIFDC option is not feasible, then monetization may take place in a U.N. classified, least-developed country (LDC) in the region at <http://www.un.org/special-rep/ohrlls/ldc/list.htm>. In the case of “third country” sales, the USAID Mission and/or U.S. Embassy in both the program country and the monetization country must endorse the plan.’

The appropriate third country or regional market is that market in which one may expect to receive a price for a commodity that is reflective of the international price. As the final destination of the commodities sold is indeterminate, the relevant reference to ensure that the Bellmon “market” conditions are satisfied is that the final negotiated price is comparable to the import price for that market. In addition, the port facilities of the selected market platform need to be sufficient to physically accommodate the commodities.

Monetization in a relatively large port city is preferred because inland freight and other costs will be assumed by the buyer. The preferred currency in which the transaction would be conducted

would be specified in the offer. Based on the above criteria, Table 7 provides an overview of the products and markets that may be considered for RM:

**Table 7: Quantities of Select Commodities Imported into select West African Ports**

Principle Port	Port of Tema (located outside Accra)	Dakar	Abidjan
	Ghana	Senegal	Côte d'Ivoire
<b>Wheat (durum and non-durum)</b>	2,373,772	5,716,646	3,977,258
<b>Rice (broken and semi-milled)</b>	2,088,867	2,027,159	1,309,088
<b>Crude Degummed Soybean Oil</b>	292	501,387	8
<b>Milk Powder (Non-Fat)</b>	51,511	1,216	4,594
<b>Grand Total</b>	<b>4,514,441</b>	<b>8,246,409</b>	<b>5,290,948</b>
LIFDC	✓	✓	✓
Port City	✓	✓	✓

Sources: UN Comtrade;

If RM is selected as an option, a widely-advertised competitive procurement using newspapers, the internet and radio is recommended. Advertisement should be explicit regarding commodity specifications, delivery time range and transaction location, payment terms and required currency. An auction process using a commodity exchange should be considered. Finally, both the Mission Director of the RM country and the MYAP country must endorse the monetization.

BEST anticipates undertaking a regional market study in West Africa in the near future. Findings from that study should be available at the time the next update is conducted for Sierra Leone.

## 6. DISTRIBUTION

### 6.1 INTRODUCTION

The “Bellmon Amendment” requires assurances that a proposed food aid distribution program would not result in substantial disincentive to or interference with domestic production or marketing in that country. The extent to which *distributed* food aid has the potential to result in disincentive to local production or in disruption of markets rests fundamentally on whether proposed food aid represents “additional consumption” for beneficiary households, i.e., food consumption that would not have occurred in the absence of the food aid distribution program.<sup>10</sup> If food aid transfers exceed households’ perceived needs, the beneficiary is more likely to sell the food aid, reduce market purchases of food and/or increase household farm sales. Such a response could lower market prices and/or reduce local incentives to produce.

This pre-MYAP distribution analysis outlines the most likely distribution modalities for the upcoming MYAP cycle and provides Bellmon-relevant guidance and scenarios of possible coverage, where appropriate, that will help ensure potential impacts on production and markets of such food aid distributions are minimized, and therefore Bellmon compliant. The presentation of possible distribution modalities and program parameters are based on a review of official USAID guidance and discussions with stakeholders in the field and in Washington (including USAID/FFP and current Title II awardees (Africare, CARE, CRS, and WVI)), and other important actors in food security in Sierra Leone including WFP, UNICEF and ACDI/VOCA. These scenarios are meant to serve as illustrative guidance rather than as a prescription given that the potential awardees’ MYAP proposals have yet to be finalized and are not available to inform the present Bellmon analysis.

### 6.2 POTENTIAL FOOD AID DISTRIBUTION MODALITIES DURING FY2010-2014 MYAP CYCLE

There is broad scope and range for a wide array of Title II-funded development interventions in Sierra Leone. As outlined in the Food Security Country Framework (FSCF),<sup>11</sup> the upcoming Title II program in Sierra Leone is expected to focus activities on:

- Improving agricultural productivity and rural household incomes
- Reducing chronic malnutrition among children under five years of age

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<sup>10</sup> Ideally, one would conduct household surveys to assess whether or not food aid would represent additional consumption. However, because household surveys are both extremely expensive and time-consuming, proxy indicators of ‘additionality’ can be used to assess the potential for leakage. This is the approach taken in the present analysis.

<sup>11</sup> USAID Food Security Country Framework (FSCF) for Sierra for FY2010 – FY2014. Food and Nutrition Technical Assistance II Project (FANTA-2), Academy for Educational Development (AED), Washington, DC, 2009.

For the upcoming MYAP cycle, two modalities for *distributed* food aid appear most likely to address these priorities: Food For Assets (FFA) and Maternal Child Health Nutrition (MCHN) interventions, likely in the form of a Prevention of Malnutrition in Children Under Two Approach (PM2A). To help ensure proposed programs will not result in substantial disincentive or market disruption, presented below are: (1) a set of key considerations for all distributed food aid interventions in Sierra Leone, and (2) an outline of general guidelines for each of the two most likely modalities. This analysis focuses special attention on PM2A for three reasons: (1) it is an evidence-based MCHN intervention designed to promote long-term human capital outcomes, and therefore a logical focus of any non-emergency Title II program wherever a MCHN intervention is warranted; (2) because PM2A is a new method, not only is there need for broad-based understanding of program design among key decision makers, but probable room for adjustment in ration design among potential awardees; and (3) most important for the present analysis, because it is designed to prevent malnutrition rather than recuperate children and mothers who are already malnourished, it has greater potential to over-provide food rations, which could potentially cause Bellmon concerns.

### 6.3 KEY CONSIDERATIONS FOR ALL DISTRIBUTED FOOD AID INTERVENTIONS IN SIERRA LEONE

#### ***Finding the Right Balance Between Title II Food and Cash Resources***

For distributed food aid in Sierra Leone, as in any other development program, the volume of distributed food rations should be calibrated based on the cash resources necessary to fund all of the inputs required to obtain desired program impact. These resources include staff, non-food ration health and nutrition services and inputs (community health volunteers, preventive and curative medicines, etc.), and ongoing monitoring and evaluation. In the case of PM2A, these necessary cash inputs may be greater than in other direct feeding interventions.

Each direct feeding program will involve different levels of food and non-food costs. The BEST Team tabulated estimates for program scenarios to illustrate the potential monthly food cost per beneficiary household. Applying the standard food distribution ration formula used by the WFP for FFA, and BEST calculations for PM2A, the estimated costs of providing monthly rations to each beneficiary household in Sierra Leone are presented in Table 8. The estimates show that it would cost \$22.74 for FFA, while PM2A with both individual mother/child and household rations distributed year-round would cost \$11.63, whereas if mother/child rations are distributed year-round but distribution of household rations to all PM2A-eligible households is limited to lean season months, PM2A would cost an average \$5.87 per beneficiary month.

**Table 8: Estimated Cost of Monthly Rations, by Modality, for Sierra Leone (\$)**

FFA <sup>12</sup>	PM2A <sup>13</sup> (mother/child ration plus household ration year-round)	PM2A (mother/child ration year-round but household ration limited to lean season)
\$22.74	\$11.63	\$5.87

The *non-food ration cost* per beneficiary household for *implementation* of each distribution program will vary widely depending on, among other things, awardees' capacity, beneficiary coverage and the level of integration of program interventions. Non-food ration costs are excluded for purposes of this illustration. The full cost estimates could be considerably different from those presented in the table. Both PM2A and FFA interventions are expected to play an important part of a much broader and integrated development intervention and, therefore, it is infeasible to accurately estimate such costs.

### ***Local Diet Should be Considered in the Selection of Appropriate Commodities for Distribution***

Beneficiaries are more likely to optimize the food aid as designed if the commodity is culturally acceptable and/or the distribution is accompanied by nutrition education and awareness.

Rice is the basic staple in Sierra Leone, and contributes 40 percent of calories consumed for the average household.<sup>14</sup> Other staples include cassava and wheat. The typical diet lacks significant animal source proteins and pulses.

Current Title II commodities, including bulgur and vegetable oil, are well-liked and acceptable to beneficiaries.

### ***Timing of Ration Delivery is Critical***

Food distributed during the lean season is more likely to be consumed by beneficiaries, therefore minimally disruptive (if at all) because of shortages of household stocks combined with high market prices. The high variability of staple prices between seasons affects household income and consumption. In Sierra Leone, there is usually a lean period between the depletion of the previous year's rice stock and the maturity of the current season's crop. This period usually coincides with the peak of the rainy season (July-September) when the weather is cold, but can vary somewhat by region. The 2005 Vulnerability Assessment Mission (VAM) survey

<sup>12</sup> Based on a monthly ration of 63.13 kg per household of six persons and consisting of bulgur (50 kg), yellow split peas (10 kg) and vegetable oil (3.13 kg).

<sup>13</sup> For illustrative purposes, BEST assumed the following about the size and composition of the PM2A rations: Individual monthly rations of 6 kilograms of Corn Soya Blend (CSB) for pregnant and lactating mothers and 3 kilograms of CSB for children 6-24 months. Monthly household rations of 13 kg per household based on a standard household of 6 persons, and consisting of bulgur (10 kg), lentils (2 kg) and vegetable oil (1 kg) distributed either year-round or during a four-month-long lean season. The calculations underlying these estimated ration costs are detailed further in Annex 9.

<sup>14</sup> FAOSTAT 2009.

found, for example, that availability of basic staples (excluding groundnuts) was insufficient between June and September for 82 percent of sampled communities. For groundnuts, about half of sampled communities reported groundnuts were insufficient to meet needs between June and September, while nearly half of communities reported this same insufficiency occurred during the period March to May. See Annex 5 for details on Sierra Leone's seasonal calendar.

Where food aid distribution is viewed as either a short-term and/or unreliable source of food, subsistence farmers will be less likely to adapt planting decisions in response to distributed food aid rations. Informants noted that occasionally beneficiaries sell a portion of the food aid ration at the local market in exchange for more preferred commodities. During in-country market visits and surveys, however, no Title II commodities were found in the marketplace.

As noted in the FSCF, potential MYAP awardees should review and incorporate into their program designs relevant lessons learned and recommendations from both past and current Food for Peace and development assistance funded projects in Sierra Leone.

## 6.4 GENERAL GUIDELINES TO ENSURE PROPOSED FFA AND PM2A PROGRAMS WILL NOT RESULT IN PRODUCTION DISINCENTIVE OR MARKET DISRUPTION

### 6.4.1 Food for Assets (FFA)

The intent of FFA is to reduce community vulnerability to disasters and transitory or chronic food insecurity through micro-projects involving the construction and maintenance of productive community assets. Wage payments are made in-kind rather than in cash, and activities are meant to target the poorest households within a community. If designed correctly, FFA can improve food access for the most food insecure households within a community, while leaving behind useful assets for the entire community, a potentially more long-term approach as compared to FFW.

#### **Key considerations to ensure Bellmon compliance of proposed FFA programs**

To encourage self-targeting, the income transfer value of the ration should be set at slightly less than the prevailing rural wage and include slightly less preferred commodities. If the value of the FFA ration is too high, it can disrupt local labor markets by attracting more laborers and the food may not benefit the most needy individuals, women and families. Inclusion of a food used commonly in child feeding may also help in self-targeting women.

Timing of food distribution is critical. FFA commodity distribution will be less disruptive if distributed during the lean season rather than during the harvest season. During the lean period, rural households, especially the poorest, have little reserves of food from markets because of high prices. By carefully timing FFA activities to coincide with the lean season, FFA will maximize food security impact.

Finally, there must be sufficient supervisory capacity for any proposed FFA activities to minimize possible leakages.

## 6.4.2 Prevention of Malnutrition in Children Under Two Approach (PM2A)

PM2A presents both an opportunity for long-term human capital investment, and a unique challenge to avoid disincentives in the short to medium-term. While the traditional recuperative approach targets children who are already malnourished and may have severe, irreversible physical and cognitive damage, the PM2A provides food aid to all children between the ages of 6 to 24 months within a target geographic area. As with the traditional recuperative nutrition approach, the PM2A targets pregnant and lactating women with Behavior Change Communication (BCC), preventive health care, and food supplementation.<sup>15</sup> Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, the program has greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food-deficit households, as identified by secondary sources prior to program implementation, will help avoid disruption of local production and markets.

### Geographic Targeting and Beneficiary Coverage

Because of the localized nature of the impact of distributed food aid, the vulnerability of small markets to disruptions, and the sensitivity of small farmers to production disincentives, quantities which may appear insignificant compared to a country's total food staple consumption can nonetheless have a major impact on markets and production at the local level.

To assess the relative absorptive capacity of food aid on a sub-national basis in Sierra Leone, thereby providing Bellmon guidance on the appropriate magnitude of distributed food aid under a PM2A, this report relies on extreme poverty and chronic malnutrition in children under five as the proxy indicators of additionality.<sup>16</sup> Extreme poverty and chronic malnutrition in children under five are the best available indicators of the relative absorptive capacity of food aid on a sub-national basis for Sierra Leone, which is important to inform initial geographic targeting given the nature of the PM2A.

Extreme poverty is an indicator of a household's inability to meet its basic nutritional requirements. Extreme poverty is not a quantitative measure of any nutrition gap, which could

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<sup>15</sup> For additional background and guidance about PM2A objectives, please see Ruel, Marie, et al. 2008. "Age-based preventive targeting of food assistance and behaviour change and communication for reduction of childhood undernutrition in Haiti: a cluster randomised trial." *The Lancet*, 371: 9612 (588–595), accessible via <http://www.thelancet.com/journals/lancet/article/PIIS0140673608602718/fulltext>

<sup>16</sup> WFP's Food Security and Nutrition Survey 2005 (VAM 2005) reports food consumption scores for Sierra Leone, which could be a relevant indicator of the relative food deficits across districts. However, there is a very large disparity across districts in the percentage of households with poor food consumption and, unlike in most other countries with reported food consumption scores using the WFP methodology, these disparities are not in line with other reported health indicators such as women's BMI or access to clean drinking water. One likely cause could be a regional shock during the survey period (March 2005), particularly in the Southern Province, which influenced the 7-day recall of household consumption. Given these disparities, this report relies instead on only the more long-term correlates of nutritional status: percentage of population in extreme poverty and percentage stunting of children under five.

then be compared with the ration under the proposed food aid program to determine by how much the 'nutrition gap' might be filled (or potentially overfilled) under the program. However, poverty is the best indicator of the access dimension of food security. Chronic malnutrition (stunting, or low height-for-age) in children under five is one potential indicator of chronic food deficits.<sup>17</sup>

Where high rates of extreme poverty and high rates of chronic malnutrition coincide, poor nutritional outcomes are more likely related to poor access to food, as well as poor food utilization. By geographically targeting areas with a high prevalence of extremely poor households and chronically malnourished children under five, a PM2A intervention will help ensure that any given PM2A beneficiary household will more than likely increase overall household food consumption, and therefore represent additional consumption, relative to households in other geographic areas with lower rates of poverty and chronic malnutrition.

Table 9 provides an overview of the estimated number of households potentially eligible for a PM2A intervention, and the number of PM2A-eligible households for which food aid would be most likely to represent additional consumption.

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<sup>17</sup> The most recent source of reliable district-level malnutrition rates is available from the preliminary results of the Sierra Leone Demographic and Health Survey 2008. Malnutrition rates may reflect either inadequate intake, malabsorption due to infectious disease, or some combination of both. To the extent rates reflect disease prevalence much more than inadequate intake, any conclusions drawn from such rates will be an inaccurate reflection of household food deficits. To the extent the prevalence of stunting reflects poor availability and/or poor access, such prevalence rates can appropriately inform geographic targeting from a Bellmon perspective.

**Table 9: Estimated Number of PM2A-eligible Households for Whom Food Aid Would Be Most Likely to Represent Additional Consumption**

District	Population (proj. 2010 based on 2004 census) [1]	# HHs [2]	% HHs in Extreme Poverty [3]	% children under 5 stunted (HAZ < -2 SD) [4]	est. pop. of eligible children & mothers [5]	# HHs in extreme poverty w/ an eligible child & mother [6]
<b>Kailahun</b>	407,785	76,941	45+	39+	22,836	10,276
<b>Kenema</b>	560,396	91,868	38+	37+	31,382	11,925
<b>Kono</b>	322,183	51,965	32	27	18,042	5,773
<b>Bombali</b>	439,935	61,963	63+	36+	24,636	15,521
<b>Kambia</b>	301,001	37,625	9	35	16,856	1,517
<b>Koinadugu</b>	295,427	49,238	29	42+	16,544	4,798
<b>Port Loko</b>	499,091	83,182	20	44+	27,949	5,590
<b>Tonkolili</b>	388,096	43,122	32	40+	21,733	6,955
<b>Bo</b>	543,385	83,598	25	40+	30,430	7,608
<b>Bonthe</b>	151,894	27,617	35+	35	8,506	2,977
<b>Moyamba</b>	266,939	53,388	16	46+	14,949	2,392
<b>Pujehun</b>	278,386	46,398	14	31	15,590	2,183
<b>Western Area: Rural</b>	214,951	30,707	15	29	12,037	1,806
<b>Western Area: Urban</b>	896,384	165,997	2	26	50,198	1,004
<b>TOTAL (National Average)</b>	<b>5,514,373</b>	<b>903,608</b>	<b>33</b>	<b>36</b>	<b>311,688</b>	<b>102,857</b>

Notes: Rates of extreme poverty and stunting, marked with a "+" symbol, are those with rates equal to or greater than the rural average; District-specific average household size figures are drawn from VAM 2005.

Since an awardee's catchment areas may cover only part of one or more districts, potential awardees must conduct a more careful enumeration of PM2A-eligible households within their proposed catchment areas to determine possible levels of coverage. However, the second column from the right provides a rough estimate of the maximum number of PM2A-eligible households within each district, and therefore provides a guideline for the number of beneficiary households that might be targeted to reach 100 percent coverage by district.

The right-most column, which shows the estimated number of households who are both extremely poor and PM2A-eligible (and therefore most likely to benefit from food aid as additional consumption), provides a rough guideline of the number of households that could be targeted for year-round household rations within each district without introducing Bellmon concerns. These figures are meant to serve as general guidance since they are based on analysis of secondary data which, by its nature, will provide less precise guidance than well-designed and implemented baseline surveys in awardee implementing areas.

By combining extreme poverty and stunting in children under five, a ranking system was used to identify districts in which PM2A rations would (1) most likely represent additional consumption, and therefore would be unlikely to pose any negative Bellmon impact; (2) address the highest rates of malnutrition at the district level; and (3) target the largest total number of PM2A-eligible households, an important efficiency consideration when implementing an integrated development program. Ranking all the districts by a combination of these indicators, three districts emerged as clear contenders for a PM2A intervention: Bombali, Kailahun and Kenema. These three not only record the highest rates of extreme poverty, but also report the highest rates of chronic malnutrition. Of course, these findings at the district level may mask important differences within each district. Further targeting of extremely poor communities within each of

these districts would ensure even greater likelihood of increasing consumption at the household level.

Additional indicators important for evidence-based geographic targeting, such as coping strategies, typical hazards and shocks, sources of food and income are outlined in Annex 6, and available in greater detail by district in VAM 2005. Further guidance on the geographic distribution of food insecurity, including regional disparities in food availability, access and utilization, are also detailed in the FSCF.

### **Strategic Use of Food Rations to Achieve Maximum Impact on Nutritional Outcomes**

There are no current Title II awardees implementing MCHN programs in Sierra Leone. Therefore, it is difficult at this stage to anticipate what geographic coverage or ration might be proposed for distribution should a MYAP propose a PM2A as one part or its entire proposed MCHN program.

### **Individual Rations for Mother and Child**

Individual PM2A rations are expected to cover all pregnant or lactating mothers and children under two years of age within a catchment area. The purpose of the individual rations directed towards pregnant and lactating mothers and children under two is nutritional supplementation, which narrows the appropriate composition and size of the mother and child rations to those that follow nutritional guidelines for individual physiological needs. For the purposes of the present BEST analysis, the ration is assumed to be composed of blended cereals, while the ration size is assumed to provide approximately 500 kcal per person per day for children 6 to 24 months of age, and 1000 kcal per person per day for pregnant or lactating mothers.<sup>18</sup>

Labeling individual rations as “special” food may help to ensure that food aid is consumed by intended beneficiaries. Nutrition interventions such as PM2A that target pregnant and lactating mothers and children under two may be neutralized if the beneficiary household chooses to reallocate resources away from the mother and child as a result of those household members receiving individual PM2A rations. While there is some evidence<sup>19</sup> that transfers may not always be reallocated away, labeling individual rations as “special” food may help to ensure the

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<sup>18</sup> For purposes of the Bellmon analysis, the individual rations and kcal per person per day needs have been utilized for mother and children commodity calculations as indicated. However, please see FANTA-2’s PM2A Technical Resource Materials (TRM) and other related guidance on calorie needs accessible via <http://www.fantaproject.org/pm2a/index.shtml>.

<sup>19</sup> Islam, Mahnaz and John Hoddinott. Feb 2008. “Evidence of Intra-Household Flypaper Effects from a Nutrition Intervention in Rural Guatemala,” working paper, accessible via: <http://ssrn.com/abstract=1262368>; Adelman, S., D. Gilligan and K. Lehrer. 2008. “How Effective are Food for Education Programs? A Critical Assessment of the Evidence from Developing Countries,” International Food Policy Research Institute Food Policy Review 9, accessible via: <http://www.ifpri.org/sites/default/files/publications/pv09.pdf>

nutritional supplements are consumed by the intended individual beneficiaries, which will maximize the nutritional benefits of PM2A interventions.

In accordance with formative research on the underlying causes of early childhood malnutrition, PM2A guidance requires BCC messages and a suite of health and nutrition-related services as integral components of a preventive approach to malnutrition. By delivering the food ration as part of a carefully-designed package of MCHN interventions custom-tailored to beneficiary communities, a PM2A intervention will increase further the likelihood that direct beneficiaries will consume and correctly use additional food, which will simultaneously maximize nutritional impact and minimize any potential negative Bellmon impacts.

### **Household Ration**

Unlike individual rations, the household ration is not intended to serve as nutritional supplementation; rather, it can serve several different purposes including:

- Protection of mother and child rations from diversion or dilution to other household members
- An additional incentive for the mother and/or other household members to participate in key PM2A activities (BCC messages, attendance at health clinics for growth monitoring or other well visits, etc.)

A household ration may also act as an additional income transfer which enables extremely poor households to more effectively participate in integrated development programs. Given that PM2A activities (inclusive of ration provisions to individual and household beneficiaries) are intended to form one part of an overarching integrated rural development program, there may, however, be other mechanisms through which awardees would choose to provide such an additional income transfer.

Precisely because it is not intended as a nutritional supplement and because it can serve several purposes, a household ration is more malleable in terms of contextualization to reflect community norms and needs. The preventive approach that was successfully piloted in Haiti provided a household ration composed of blended foods, pulses and oil to all households within the catchment area on a year-round basis, regardless of household wealth status or food deficit. Future awardees may consider different scenarios depending on a variety of factors (e.g., community needs, food preferences and logistics, etc.), which may lead to a more strategic use of household rations, both in terms of household ration composition, size, and frequency and timing of delivery. Based on formative research, future awardees may consider different household ration designs, which will require ongoing monitoring and evaluation to ensure the household ration is appropriately designed to ensure protection of individual rations while maintaining acceptable levels of program participation.

As noted above, no Title II Awardee is presently implementing MCHN interventions in Sierra Leone. A potential awardee must conduct formative research to ensure design intervention and most effective ration size and composition to address nutritional needs of mothers and children

while minimizing potential negative impacts on markets and production. To determine the appropriate size of a household ration, potential awardees should review all available evidence of estimated household food gaps within the proposed targeted communities.<sup>20</sup>

Whether it will be critical to the success of a PM2A intervention to provide household rations year-round to all PM2A-eligible households to discourage diversion of individual rations to other household members can only be determined through formative research to understand issues of intra-household sharing and barriers to participation in order to determine the appropriate size, composition, beneficiary coverage and frequency of delivery of household rations. While potential awardees must target individual rations to all pregnant and lactating mothers and children under two within a catchment area on a year-round basis, awardees may consider a number of different options for inclusion of household rations. Among the many options, two possibilities are:

1. Target household rations to *all* PM2A-eligible households, regardless of household food insecurity or wealth status, but limit distribution of household rations to the lean season months
2. Target household rations to *all* PM2A-eligible households, but limit distribution of household rations to the lean season months

Whatever coverage and delivery frequency of the household ration is ultimately deemed most appropriate for the target communities, awardees are expected to ensure that household rations are sufficient to protect the woman and child individual rations without reducing participation while minimizing Bellmon concerns.

One note of caution is warranted regarding the extent of coverage of household rations in Sierra Leone. Dependency and a sense of entitlement still exist in some communities as a result of the civil war and its aftermath. While extreme poverty certainly constrains access, effectively encouraging increased agricultural production and income-generating activities, while simultaneously providing indirect household rations under the umbrella of a PM2A has a higher likelihood of introducing disincentives. Special care should be taken in designing any integrated development intervention that might send counter-acting messages to beneficiary communities.

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<sup>20</sup> One potential source of estimated food gaps is the new Food and Agriculture Organization (FAO) “depth of hunger” estimates which estimate the national average food deficit (in kcal/person/day) for the undernourished population. The most recent estimated food deficit for the undernourished population in Sierra Leone (2003-2005) is 380 kcal per person per day. These figures provide a useful national benchmark which can be used prior to conducting formative research in proposed target communities to determine in more precise detail the average household deficits of beneficiary households. For purposes of cost calculations, described more fully in Annex 9, the household ration assumed for illustrative purposes in this analysis is designed to meet 77% of the estimated household deficit of the average undernourished population, and 16% of the total household monthly caloric requirements.

The sections that follow present two possible PM2A funding scenarios regarding the individual and household rations, with associated commodity volumes and potential beneficiary household coverage. The first scenario is based on the ration design from the Haiti pilot in which a monthly ration was provided to individual beneficiaries (mother and child) and beneficiary households for each month of participation, but the child rations are reduced to reflect the physiological capacity of children under two. The second scenario is based on the same principle of coverage, in which mother and child rations are provided on a year-round basis, and household rations are again provided to all PM2A-eligible households but limited to lean season months. For simplicity, the percentage of households considered most food insecure is assumed a uniform 33 percentage of all PM2A-eligible households within a given catchment area.<sup>21</sup>

Whether the scenarios represented in Table 10 below are the most appropriate levels of intervention will depend critically on (1) whether there are sufficient cash resources available to effectively support a PM2A intervention, even if appropriately geographically targeted to chronically food insecure communities in Sierra Leone; and (2) whether potential awardees determine through formative research and their ongoing monitoring and evaluation efforts that it is necessary to provide household rations year-round to all PM2A households to achieve desired nutritional outcomes.<sup>22</sup>

**Table 10: Funding Scenarios for PM2A Rations in Sierra Leone**

Country Program Funding Devoted to PM2A Rations	Total Annual Volume of Commodities	Ration	Number of Beneficiary Households Covered Under Program
<b>\$3.6 million</b>	5,323 MT	<ul style="list-style-type: none"> <li>• mother/child rations year-round to all PM2A-eligible HHs</li> <li>• HH rations year-round to all PM2A-eligible HHs</li> </ul>	25,795
<b>\$4.8 million</b>	7,097MT		34,394
<b>\$6.0 million</b>	8,873MT		42,992
<b>\$3.6 million</b>	5,230 MT	<ul style="list-style-type: none"> <li>• mother/child rations year-round to all PM2A-eligible HHs</li> <li>• HH rations year-round to all PM2A-eligible HHs but limited to lean season</li> </ul>	51,107
<b>\$4.8 million</b>	6,689 MT		68,143
<b>\$6.0 million</b>	8,720 MT		85,179

The hypothetical funding scenarios and the table of the potential beneficiary households show that a funding level at approximately \$6 million (50 percent of estimated total funding allocation) could cover approximately 42,992 households if both individual and household rations are provided to all PM2A-eligible households on a year-round basis. If the household ration is instead provided to all PM2A-eligible households but limited to the lean season, the number of households that could potentially be covered more than doubles to 85,179. Depending on the ultimate size of the indirect household ration, by adding in the additional income transfer throughout the year, program coverage is necessarily reduced, perhaps significantly. However,

<sup>21</sup> This percentage is based on the national average percentage of households who are extreme impoverished (see Table 9 above).

<sup>22</sup> For a discussion of food ration versus non-food ration costs in a PM2A program, please see Maluccio John and Cornelia Loechl. 2006. "Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs" accessible via [http://www.fantaproject.org/pm2a/IFPRI\\_R2\\_0306.pdf](http://www.fantaproject.org/pm2a/IFPRI_R2_0306.pdf)

such an additional income transfer may be very appropriate particularly when targeting communities with a large percentage of extremely poor households.

The level of coverage is important from a Bellmon perspective because not only does it translate into a volume of food aid commodities being introduced into a local area (and therefore potentially affecting markets and incentives to produce), it hints at the non-food ration costs that must be available to effectively support all of the other program activities.<sup>23</sup> BCC and other health and nutrition services are essential inputs into any program designed to address many of the underlying causes of early childhood malnutrition which are *not* a function of lack of food availability. Particularly where malnutrition is heavily influenced by poor feeding practices, as in Sierra Leone, sufficient cash resources to support the strategic use of food rations in a PM2A program designed to affect long-term nutritional outcomes will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant.

Whether it is necessary to provide household rations year-round to all PM2A households, or only the most food insecure households, in order to achieve desired nutritional outcomes, it will be important that food aid be provided as one element of an integrated development program and that the number of beneficiaries receiving food aid ideally should not exceed the number that can be supported by the associated income-generating and agricultural development activities. As such, it is anticipated that the availability of finance for integrated development activities will limit beneficiary coverage and constrain the use of food aid rations, rather than the availability of food aid itself.

**For further guidance on the appropriate design of MCHN interventions generally, and PM2A specifically,** please see USAID's Commodities Reference Guide, accessible via [http://www.usaid.gov/our\\_work/humanitarian\\_assistance/ffp/crg/module1.html](http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/module1.html), and FANTA-2's PM2A Technical Resource Materials (TRM) and other related guidance accessible via <http://www.fantaproject.org/pm2a/index.shtml>.

### **Existing Food Aid and Cash Transfer Programs**

Whichever modalities are proposed, it will be important to avoid **duplication of ration coverage**, on the one hand, and **capitalize on complementary services through coordination of development interventions** on the other.

Traditionally, USAID has focused its development efforts on what is known locally as “the four Ks” (Kailahun, Kenema, Koinadugu and Kono), with other areas of Sierra Leone serviced by other major donors including the European Union (EU) and UN agencies.

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<sup>23</sup> For a discussion of food ration versus non-food ration costs in a PM2A program, please see Maluccio John and Cornelia Loechl. 2006. “Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs” accessible via [http://www.fantaproject.org/pm2a/IFPRI\\_R2\\_0306.pdf](http://www.fantaproject.org/pm2a/IFPRI_R2_0306.pdf)

Africare, CARE, CRS, and WVI jointly participate in and manage the Title II Consortium for Rehabilitation and Development (CORAD). Title II food aid commodities provided to CORAD are monetized and direct-distributed in support of the Livelihood Enhancement and Asset Development (LEAD) Project, which is managed in discrete geographical areas by the four consortium members. Food aid commodities are distributed directly under two beneficiary categories: FFA and Vulnerable Group Feeding (VGF).

As noted above, MYAP awardees should **review and incorporate into their program designs all relevant lessons learned and recommendations from both past and current FFP and development assistance-funded projects** in Sierra Leone. As outlined in the FSCF, potential MYAP awardees should explore opportunities for collaborating and joint programming to maximize the impact of Title II resources. A roster of current programs and major actors in food security is outlined in the FSCF. As part of their needs assessments, potential awardees should review the status of programs and beneficiary coverage (who the target beneficiaries are and how many are covered, how much food is provided, what types and when, and whether aid is conditional or not) to assess where new program interventions may provide maximum food security impact and, therefore, minimum disruption of markets and production incentives.

In addition, to avoid duplication and ensure efficient use of Title II resources, awardees should be aware of two important programs which involve MCHN and FFA components:

- UNICEF is implementing a nationwide Community Management of Acute Malnutrition (CMAM) program that seeks to provide timely and adequate care and supplementary feeding to children suffering from moderate and acute malnutrition. UNICEF and CARE are entering into a partnering agreement whereby CARE will implement the CMAM program in Koinadugu District; and UNICEF is actively seeking additional partners to manage the program in other districts.
- WVI is seeking to expand its collaboration with WFP both geographically and programmatically. Two proposals are currently being reviewed with the aforementioned expansion in mind: a) one proposal is for WVI to implement a WFP-supported school-feeding program for 45,000 beneficiaries in Pujehun District, requiring approximately 1,300 MT of food aid commodities per year; and, b) the other is for WVI to implement WFP-supported FFA and FFW projects with approximately 6,655 beneficiaries in Nimikoro and Gorama chiefdoms of Kono District, requiring approximately 500 MT of commodities.

Annex 7 provides details of existing food aid programs in the regions identified as geographic priorities for the upcoming MYAP cycle.

# ANNEX 1: ECONOMIC DATA AND TRENDS

## GDP per capita

**Table 11: Economic Indicators**

<b>Economic Growth</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<i>GDP (current US\$) (billions)</i>	0.81	0.94	0.99	1.07	1.21	1.42	1.66
<i>GDP growth (annual % change)</i>	18	27	9	8	7.2	7.3	6.8
<i>Inflation, GDP deflator (annual % change)</i>	2	-4	8	16	12.9	11.8	10.3

Source: The World Bank

## Poverty Rates

**Table 12: Poverty Indicators**

	<b>2005</b>	<b>2006</b>	<b>2007</b>
<i>GNI per capita, PPP (current international \$)</i>	560	600	660
<i>Poverty headcount ratio at national poverty line (% of population), latest available year</i>	70	-	-
<i>Food poverty (% of population), latest available year</i>	68	-	-

Sources: The World Bank, WDI 2009; Sierra Leone PRSP

**Table 13: Households by Welfare Quintiles, by Region (%)**

	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Q5</b>
<b>Total</b>	10.7	17	24.4	32.4	15.4
<b>Region</b>					
<i>Eastern Region</i>	12	17	24.6	32.7	13.7
<i>Northern Region</i>	11.8	19.7	24.6	26.7	17.3
<i>Southern Region</i>	12.8	18.8	24.2	32.6	11.6
<i>Western Region</i>	5.1	10.9	24.2	41	18.8
<b>Select Districts</b>					
<i>Bo District</i>	12.5	18.8	26.6	30.2	11.9
<i>Bonthe District</i>	14.4	18.9	23.5	32.6	10.7

	Q1	Q2	Q3	Q4	Q5
<i>Bombali District</i>	13.9	16.1	23.9	27.4	18.7
<i>Kailahun District</i>	9.1	19.6	28.1	35	8.1
<i>Kambia District</i>	14.2	23.6	22.7	18.6	20.9
<i>Kenema District</i>	16.5	12.9	23.6	32.7	14.4
<i>Koinadugu District</i>	7.3	22.4	20	30.5	19.7
<i>Kono District</i>	8.9	18.6	20.5	30.9	21
<i>Moyamba District</i>	11.5	22.4	20.5	33	12.6
<i>Pujehun District</i>	11.2	14.2	20.7	45.1	8.8
<i>Tonkolili District</i>	9.2	20.8	33.8	26.6	9.7
<i>Port Loko District</i>	13	17.8	21	27.7	20.5
<i>Western Rural District</i>	10.9	19.9	27.5	27.3	14.4
<i>Western Area Urban</i>	3.8	8.9	23.4	44.1	19.8

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 14: Food Poverty and Total Poverty Incidence (% of Population)**

District	Urban		Rural	
	Food Poor	Total Poor	Food Poor	Total Poor
<i>Bo</i>	27.3	59.9	24.3	67.8
<i>Bonthe</i>	39.9	88.7	33.1	83.5
<i>Moyamba</i>	11.1	59	17.4	69.1
<i>Pujehun</i>	7.7	59.5	16.3	59.6
<i>Kailahun</i>	25.7	86.2	54.9	94.6
<i>Kenema</i>	19.5	77.5	52.4	95
<i>Kono</i>	9.2	56.3	35.2	79.6
<i>Bombali</i>	25.1	83.4	69.6	90
<i>Kambia</i>	..	75.6	11.6	67.7
<i>Koinadugu</i>	28.6	81.1	29.2	76.3
<i>Port Loko</i>	12.7	71.9	22.6	85
<i>Tonkolili</i>	36.4	87.7	31	84.2
<i>Western Area</i>	3.2	17.1	26.3	70.1

Source: Statistics Sierra Leone, Annual Statistical Digest 2005/2006

## Global/Regional Economic Linkages/Memberships/Agreements/Partners

**Table 15: Agriculture related trade agreements**

<b>No.</b>	<b>Agreement/Organization</b>	<b>Parties</b>	<b>Year became partner</b>
1	WTO (World Trade Organization)	United Nations	Jan. 1, 1995
2	EBA (Everything but Arms)	USA	March 5, 2001
3	AGOA (African Growth Opportunity Act)	USA	May 2000
4	Comprehensive Africa Agriculture Development Program (CAAPD)	African Union	2002
5	Economic Community of West African States (ECOWAS)	West African States	May 28, 1975
6	Cotonou Agreement	Africa, Caribbean, and Pacific Group of States	June 6, 1975

## Major Products and Service Industries

**Table 16: Decomposition of GDP (Current Prices, Million of Leones)**

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>1. Agriculture, Forestry and Fishing</b>	<b>922,805</b>	<b>1,078,448</b>	<b>1,367,812</b>	<b>1,698,742</b>
1.1 Crops	577,706	670,867	907,295	1,138,126
1.2 Livestock	56,192	72,971	93,360	98,508
1.3 Forestry	132,453	137,281	142,731	146,133
1.4 Fishery	156,454	197,329	224,426	315,975
<b>2. Industry</b>	<b>188,126</b>	<b>271,928</b>	<b>387,052</b>	<b>424,878</b>
2.1 Mining and Quarrying	68,238	122,554	221,361	254,128
2.2 Manufacturing and Handicrafts	69,078	76,994	79,224	85,173
2.3 Electricity and Water Supply	10,824	17,177	23,804	19,046
2.4 Construction	39,986	55,202	62,662	66,532
<b>3. Services</b>	<b>1,123,416</b>	<b>1,274,743</b>	<b>1,517,434</b>	<b>1,623,130</b>
3.1 Trade and Tourism	396,967	467,205	592,142	558,325
3.1.1 Wholesale & Retail	380,251	448,102	569,803	535,842
3.1.2 Hotels And Restaurants	16,716	19,103	22,339	22,483
3.2 Transport, Storage and Communication	156,809	159,141	217,898	261,670
3.3 Finance, Insurance and Real Estate	149,296	166,465	191,111	240,292

	2001	2002	2003	2004
3.4 Government Services	92,525	79,467	123,159	142,024
3.5 Other Services	135,875	133,430	151,468	166,498
3.6 Education	54,794	123,937	98,602	101,356
3.7 Health	116,563	123,501	120,353	127,308
3.8 NPISH	20,587	21,597	22,700	25,656
<b>GDP</b>	<b>2,234,347</b>	<b>2,625,119</b>	<b>3,272,298</b>	<b>3,746,750</b>
<b>Agriculture, Forestry and Fishing (% of GDP)</b>	<b>41%</b>	<b>41%</b>	<b>42%</b>	<b>45%</b>
<b>Industry (% of GDP)</b>	<b>8%</b>	<b>10%</b>	<b>12%</b>	<b>11%</b>
<b>Services (% of GDP)</b>	<b>50%</b>	<b>49%</b>	<b>46%</b>	<b>43%</b>

Source: Statistics Sierra Leone, CWIQ Survey 2007, and author's calculations

## Major Shifts in Policy, Structure or Performance

**Details on Goods and Services Tax (GST) taking effect Sept. 1, 2009:** Based on the categorization of goods, rice will not attract GST. Generally therefore its price will not be adversely affected. On the other hand, oil and wheat are not exempted and therefore could be affected. What follows below are details on the GST.

The GST is a tax on the domestic consumption of imported and locally produced goods and/or services, paid as a percentage of their value at the time they are imported, sold, exchanged, or delivered. It is being introduced in Sierra Leone as part of the Government's plan to modernize and streamline the taxation system.

The GST replaces the following seven existing but outdated taxes: Import sales tax, Domestic Sales Tax, Entertainment Tax, Restaurant and Food Tax, Messages Tax, Hotel Accommodation Tax and Professional Services Tax. However, non-tax charges, direct taxes such as Income Tax and Corporation Tax, and Import Duty, Excise Duty and Export Duty will continue to be charged, as previously after the introduction of GST.

GST will be applied at a rate of 15 percent of the value of an item at the point of sale or exchange – the same rate as the present Sales Tax. However, only larger businesses will be required to register for and charge GST. The majority of smaller businesses will not have to charge GST to their customers.

Under GST there are four categories of goods and services, collectively known as *supplies*: 1) standard-rated supplies, 2) zero-rated supplies, 3) exempt supplies and 4) supplies outside the scope of GST.

**Standard rated supplies** are those goods and services that are taxed at a standard rate (15 percent) of their total value in money at the point of sale, exchange or importation. All goods and services provided for use or benefit in Sierra Leone (including imports) will attract GST at the

standard rate, unless explicitly specified in the GST legislation as zero rated or exempt supplies, or where an item is outside the scope of GST.

**Zero rated supplies** are those goods and services that are taxable but, for economic reasons are taxed at zero percent (0 percent). Examples are exports (except the export of all minerals including gold and diamonds) and goods shipped as stores on ships or aircraft leaving Sierra Leone.

Standard rated supplies and zero rate supplies are together known as *taxable supplies*.

**Exempt supplies** are those supplies that for social, economic, or difficult-to-tax reasons are not taxed. Examples are *rice, piped water, fuel, textbooks, educations and medical services* and selected pharmaceutical supplies and financial services and minerals for export, including gold and diamonds.

There is also relief from GST for some institutions and in certain circumstances for example foreign embassies and goods imported for rehabilitation or relief following a natural disaster.

# ANNEX 2: AGRICULTURE SECTOR

## Production Base and Trends

**Table 17: Production in metric tons**

	2002	2003	2004	2005	2006	2007
Cassava	260,000	325,000	290,000	320,000	350,000	370,000
Groundnuts, with shell	58,400	70,500	91,128	104,730	115,200	90,000
Maize	12,038	16,060	32,125	39,051	48,813	50,000
Oil palm fruit	180,000	195,000	210,000	210,000	195,000	195,000
Rice, paddy	422,066	445,633	542,000	738,000	1,062,320	650,000
Cereals (Rice Milled Eqv. +)	325,931	347,697	433,139	577,797	803,680	522,850
Cereals, Total +	466,479	496,093	613,625	823,551	1,157,433	739,300
Oil crops Primary +	65,255	68,954	78,218	82,325	82,338	74,778
Pulses, Total +	56,400	60,700	61,000	61,000	58,700	62,700

Source: FAOSTAT Production

## Exports

**Table 18: Exports in US\$000s**

Item	2002	2003	2004	2005	2006	Total
1515 Fixed vegetable fats & oils & their fractions	0	0	0	0	329	329
2302 Bran, sharps and other residues	428	697	367	335	129	1,956
2008 Preserved fruits nes	63	0	62	80	78	283
0710 Frozen vegetables	9	23	99	110	68	309
1511 Palm oil & its fraction	145	96	22	63	60	386
0713 Dried vegetables, shelled	73	0	21	27	36	157
0801 Brazil nuts, cashew nuts & coconuts	26	29	25	52	31	163
2009 Fruit & vegetable juices, unfermented	0	0	0	0	18	18
0709 Vegetables nes, fresh or chilled	6	181	266	7	16	476
Other Total	1,181	1,088	1,461	976	47	4,753
Grand Total	1,931	2,114	2,323	1,650	812	8,830

Source: International Trade Centre

**Note: Data not available for years more recent than 2006**

# ANNEX 3: NATIONAL HOUSEHOLD CONSUMPTION AND EXPENDITURE

## Sources of Food/Local Diets/Main Staples

Per capita daily dietary energy supplies for the average Sierra Leonean has declined from 2,110 kcal/day from (1979-1981) to 1,980 kcal/day just before the war (1989-1991) and then 1,930 kcal/day after the war (2001-2003). According to FAO, per capita food intake of less than 2,200 kcal per day is indicative of a very poor level of food security with a large proportion of the population affected by malnutrition, while a level of more than 2,700 kcal per day indicates that only a small proportion of the population may be affected by undernourishment. This clearly indicates that a large proportion of Sierra Leoneans are food insecure.

## Sources of Food

According to the World Food Programme's 2005 VAM and as shown below, for households practicing agriculture, the most commonly grown crops include cassava (33 percent of households), sweet potatoes (22 percent), upland and swamp rice (15 percent each), groundnuts (20 percent) and peppers (18 percent).

**Table 19: Local Sources of Food**

<i>Food</i>	<i>Percentage Grown</i>
<i>Cassava</i>	33
<i>Sweet Potatoes</i>	22
<i>Upland Rice</i>	15
<i>Swamp Rice</i>	15
<i>Groundnuts</i>	20
<i>Peppers</i>	18

Source: WFP 2005 VAM

## Local Diets

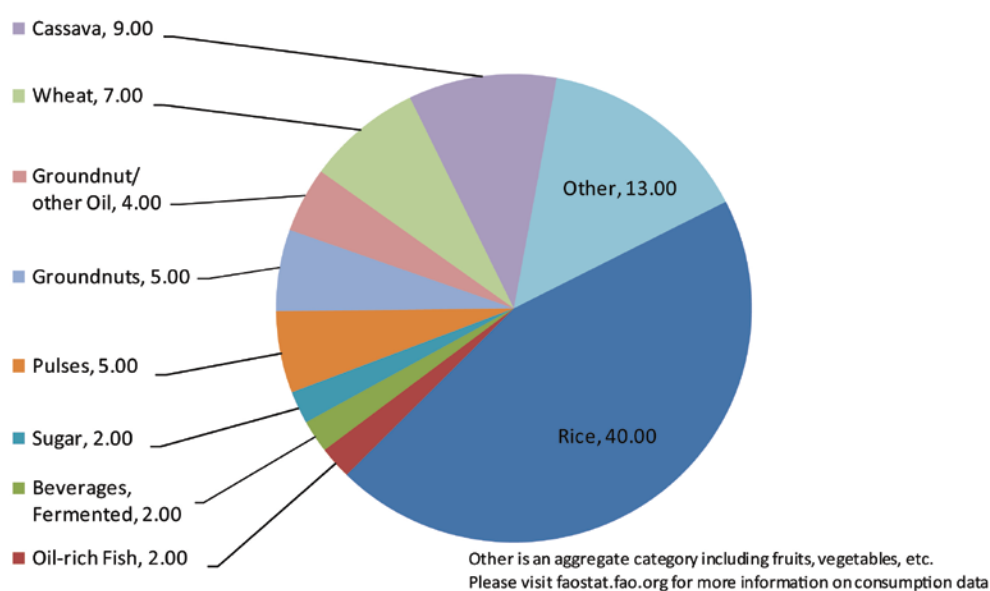
As shown in Figure 6, rice forms the core food item of the national diet. Rice accounts for 40 percent of the calories consumed in Sierra Leone and is the basic staple throughout the country.<sup>24</sup> The snapshot characterizes the diet as a predominance of rice, cassava (garri, flour and chips in urban areas) and wheat (56 percent of calories); and lack of significant animal source proteins (2 percent of calories) and pulses (5 percent of calories). The results strongly

<sup>24</sup> FAOSTAT, retrieved June 2, 2009 from [http://www.fao.org/statistics/faostat/foodsecurity/Files/DietFoodItemsEnergy\\_en.xls](http://www.fao.org/statistics/faostat/foodsecurity/Files/DietFoodItemsEnergy_en.xls)

suggest an extremely low dietary diversity. According to FAO, animal source proteins in Sierra Leone include eggs, pig meat, poultry meat, bovine meat, and to a lesser extent sheep and goat meats. Although vegetables and fruits/citrus are produced in Sierra Leone, they are not part of the diet as shown in the figure below.

According to the WFP VAM, while rural households with weak dietary diversity scores limit their intake to cereals, urban households with similar scores complement their cereal intake with oils. Oils and fish are present in the diets of households with medium and high dietary diversity scores, while fruit and meat are the exclusive domain of households boasting high dietary diversity scores.

**Figure 6: Composition of National Diet (percent share daily energy, FAO, 2003-2005)**



## Main Staples

Primary food imports in Sierra Leone include rice and wheat (see table below). Imports of rice represented 14 percent of total production in 2003-2005. Wheat is not grown in Sierra Leone, and wheat imports are important, reflecting perhaps changes in consumption in the population and eating habits of the people.

**Table 20: Rice and Wheat Imports**

<i>Cereal grain</i>	<i>2003-2005</i>
<i>Rice imports (tons)</i>	<i>239,894</i>
<i>Rice imports as percent of milled rice production</i>	<i>28.4%</i>
<i>Wheat imports (tons)</i>	<i>110,000</i>
<i>Wheat Flour Imports (tons)</i>	<i>38,135</i>

Source: FAO, FAOSTAT, 2009.

## Sources of Income

Table 21: Remunerated and Unpaid Employment, By Employment Category and Subsector (%)

Subsector	Regular/salaried		Casual paid		Unpaid family		Self-employed		Self-employed no	
	employee Male	employee Female	employee Male	employee Female	worker Male	worker Female	employees Male	employees Female	employees Male	employees Female
Crop farming	1.0	0.3	0.7	2.9	15.4	20.3	60.8	47.9	79.6	73.7
Livestock/poultry	0.0	0.3	0.3	0.0	0.9	2.0	0.3	0.2	0.4	0.4
Forestry/logging	1.5	0.6	0.4	0.3	2.4	0.8	0.7	0.1	0.4	0.1
Fishing	0.6	0.1	1.2	0.0	4.4	3.7	2.8	1.4	2.8	1.2
Mining/quarrying	2.9	0.3	20.8	3.7	19.5	2.8	4.8	0.3	3.1	0.3
Manufacturing/pre process	7.2	5.2	8.2	7.3	11.3	4.9	3.3	2.1	0.7	0.4
Electricity, gas, water supply	2.5	1.5	4.2	0.1	2.9	0.4	0.4	0.5	0.3	0.2
Construction	13.3	2.8	20.3	3.2	11.7	1.2	1.7	0.1	0.7	0.1
Wholesale, retail, services	4.1	8.2	5.0	24	16.1	59.5	19.7	44.7	9.3	21.4
Transport, storage, communications	12.8	6.2	16.6	2.8	5.0	0.0	1.3	0.0	0.3	0.0
Banking and financial services	8.1	11.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Community services	40.8	54.3	15.1	33.9	5.6	4.3	2.0	0.8	0.9	0.8
Other (Residual)	5.2	9.4	6.8	21.8	4.8	0.3	2.1	1.8	1.4	1.4

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 22: Employment Activity, By Sector (% of Population)**

	<i>Crop farming</i>	<i>Livestock or poultry</i>	<i>Forestry or logging</i>	<i>Fishing</i>	<i>Mining or quarrying</i>	<i>Manufacturing or processing</i>	<i>Electricity, gas, water</i>	<i>Construction</i>	<i>Wholesale, retail, services</i>	<i>Transport</i>	<i>Banking, financial services</i>	<i>Community services</i>	<i>Other</i>
<b>Total</b>	<b>58.6</b>	<b>0.3</b>	<b>0.4</b>	<b>1.8</b>	<b>2.4</b>	<b>2.3</b>	<b>0.6</b>	<b>2.2</b>	<b>20.8</b>	<b>1.7</b>	<b>0.8</b>	<b>5.6</b>	<b>2.3</b>
<b>Region</b>													
<i>Eastern Region</i>	67.9	0.1	0.4	0.5	6.4	1.1	0.5	1.5	15	0.9	0	4.3	1.3
<i>Northern Region</i>	70.0	0.7	0.1	2.1	0.4	1.1	0.3	1.0	17.9	0.6	0.1	3.4	2.2
<i>Southern Region</i>	73.8	0.1	0.2	1.6	2.3	1.8	0.2	1.4	12.2	1	0.1	3.3	2.1
<i>Western Region</i>	1.8	0.1	1.2	3.3	1.1	7.1	1.9	6.7	46.6	6.2	4.4	15.3	4.2
<b>Select Districts</b>													
<i>Bo District</i>	82.1	0.0	0.0	0.0	4.0	2.7	0.1	0.3	6.8	0.1	0.0	3.2	0.7
<i>Bonthe District</i>	75.3	0.1	0.6	4.9	1.4	0.8	0.2	2.4	10.0	0.3	0.2	0.9	2.7
<i>Bombali District</i>	75.0	0.1	0.0	0.2	0.4	0.6	0.0	0.7	15.9	0.4	0.0	1.8	4.8
<i>Kailahun District</i>	83.4	0.2	0.7	0.4	0.7	0.7	0.5	0.2	7.9	0.1	0.0	3.5	1.7
<i>Kambia District</i>	68.7	0.2	0.6	5.3	0.4	0.9	0.1	1.6	17.6	0.8	0.0	3.3	0.4
<i>Kenema District</i>	75.2	0.0	0.4	0.9	7.4	0.5	0.2	1.0	11.0	0.2	0.0	2.7	0.5
<i>Koinadugu District</i>	90.8	2.0	0.0	0.2	0.2	2.1	0.0	0.1	2.6	0.1	0.0	1.1	0.8
<i>Kono District</i>	78.1	0.4	0.2	0.0	6.1	1.2	0.2	0.6	10.0	0.6	0.0	0.0	0.6
<i>Moyamba District</i>	85.7	0.1	0.2	0.5	0.2	0.6	0.0	0.4	8.0	0.4	0	2.4	1.6
<i>Pujehun District</i>	71.5	0.4	0.4	2.0	1.7	1.4	0.4	1.6	14.6	0.5	0.0	1.9	3.5
<i>Tonkolili District</i>	82.1	0.0	0.2	0.1	0.3	0.6	0.4	0.3	7.1	0.7	0.0	0.0	3.2
<i>Port Loko District</i>	50.9	1.0	0.0	4.8	0.3	1.1	0.7	1.4	34.0	0.6	0.4	3.5	1.3
<i>Western Rural District</i>	7.2	0.0	3.6	13.4	2.6	4.1	0.2	3.8	53.3	2.4	0.0	5.9	3.5
<i>Western Area Urban</i>	0.3	0.1	0.5	0.6	0.7	7.9	2.4	7.5	44.8	7.2	5.6	17.9	4.4

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 23: Components of Household Income by Region (%) (income can be more than one source)**

	<i>Money income</i>	<i>Money in kind</i>	<i>Transfer</i>	<i>Miscellaneous</i>
<i>Southern</i>	68.73	69.73	27.72	14.68
<i>Eastern</i>	1.04	0.45	3.47	10.59
<i>Northern</i>	26.78	25.84	44.56	18.68
<i>Western</i>	3.45	3.98	24.26	56.05

Source: *Integrated Household Survey 2003/04***Table 24: Sources of Income, by Region (%)**

	<i>Southern</i>	<i>Northern</i>	<i>Eastern</i>	<i>Western</i>
<i>Wage payment</i>	35.01	31.54	4.25	29.21
<i>Goods and services transferred</i>	68.31	2.5	23.07	6.12
<i>Home produced consumption</i>	45.16	40.06	13.16	1.62
<i>Discounts received</i>	44.96	2.39	7.91	44.74
<i>Net rental value of owner occupation</i>	11.88	82.85	2.16	3.11
<i>Gross rental value of rent-free</i>	43.77	49.28	0.99	5.96

Source: *Integrated Household Survey 2003/2004*

## Expenditure Patterns/Budgets

**Table 25: Average monthly expenditures, food, non-food, total and % expenditures on food, by district**

	<i>Monthly non-food expenditures (SLL)</i>	<i>Monthly food expenditures (SLL)</i>	<i>Total monthly expenditures (SLL)</i>	<i>% of expenditures on food</i>
<i>Male head of HH</i>	184 879	171 571	356 451	48.10%
<i>Female head of HH</i>	147 902	152 571	300 473	50.80%
<i>Bo</i>	126 877	134 497	262 144	51.30%
<i>Bombali</i>	155 842	161 065	318 250	50.60%
<i>Bonthe</i>	92 775	120 201	214 022	56.20%
<i>Kailahun</i>	106 901	89 135	197 741	45.10%
<i>Kambia</i>	183 847	192 461	377 624	51.00%
<i>Kenema</i>	138 579	136 471	275 551	49.50%
<i>Koinadugu</i>	292 610	177 224	486 892	36.40%
<i>Kono</i>	238 493	183 102	423 826	43.20%
<i>Moyamba</i>	162 361	214 264	378 630	56.60%
<i>Port Loko</i>	231 108	195 010	429 382	45.40%
<i>Pujehun</i>	128 692	148 261	276 953	53.50%
<i>Tonkolili</i>	215 304	217 007	435 759	49.80%
<i>Western rural</i>	242 641	228 706	471 347	48.50%
<i>All</i>	181 194	169 706	350 899	48.40%

Source: Draft 2007 Vulnerability Analysis and Mapping, Government of Sierra Leone

**Table 26: Components of Household Expenditures (% Share of Total Expenditures)**

<i>Expenditure category</i>	<i>Total household consumption expenditure (%)</i>
<i>Food and non alcoholic beverage</i>	40.52
<i>Alcoholic beverages, tobacco and narcotics</i>	2.33
<i>Clothing and footwear</i>	7.73
<i>Housing, water, electricity, gas, and other fuels</i>	14.56
<i>Furnishing, household equipment, and routine household maintenance</i>	4.23
<i>Health expenditure</i>	13.65
<i>Transport expenditure</i>	4.73
<i>Communication expenditure</i>	0.62
<i>Recreation and culture expenditure</i>	1.34
<i>Education expenditure</i>	3.07
<i>Hotels and restaurant expenditure</i>	1.12
<i>Miscellaneous goods and services expenditure</i>	6.11

Source: Integrated Household Survey 2003/04

# ANNEX 4: GEOGRAPHY, DEMOGRAPHY & INFRASTRUCTURE

## Land Characterization, Position, Use

Located within the Upper Guinea rainforest region, Sierra Leone has a variety of distinct ecosystems that provide critical habitat for many species. The diversity of ecosystems within Sierra Leone are characterized by areas of ocean, freshwater, brackish water, coastal beaches (rocky, sandy and muddy), wet lands (mangrove swamps), inland valley swamps, boli-lands, savannah woodlands, and tropical rain forests.<sup>25</sup> The species that rely upon these ecosystems are constantly at risk within Sierra Leone, due to the effects of land use activities — primarily shifting agriculture, hunting, mining, unregulated timber harvest, and fire. The following table provides land characterization of the major agro-ecologies.

**Table 27: Agro-Ecology Areas in Sierra Leone**

<b>Type of agro-ecology</b>	<b>Description</b>	<b>Location</b>
<i>Transitional Rainforest/Savannah Woodland</i>	<i>Mostly on mountains and hilltops, this system includes areas with moist forest formations (closed moist and semi-deciduous) within their boundaries.</i>	<i>Includes two strict nature reserves (Gola North and Gola East) and a proposed national park (Western Peninsula Area forest reserve).</i>
<i>Savannah Woodland</i>	<p><i>The country has lost nearly 70 percent of its forest cover, with less than five percent of the original forest remaining in isolated forest reserves on tops of mountains and hillsides.</i></p> <p><i>The dependence on fuelwood for subsistence needs, as well as shifting agricultural practices (slash and burn), place tremendous pressure on forest resources both inside and outside of the forest reserves.</i></p>	<p><i>The savannah is limited to the northern parts of the country and is increasingly being subjected to frequent fires, both man-made and natural. Kangari Hills in central Sierra Leone is made up of semi-deciduous forest.</i></p> <p><b>Savanna ecosystem fauna</b></p> <p><i>Aardvark (Orycteropus afer) Cape clawless otter (Aonyx capensis) Western dassie (Procavia capensis) Spotted neck otter (Lutra maculicollis) Common hippopotamus (hippopotamus amphibius) Ratel (Mellivora capensis) Red river hog (potamochoerus porcus) African civet (Viverra civetta) Giant forest hog (hylochoerus meinertzhageni ivoriensis) Palm civet (Nandinia binotata) Warthog (Phacochoerus aethiopicus) Genet (Genetta spp) Water chevrotain (Hyemoschus aquaticus) Dwarf mongoose (Helogale parvula) Red flanked duiker (Cephalophus rufilatus) Marsh mongoose (Herpestes paludinosus) Blue duiker (cephalophus monticola) Egyptian mongoose (Herpestes ichneumon) Yellow backed duiker (cephalophus sylvicultor) Cusimanse mongoose (Crossarchus obscurus) Bushbuck (tragelaphus scriptus) Serval (Leptailurus serval) Waterbuck (Kobus ellipsiprymnus defassa) African wild cat (Felis sylvestris) Forest buffalo (Syncerus caffer) Leopard (Panthera pardus) African elephant (Loxodonta cyclotis africana)</i></p>

<sup>25</sup> Sierra Leone Biodiversity Strategy and Action Plan, 2003

<i>Coastal Plains</i>	<i>The marine ecosystem has a limited protected area where industrial fishing vessels are prohibited from fishing. These areas are protected for the artisan fleets.</i>	<i>Within 3-4 miles offshore known as Inshore Exclusion Zone (IEZ). Land area includes 1 300,000ha Inshore Exclusion Zone.</i>
		<b>Wetland ecosystem fauna</b> <i>West African manatee (Trichechus senegalensis)</i>
<i>Rainforest</i>	<i>The tropical forest cover is characterized by seven different vegetation types: moist rain forest, semi-deciduous, montane, mangrove, savannah, farm bush, and swamp forests.</i>	<i>The wetland ecosystem occupies the largest land area in Sierra Leone, and includes 27 124,789 ha located throughout Sierra Leone.</i>
		<b>Lowland rainforest ecosystem fauna</b> <i>Jentinks duiker (Cephalophus jentinki) Royal antelope (Neotragus pygmaeus) Zebra duiker (Cephalophus zebra) Black duiker (Cephalophus niger) Pygmy hippopotamus (Hexaprotodon liberiensis) Ogilby's duiker (Cephalophus ogilbyi brookei)</i>

Source: Chemonics Intl Inc., "118/119 Biodiversity and Tropical Forest Assessment", July 2007, pg. 9

## Population

**Table 28: Demographic Indicators**

	2001	2002	2003	2004	2005	2006	2007
Population, total (millions)	4.7	4.9	5.2	5.4	5.59	5.74	5.85
Population growth (annual % change)	4	5	5	4	4	3	2

Source: The World Bank

**Table 29: Total Population by Region or District, Gender and Age (%)**

	Male	Male	Male	Male	Female	Female	Female	Female
<b>Total Population by Region or District, Gender and Age (%)</b>	0-14	15-59	60+	Total	0-14	15-59	60+	Total
<b>Total</b>	17.6	27.7	3.0	48.3	17.1	31.5	3.0	51.7
<b>Region</b>								
<i>Eastern Region</i>	18.7	28.0	3.1	49.8	17.3	30.1	2.8	50.2
<i>Northern Region</i>	18.0	25.9	3.4	47.3	17.6	31.7	3.4	52.7
<i>Southern Region</i>	18.2	26.3	3.2	47.7	18.5	30.1	3.7	52.3
<i>Western Region</i>	14.5	32.6	1.8	48.9	14.5	34.9	1.7	51.1
<b>Select Districts</b>								
<i>Bo District</i>	18.9	25.7	3.5	48.0	18.3	29.7	4.1	52.0
<i>Bonthe District</i>	18.6	27.3	3.4	49.3	16.8	31.4	2.6	50.7
<i>Bombali District</i>	18.0	27.7	3.3	48.9	14.8	32.6	3.7	51.1
<i>Kailahun District</i>	17.6	26.0	3.2	46.8	17.3	32.5	3.4	53.2
<i>Kambia District</i>	18.4	24.8	4.2	47.4	18.3	30.7	3.6	52.6

	Male	Male	Male	Male	Female	Female	Female	Female
<b>Total Population by Region or District, Gender and Age (%)</b>	<b>0-14</b>	<b>15-59</b>	<b>60+</b>	<b>Total</b>	<b>0-14</b>	<b>15-59</b>	<b>60+</b>	<b>Total</b>
<i>Kenema District</i>	18.7	27.4	3.8	49.9	16.3	30.5	3.3	50.1
<i>Koinadugu District</i>	19.3	24.6	3.1	47.0	19.6	31.3	2.1	53.0
<i>Kono District</i>	21.1	27.4	2.6	51.2	18.2	28.5	2.1	48.8
<i>Moyamba District</i>	20.2	22.7	3.0	45.9	20.7	29.0	4.4	54.1
<i>Pujehun District</i>	15.9	28.3	3.9	48.1	15.7	32.5	3.7	51.9
<i>Tonkolili District</i>	19.8	24.0	2.8	46.5	19.5	30.7	3.4	53.5
<i>Port Loko District</i>	15.8	26.9	3.7	46.4	16.8	32.6	4.2	53.6
<i>Western Rural District</i>	17.2	29.4	2.4	49.1	16.2	32.5	2.2	50.9
<i>Western Area Urban</i>	13.9	33.3	1.7	48.9	14.0	35.4	1.6	51.1

Source: Statistics Sierra Leone, CWIQ Survey 2007

## Water, Sanitation and Hygiene Access

**Table 30: Households' Main Source of Drinking Water (%)**

	Piped into dwelling	Public tap or standpipe	Borehole, tube, or mechanical well	Protected well, spring	Unprotected well, spring	Surface water	Collected rain water	Water vendor, bottled	Other
<b>Total</b>	<b>7</b>	<b>19.7</b>	<b>14.1</b>	<b>17.7</b>	<b>18.4</b>	<b>22.8</b>	<b>0.0</b>	<b>0.2</b>	<b>0.3</b>
<b>Region</b>									
<i>Eastern Region</i>	2.1	24.0	17.7	18.0	16.9	20.9	0.0	0.0	0.4
<i>Northern Region</i>	2.1	3.4	11.3	18.7	25.8	38.2	0.0	0.2	0.4
<i>Southern Region</i>	0.6	13.5	19.3	20.8	23.7	22	0.0	0.0	0.2
<i>Western Region</i>	28.2	47.2	7.9	12.1	2.5	1.5	0.0	0.3	0.2
<b>Select Districts</b>									
<i>Bo District</i>	0.4	31	23.5	10.1	18.1	16.8	0.0	0.0	0.2
<i>Bonthe District</i>	1.0	10.3	24.0	13.2	27.5	23.9	0.0	0.0	0.0
<i>Bombali District</i>	0.0	0.6	20.5	13.1	15.7	50.2	0.0	0.0	0.0
<i>Kailahun District</i>	0.9	26.9	12.9	19.4	28.2	11.4	0.0	0.0	0.4
<i>Kambia District</i>	0.0	0.4	11.0	15.6	40.1	31.3	0.0	1.6	0.0
<i>Kenema District</i>	0.2	31.7	21.4	11.2	7.2	28.3	0.0	0.1	0.0

	<i>Piped into dwelling</i>	<i>Public tap or standpipe</i>	<i>Borehole, tube, or mechanical well</i>	<i>Protected well, spring</i>	<i>Unprotected well, spring</i>	<i>Surface water</i>	<i>Collected rain water</i>	<i>Water vendor, bottled</i>	<i>Other</i>
<b>Total</b>	<b>7</b>	<b>19.7</b>	<b>14.1</b>	<b>17.7</b>	<b>18.4</b>	<b>22.8</b>	<b>0.0</b>	<b>0.2</b>	<b>0.3</b>
<i>Koinadugu District</i>	11.7	7.0	2.1	23.4	19.6	35.1	0.0	0.0	1.1
<i>Kono District</i>	0.5	6.1	18.8	8.3	25.5	39.4	0.0	0.0	1.4
<i>Moyamba District</i>	0.0	0.0	1.2	22.7	40.4	35.7	0.0	0.0	0.0
<i>Pujehun District</i>	0.2	5.0	39.0	13.3	16.4	25.3	0.0	0.2	0.5
<i>Tonkolili District</i>	0.0	1.8	10.1	13.1	44.8	30.3	0.0	0.0	0.0
<i>Port Loko District</i>	0.4	6.5	12.0	15.2	16.4	48.6	0.0	0.0	0.9
<i>Western Rural District</i>	10.3	40.1	11.2	30.1	1.4	6.9	0.0	0.0	0.0
<i>Western Area Urban</i>	32.2	48.8	7.2	8.1	2.7	0.3	0.0	0.4	0.3

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 31: Access to Water (% of Population)**

<b>Region</b>	<b>2004</b>
<i>Northern</i>	25
<i>Southern</i>	25
<i>Eastern</i>	25
<i>Western Area</i>	29

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 32: Distance from Drinking Water Supply, by Region (Number of Minutes)**

<i>Location</i>	<i>&lt; 15</i>	<i>15-29</i>	<i>30-59</i>	<i>60+</i>
<b>Total</b>	<b>65.6</b>	<b>22.4</b>	<b>9.3</b>	<b>2.7</b>
<b>Region</b>				
<i>Eastern Region</i>	66.1	24.5	7.9	1.5
<i>Northern Region</i>	58.1	28.5	9.5	3.9
<i>Southern Region</i>	75.7	14.1	7.8	2.4
<i>Western Region</i>	65.6	19.6	12.3	2.5
<b>Select Districts</b>				
<i>Bo District</i>	80.0	12.1	7.0	0.9
<i>Bonthe District</i>	81.3	13.8	4.6	0.3
<i>Bombali District</i>	64.0	28.1	6.7	1.3
<i>Kailahun District</i>	64.7	29.3	4.9	1.2
<i>Kambia District</i>	57.5	23.7	9.6	9.1
<i>Kenema District</i>	77.5	15.7	5.7	1.1
<i>Koinadugu District</i>	64.8	24.7	7.3	3.2
<i>Kono District</i>	40.6	39.0	17.1	3.2
<i>Moyamba District</i>	58.6	20.2	14.9	6.4
<i>Pujehun District</i>	85.4	10.8	1.9	2.0
<i>Tonkolili District</i>	47.8	35.4	14.4	2.5
<i>Port Loko District</i>	56.1	29.2	9.5	5.2
<i>Western Rural District</i>	73.9	16.4	7.9	1.8
<i>Western Area Urban</i>	63.8	20.3	13.3	2.6

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 33: Health Indicators 2005**

	<b>2005</b>
<i>Malnutrition prevalence, weight for age (% of children under 5)</i>	28

Source: The World Bank, WDI 2009

**Table 34: Moderate and Severe Stunting: Height for Age Z Score (<-2 s.d.)**

<b>Total</b>	<b>36</b>
<b>Select Districts</b>	
<i>Bo District</i>	+40
<i>Bonthe District</i>	35
<i>Bombali District</i>	36
<i>Kailahun District</i>	+39
<i>Kambia District</i>	35
<i>Kenema District</i>	37
<i>Koinadugu District</i>	+42
<i>Kono District</i>	27
<i>Moyamba District</i>	+46
<i>Pujehun District</i>	31
<i>Tonkolili District</i>	+40
<i>Port Loko District</i>	+44
<i>Western Rural District</i>	29
<i>Western Area Urban</i>	26

Source: FSCF Draft July 2009, DHS 2008

**Table 35: Chronic Malnutrition, Underweight, and Wasting**

	<i>Percent of children under five with chronic malnutrition (&lt;2 s.d.)</i>	<i>Percent of children under five underweight (&lt;-2 s.d.)</i>	<i>Percent of children under five wasted (&lt;-2 s.d.)</i>	<i>Percent of women 15-49 years with moderate and acute malnutrition (BMI&lt;18.5)</i>
<b>Total</b>	<b>36</b>	<b>21</b>	<b>10</b>	<b>..</b>
<b>Select Districts</b>				
<i>Bo District</i>	+40	+30	+16	10
<i>Bonthe District</i>	35	18	+14	+23
<i>Bombali District</i>	36	19	7	+29
<i>Kailahun District</i>	+39	17	9	8
<i>Kambia District</i>	35	+29	+15	12
<i>Kenema District</i>	37	20	9	+15
<i>Koinadugu District</i>	+42	+29	8	12
<i>Kono District</i>	27	15	+11	6
<i>Moyamba District</i>	+46	19	+13	+13
<i>Pujehun District</i>	31	17	+12	7
<i>Tonkolili District</i>	+40	20	5	8
<i>Port Loko District</i>	+44	+25	+10	+17
<i>Western Rural District</i>	29	19	8	..
<i>Western Area Urban</i>	26	12	+11	11

Source: FSCF Draft July 2009: DHS 2008, WFP VAM 2005

**Table 36: Access to Medical Services (% of Population)**

<i>Location</i>	<i>Access</i>
<b>Total</b>	<b>45.5</b>
<b>Region</b>	
<i>Eastern Region</i>	43.3
<i>Northern Region</i>	36.8
<i>Southern Region</i>	36.9
<i>Western Region</i>	75.2
<b>Select Districts</b>	
<i>Bo District</i>	35.4
<i>Bonthe District</i>	25.6
<i>Bombali District</i>	39.9
<i>Kailahun District</i>	30.4
<i>Kambia District</i>	25.5
<i>Kenema District</i>	46.5
<i>Koinadugu District</i>	40.1
<i>Kono District</i>	24
<i>Moyamba District</i>	24.3
<i>Pujehun District</i>	45.3
<i>Tonkolili District</i>	37.2
<i>Port Loko District</i>	33.9
<i>Western Rural District</i>	78.3
<i>Western Area Urban</i>	74.5

Source: Statistics Sierra Leone, CWIQ Survey 2007

**Table 37: Distance from Health Facility, by Region (Number of Minutes)**

	< 15	15-29	30-59	60+
<b>Total</b>	<b>26.6</b>	<b>19.1</b>	<b>16.5</b>	<b>37.7</b>
<b>Region</b>				
<i>Eastern Region</i>	26.3	14.7	16.3	42.7
<i>Northern Region</i>	20.1	16.3	17.0	46.7
<i>Southern Region</i>	24.1	13.0	14.2	48.6
<i>Western Region</i>	40.0	36.2	18.8	5.1
<b>Select Districts</b>				
<i>Bo District</i>	23.1	12.9	12.8	51.2
<i>Bonthe District</i>	9.5	15.4	12.1	63.0
<i>Bombali District</i>	18.7	21.8	18.0	41.5
<i>Kailahun District</i>	16.9	12.4	13.5	57.2
<i>Kambia District</i>	11.2	14.0	21.3	53.5
<i>Kenema District</i>	36.6	8.2	17.4	37.8
<i>Koinadugu District</i>	30.2	6.7	4.6	58.6
<i>Kono District</i>	10.8	12.5	17.8	58.8
<i>Moyamba District</i>	21.0	6.7	15.8	56.5
<i>Pujehun District</i>	29.5	13.8	5.2	51.4
<i>Tonkolili District</i>	18.9	18.7	23.5	38.8
<i>Port Loko District</i>	20.3	13.1	14.2	52.5
<i>Western Rural District</i>	49.9	26.1	14.9	9.1
<i>Western Area Urban</i>	37.8	38.4	19.6	4.1

Source: Statistics Sierra Leone, CWIQ Survey 2007

# ANNEX 5: LIVELIHOOD STRATEGIES

## **Dominant Livelihood Strategies**

The Famine Early Warning System Network (FEWS NET) is in the process of articulating livelihood definitions and zones with the expectation that future food security investigations will use livelihood zones as the unit of analysis. The identified definitions and map are expected by 2010. In the absence of well articulated livelihood zones, GOSL utilizes urban and rural areas separately, and for each of four regions that were formed by grouping the 14 districts.

The regional groups are:

- Eastern: Kailahun, Kenema, Kono districts
- Northern: Bombali, Kambia, Koinadugu, Port Loko, Tonkolili districts
- Southern: Bo, Bonthe, Moyamba, Pujehun districts
- Western: Western Area Urban and Western Area Rural districts

## **Seasonality of Activities and Prices**

There is usually a lean period between the depletion of the previous year's rice stock and the maturity of the current season's crop. This period usually coincides with the peak of the rainy season (July-September) when the weather is cold. Many other foods are available, particularly root and tuber crops like cassava and sweet potato, that can efficiently supplement rice in terms of caloric requirements; and, inevitably, rural people rely on cassava as a rice substitute. Some families eat cassava in the afternoon and rice in the evening, while others depend entirely on cassava, depending on their means and ability to purchase rice.

## **External Shocks**

Sierra Leone has the potential for experiencing both slow-onset and sub-national shocks as well as rapid-onset and national level shocks that can increase risk and vulnerability and affect food security and nutrition outcomes.

The table below summarizes the sources of shocks that are most relevant for Sierra Leone. Given the importance of agriculture and the overall lack of diversity in the economy in Sierra Leone, these shocks can affect individual household incomes and expenditures, in addition to impacts on the level and rate of growth of GDP at the national level. Often it is the poor who are most vulnerable to the types of shocks described above and who take the longest to recover from the impact of them.

**Table 38: Hazards and Shocks**

<i>Civil Unrest or War</i>	<i>Flooding and or Drought</i>
<i>High fuel and food prices</i>	<i>HIV/AIDS</i>
<i>Crop Damage by pests, animals and disease</i>	<i>Reliant on Donor Funds</i>
<i>Global Climate Change</i>	<i>Price Spikes in Primary Exports</i>

The following table ranks most frequently cited shocks by district; environmental shocks, such as droughts and floods, are most frequently cited. For example, two districts: Bo, where 21 percent of households experienced drought, and Bonthe, where 26 percent of households experienced flooding. Floods were listed as the fourth major shock in Kambia district, affecting 12 percent of households, while drought was listed as the fourth major shock in Moyamba district, affecting 14 percent of households, and flooding the fourth major shock in Kambia, affecting 12 percent of households.

**Table 39: Ranking of Most Frequently Cited Household Shocks by District<sup>26</sup>**

<i>District</i>	<i>Ranking of Shocks</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Kailahun</i>	<i>Illness or injury</i>	<i>Security</i>	<i>Lack of ag inputs</i>	<i>Lack of HH labor</i>
<i>Kenema</i>	<i>Chronic illness</i>	<i>Crop Damage (animals/pests)</i>	<i>Death of HH member</i>	<i>Illness or injury</i>
<i>Kono</i>	<i>Crop damage (animals/pests)</i>	<i>Illness or injury</i>	<i>Price fluctuations</i>	<i>Lack of ag inputs</i> <i>Lack of HH labor</i>
<i>Bombali</i>	<i>Lack of ag inputs</i>	<i>Crop damage (animals/pests)</i>	<i>Lack of HH labor</i>	<i>Political problems</i>
<i>Kambia</i>	<i>Lack of ag inputs</i>	<i>Crop damage (animals/pests)</i>	<i>Illness or injury</i>	<i>Flood</i>
<i>Koinadugu</i>	<i>Crop damage (animals/pests)</i>	<i>Price fluctuations</i>	<i>Lack of ag inputs</i>	<i>Lack of HH labor</i>
<i>Port Loko</i>	<i>Crop damage (animals/pests)</i>	<i>Price fluctuations</i>	<i>Lack of ag inputs</i>	<i>Theft of crops</i>
<i>Tonkolili</i>	<i>Crop damage (animals/pests)</i>	<i>Illness or injury</i>	<i>Death of HH member</i>	<i>Lack of ag inputs</i>
<i>Bo</i>	<i>Crop damage (animals/pests)</i>	<i>Drought</i>	<i>Lack of HH labor</i>	<i>Lack of ag inputs</i>
<i>Bonthe</i>	<i>Crop damage (animals/pests)</i>	<i>Lack of ag inputs</i> <i>Flood</i>	<i>Lack of HH labor</i>	<i>n/a</i>
<i>Moyamba</i>	<i>Crop damage (animals/pests)</i>	<i>Lack of ag inputs</i>	<i>Lack of HH labor</i>	<i>Drought</i>

<sup>26</sup> WFP VAM, 2005. Food Security and Nutrition Survey, August, 2005, p. 98. Based on percent of households citing shock, 1=highest percent.

<i>District</i>	<i>Ranking of Shocks</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Pujehun</i>	<i>Death of HH member</i>	<i>Illness or injury</i>	<i>Crop damage (animals/pests)</i>	<i>Chronic illness</i>
<i>Western Area Rural</i>	<i>Illness or injury</i>	<i>Lack of ag inputs Unemployment</i>	<i>Lack of HH labor Death of HH member</i>	<i>Chronic illness</i>

Source: WFP VAM, 2005.

Coping strategies function to mitigate the effects of shocks on livelihoods and food security. The following table summarizes the majority of the most frequently cited coping strategies such as borrowing money or food, reducing food consumption and selling household assets or livestock which are from WFP VAM 2005. The only sustainable coping strategies mentioned were wage labor, petty trade and eating less desirable food. In seven of the 13 districts one of these sustainable coping strategies was either the first or second most frequently cited by households.

**Table 40: Ranking of Most Frequently Cited Household Coping Strategies by District<sup>27</sup>**

<i>District</i>	<i>Ranking of Coping Strategies</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Kailahun</i>	<i>Borrow money Additional wage labor</i>	<i>Borrow food</i>	<i>Reduce food consumption</i>	<i>Sell HH items</i>
<i>Kenema</i>	<i>Wage labor in other area</i>	<i>Sell livestock</i>	<i>Sell HH items</i>	<i>Borrow food</i>
<i>Kono</i>	<i>Borrow food Borrow money</i>	<i>Reduce food consumption</i>	<i>Eat less desirable food</i>	<i>Additional wage labor</i>
<i>Bombali</i>	<i>Eat less desirable food</i>	<i>Borrow food</i>	<i>Reduce food consumption</i>	<i>Borrow money</i>
<i>Kambia</i>	<i>Borrow money</i>	<i>Borrow food</i>	<i>Additional wage labor</i>	<i>Reduce food consumption</i>
<i>Koinadugu</i>	<i>Borrow money</i>	<i>Borrow food</i>	<i>Petty trade</i>	<i>Reduce food consumption Additional wage labor</i>
<i>Port Loko</i>	<i>Borrow money</i>	<i>Reduce food consumption</i>	<i>Additional wage labor</i>	<i>Sell HH items</i>
<i>Tonkolili</i>	<i>Borrow money</i>	<i>Reduce food consumption</i>	<i>Borrow food</i>	<i>Eat less desirable food</i>
<i>Bo</i>	<i>Eat less desirable food</i>	<i>Reduce food consumption</i>	<i>Borrow food Borrow money</i>	<i>Wage labor in other area</i>
<i>Bonthe</i>	<i>Borrow money</i>	<i>Borrow food</i>	<i>Eat less desirable food</i>	<i>Reduce food consumption</i>
<i>Moyamba</i>	<i>Reduce food consumption</i>	<i>Eat less desirable food</i>	<i>Additional wage labor</i>	<i>Borrow food</i>
<i>Pujehun</i>	<i>Borrow money</i>	<i>Additional wage labor</i>	<i>Sell livestock</i>	<i>Petty trade</i>

<sup>27</sup> WFP VAM, 2005. Food Security and Nutrition Survey, August, 2005. Based on percent of households citing coping strategy, 1=highest percent. Note percentages below 10 not included in ranking.

<i>District</i>	<i>Ranking of Coping Strategies</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>Western Area Rural</i>	<i>Borrow money</i>	<i>Petty trade</i>	<i>Reduce food consumption</i>	<i>Borrow food Additional wage labor</i>

Source: WFP VAM, 2005.

## Market Integration

Rice is the staple commodity in Sierra Leone. Per capita consumption of rice was 76 kilograms per year in 2003, according to FAO (FAOSTAT – faostat.fao.org). One third of rice needs are covered by imports. It is thought that 90 percent of rice consumed in Freetown is imported. Rice imports mainly originate from East Asia. The rice market in Freetown is integrated with the international market. January to October 2008 monthly real price series for the Freetown and Bangkok show a 0.82 correlation coefficient.

## Remittances and other Access to Financial Capital

The table below shows that remittances remain a source of income for most households in Kambia, Koinagudu, Port Loko, and Western Area Rural. In other districts, the magnitude of transfers did not register as a source of household income.

**Table 41: Proportion of Households involved in indicated income generating activities by district (primary four income activities only, multiple responses)**

District	Primarily agricultural income sources						Primarily non-agricultural income sources				
	Sale of other field crops <sup>a</sup>	Sale of Rice	Palm oil sales	Cocoa/ Coffee sales	Sale of gari	Sale of fish	Petty trade	Wage labor	Mining	Remittances	Other <sup>b</sup>
Kailahun	99	51	44	67							
Kenema	90		55	31					65		
Kono	73	63	41	93							
Bombali	100	45						54			40
Kambia	69	45					67			57	
Koinagudu	55	100					50			39	
Port Loko	62	52					100			29	
Tonkolili	86		52				51				67
Bo	84	42	53						35		
Bonthe	100		82			40	40				
Moyamba	100		36		51		59				
Pujehun	60		54					39			100
Western Area Rural	46						100			51	35

Source: WFP VAM, 2005, p. 95.

<sup>a</sup>Other field crops: primarily cassava, but also include sweet potato, groundnut, pulses, etc. <sup>b</sup>Other: sale of livestock and animal products, firewood and charcoal. Note: no data available for Western Area Urban

# ANNEX 6: FOOD INSECURITY

## Livelihood Zones

As noted above, the Famine Early Warning System Network (FEWS NET) is in the process of articulating livelihood definitions and zones with the expectation that future food security investigations will use livelihood zones as the unit of analysis. The identified definitions and map are expected by 2010. In the absence of well articulated livelihood zones, GOSL utilizes urban and rural areas separately, and for each of four regions that were formed by grouping the 14 districts.

The following information, drawn from the FANTA FSCF for Sierra Leone, describes the agro-ecology of the arable land systems available in Sierra Leone as they relate to food availability.

**Uplands** are located throughout Sierra Leone and make up almost 80 percent of arable land in the country. They are composed of forest, savannah woodlands and grasslands, ranging from flat land to hills, and are low in fertility but suitable for cultivating a variety of food and cash crops. Smallholder farmers cultivate all the major food crops in the uplands – traditionally with 10 to 15 different crops intercropped in one season, for example, rice, cassava, sweet potato, maize, sorghum, millet, groundnuts, beans, and sesame – but always dominated by upland rice. The intercropping helps improve pest and disease management and allows for greater food availability over a longer period of time. Limitations in upland cultivation include lack of farmer knowledge regarding most appropriate planting times and lack of labor for weeding. Rice yields vary from 0.8 to 1.3 tons per hectare, low by Sub-Saharan Africa standards, but upland rice still accounts for 64 percent of rice produced in Sierra Leone.<sup>28</sup> Farmers generally prefer upland rice for consumption and the less palatable lowland rice is usually destined for sale. But recent data demonstrate few differences in consumption versus sales of upland and lowland rice among poor farmers: about 58-68 percent for food and 7 percent for sale, perhaps demonstrating a worsening situation where families depend more on less preferred lowland rice.<sup>29</sup>

Upland areas are also used for tree crops, including cocoa, coffee, oil palm, citrus, kola nuts, cashew, coconuts, mangos, banana, papaya, pineapple, avocado and guava. Cocoa and coffee are grown mostly in the east and south while other tree and fruit crops grow throughout the country. Large plantations are not common and most tree crop holdings are one to five hectares. Uplands comprise the vast majority of arable land in all the districts, ranging from 80-90 percent, with the exception of Bonthe (45 percent), Kambia (69 percent), Port Loko (72 percent) and Moyamba (76 percent).

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<sup>28</sup> GOSL, 2004. Agricultural Sector Review and Agricultural Development Strategy, Volume III, Sector Report: Crops, June 2004, p. 6.

<sup>29</sup> GOSL, 2007. Core Welfare Indicator Questionnaire Survey (CWIQ), Final Statistical Report, November 2007, p. 182-184.

**Lowlands** make up 20 percent of arable land in Sierra Leone and are comprised of:

Inland valley swamps (IVS): IVS make up about nine percent of arable land. They are fertile valleys and flood plains with the potential for dry season irrigation and multiple cropping, and have a comparative advantage for rice production and sustainable cultivation in general. Farmers can potentially cultivate IVS for several years with no significant drop in yields. In the dry season IVS can support cultivation of cassava, sweet potato, maize, tomatoes, lettuce, carrots, cucumber, watermelon, groundnut, pepper, onion and even a second crop of rice where IVS are perennial.<sup>30</sup> Rice yields are 1.6-2.5 tons per hectare, double that of upland rice, but labor demands are twice that of upland rice. Only about 16 percent of inland valley swampland is under rice cultivation. IVS produce about one-quarter to one-third of the country's rice output. However, IVS have problems with drainage and water control, iron toxicity that can affect rice yields, and farmers do not adequately prepare IVS, removing tree stumps or leveling the soil. IVS exist throughout the country, but at low levels (ranging from three to 12 percent of arable land in each district).

Mangrove swamps: These swamps make up three percent of arable land in Sierra Leone and are moderately fertile but subject to sea water flooding in the rainy season, so are suitable for cultivation of specific types of paddy rice depending on the salt-free period of cultivation. They also support dry season vegetable production. Mangroves are complex ecologies requiring a high degree of management. Mangrove rice cultivation is very labor intensive, salt-water grass weed must be cleared yearly prior to transplanting, and fish and crabs can damage the rice crop. Mangroves are mostly found in the north-west and southern coastal areas of the country, ranging from two to 19 percent of arable land in the six districts where they are found.<sup>31</sup>

Bolilands: These are large, saucer-shaped basins that make up just two percent of the arable land in Sierra Leone. They have little or no drainage, flood during the wet season, have low fertility, and are used for one crop of rice per year but this is usually followed with dry season cultivation of vegetables, cassava or sweet potato. Only about two percent of arable Bolilands are used for rice cultivation. They are good for mechanical cultivation because they are large and level, but problems include poor drainage, weed infestation, low soil nutrients and high acidity. The Bolilands are concentrated mostly in the central part of the country in Bombali, where 11 percent of arable land is Boliland, but also found in Kambia and Tonkolili (five percent of arable land in each of these districts).

Riverain grasslands: These grasslands make up three percent of arable land in Sierra Leone. They are fertile lands, highly flooded in the rainy season, up to four meters, resulting in early planting before water levels rise and late harvesting after water has receded. This is the most difficult ecology for rice production given the short period between harvest and planting and only about 1.5 percent of arable Riverain grassland is currently used for rice cultivation. Tall grasses common in Riverain grasslands make harvest difficult and grasscutters (rodents) damage crops.

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<sup>30</sup> Perennial Inland Valley Swamps have sufficient water for two rice growing cycles.

<sup>31</sup> Mangrove swamps are found in Kambia, Port Loko, Bonthe, Moyamba, Pujehun, and the Western Area.

Riverain grasslands are most commonly found in the southern part of the country, mostly in Bonthe (32 percent of Bonthe's arable land is Riverain grassland).

By far the most important land for smallholder agricultural production in Sierra Leone is the uplands, followed by the IVS. Smallholder farmer holdings have traditionally been 60-80 percent upland and 20-40 percent lowland. Household labor generally focus' on the upland farm, as it constitutes the majority of annual cultivation. The overall labor requirements for upland cropping operations are on average 185 man days per hectare for an entire cycle, compared to 309 man days per hectare for lowland rice production. Only 20 per cent of upland labor is generally hired. Upland activities include removing brush, burning and felling (December to February), clearing and weeding (March to April), sowing and hoeing (April to June), weeding, bird scaring, and rodent fencing (July to August), and harvesting and storage (September to December). Some tasks are gender specific: men clear fields of trees and brush for planting, in lowland rice areas prepare canals and bunds (soil embankments) for rice cultivation, prepare earthen mounds for vegetable growing and also harvest crops, while women do the majority of planting and transplanting, weeding, scaring birds (together with children), harvesting, threshing, processing, transporting, storing and marketing. Women further undertake backyard vegetable gardening and raise poultry to supplement household nutritional needs and extra cash which they normally control, and also collect firewood and water, as well as conduct other household chores and take care of the children. Household labor shortages generally occur during planting and harvesting, and reciprocal work groups are hired or engaged to supplement needs during peak demand.<sup>32 33</sup>

### **Key food Insecure/Vulnerable Populations**

Sierra Leone's high underlying poverty rate is of concern in a context of access to food, vulnerability and food insecurity. As Table 42 shows, 70 percent of the population of Sierra Leone lives below the poverty line; while poverty is highest in rural areas. Urban areas other than Freetown show rates of poverty that are close to the national average. 15 percent of Freetown's population lives in poverty. The PRSP estimates that 26 percent of Sierra Leoneans are 'food poor', meaning that they cannot afford adequate caloric intake. The proportion of 'food poor' in Freetown is, at 2 percent, well below the national average of 26 percent.

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<sup>32</sup> GOSL, 2004. Agricultural Sector Review and Agricultural Development Strategy, Volume III, Sector Report: Crops, June 2004, p. 11.

<sup>33</sup> GOSL, 2004. Agricultural Sector Review and Agricultural Development Strategy, Volume III, Sector Report: Gender and Social Aspects, p. 10.

**Table 42: Poverty and Extreme Poverty by District (Percent)**

<i>District</i>	<i>Poverty</i>	<i>Extreme Poverty</i>
<b>Kailahun</b>	<b>92</b>	<b>45</b>
<i>Kenema</i>	88	38
<i>Kono</i>	66	22
<i>Bombali</i>	89	63
<i>Kambia</i>	69	9
<i>Koinadugu</i>	77	29
<i>Port Loko</i>	82	20
<i>Tonkolili</i>	84	32
<i>Bo</i>	64	25
<i>Bonthe</i>	85	35
<i>Moyamba</i>	68	16
<i>Pujehun</i>	59	14
<i>Western Area Rural</i>	45	15
<i>Western Area Urban</i>	15	2

Source: GOSL, PRSP 2005-2007, p. 25.

Note: Sierra Leone is divided into 14 districts that can be grouped into the following regions: Eastern: Kailahun, Kenema and Kono districts; Northern: Bombali, Kambia, Koinadugu, Port Loko and Tonkolili districts; Southern: Bo, Bonthe, Moyamba, and Pujehun districts; and Western: Western Area Urban and Western Area Rural.

According to the WFP VAM 2005, the 'food poor' in urban areas live in large, polygamous households. According to the PRSP, 'food poor' households in Freetown live in very crowded conditions, with an average of 12.5 persons per household, against a national average of 6.2. In Freetown, such households have 9.5 persons per room, of which 7 are dependent. The PRSP section on extreme poverty in Freetown adds that "labor is the main asset of the poor, but they are likely to be poorly educated, and their labor low valued. Hence it is likely that in poor households, women and even children are forced to enter the informal sector and are likely to face competitive, dead-end occupations with low pay and long hours.<sup>16</sup>" Again, according to the PRSP, 74 percent of polygamous households were classified as "poor," which is above the poverty rate for all households. WFP's 2005 VAM indicates that half of household expense in Western Area Rural was devoted to food. One quarter of total household expense went to purchase rice.

### **Underlying Causes of Food Insecurity**

The GOSL report entitled, "Core Welfare Indicator Questionnaire Survey (CWIQ) Final Statistical Report, November 2007" provides statistical insight in the underlying causes of food

insecurity: availability, access and utilization. Table 43 summarizes the causes of food insecurity in Sierra Leone.

**Table 43: Underlying Causes of Food Insecurity**

<b>Availability</b>	<i>Low agricultural productivity</i>
	<i>Deforestation and soil erosion</i>
	<i>Lack of access to agricultural fertilizers and pesticides</i>
	<i>Lack of access to seeds</i>
	<i>Low levels of mechanization</i>
	<i>Pest and disease attacks</i>
	<i>High Post Harvest Losses</i>
	<i>Lack of Rural Labor</i>
	<i>Lack of extension services</i>
	<i>Scarcity of livestock and poor animal health services</i>
<b>Access</b>	<i>Lack of access to land among women</i>
	<i>Poorly developed agricultural value chains</i>
	<i>Poor access to markets</i>
	<i>Lack of market information</i>
	<i>Poor access to credit</i>
	<i>Weak Private Sector</i>
	<i>Low incomes, particularly in rural areas</i>
<i>Low diversity in income streams</i>	
<b>Utilization</b>	<i>High variable price of foodstuffs</i>
	<i>Insufficient nutritional education</i>
	<i>Illiteracy</i>
	<i>Limited access to healthcare, drinking water and sanitation</i>
	<i>Birth spacing and early pregnancies</i>

GOSL, 2007. Core Welfare Indicator Questionnaire Survey (CWIQ), Final Statistical Report, November 2007

## Malnutrition Rates

According to provisional results from the Sierra Leone 2008 DHS<sup>14</sup>, the prevalence of wasting in children under five is 10 percent; and prevalence of stunting in children under five is 36 percent; and prevalence of underweight in children under five is 21 percent. The following table illustrates basic indicators for malnutrition and other areas of maternal and child mortality.

**Table 44: Key MCHN Indicators**

<i>Indicator</i>	<i>Sierra Leone Value</i>
<i>Total fertility rate (births per woman)</i>	5.1
<i>Maternal Mortality rate (per 100,000 births)</i>	1,800
<i>Under-5 Mortality rate (per 1000 live births)</i>	140
<i>Infant mortality rate (per 1000 live births)</i>	89
<i>Malnutrition</i>	
<i>Prevalence of underweight in children under five (%)</i>	21
<i>Prevalence of stunting in children under five (%)</i>	36
<i>Prevalence of wasting in children under five (%)</i>	10
<i>Percent of population undernourished (%)</i>	47

Source: Sierra Leone Demographic and Health Survey (DHS) 2008

# ANNEX 7: EXISTING FOOD AID & CASH TRANSFER PROGRAMS

**Table 45: BEST ANALYSIS/CONSOLIDATED MATRIX OF DIRECT DISTRIBUTION FOOD AID PROGRAMS/SIERRA LEONE**

<i>District</i>	<i>Cooperating Sponsor/Organization</i>	<i>Category of beneficiary</i>	<i># of days feeding per year</i>	<i>Ration</i>	<i>Program Duration: Month/Year</i>	<i>No planned beneficiaries</i>	<i>No actual beneficiaries</i>	<i>Comments</i>
<i>Bo</i>	<i>WFP</i>	<i>FFT</i>	<i>195</i>	<i>cereals 200g, pulses 60g, oil 25 g</i>	<i>2008</i>	<i>4,050</i>	<i>2,395</i>	
	<i>WFP</i>	<i>FFW</i>	<i>300</i>	<i>cereals 2g, pulses 0.4g, oil 0.125 g</i>	<i>2008</i>	<i>10,000</i>	<i>6,193</i>	
	<i>WFP</i>	<i>MCHN</i>	<i>360</i>	<i>CSB 200g, oil 20 g, sugar 25 g</i>	<i>2008</i>	<i>30,168</i>	<i>16,117</i>	
	<i>WFP</i>	<i>HIV/AIDS</i>	<i>365</i>	<i>cereals 150g, pulses 50g, oil 30g, salt 3 g,</i>				
				<i>CSB 50 g, sugar 25 g (x5)</i>	<i>2008</i>	<i>2,300</i>	<i>750</i>	
	<i>WFP</i>	<i>OVG</i>	<i>365</i>	<i>cereals 370g, pulses 40 g, oil 25 g, salt 5 g,</i>				
			<i>CSB 50 g, sugar 15 g</i>	<i>2008</i>	<i>415</i>	<i>252</i>		
<i>Bombali</i>	<i>WFP</i>	<i>School Feeding</i>	<i>195</i>	<i>cereals 100 g, pulses 30 g, oil 10 g, salt 3 g</i>	<i>2008</i>	<i>10,000</i>	<i>10,600</i>	
	<i>WFP</i>	<i>MCHN</i>	<i>360</i>	<i>CSB 200 g, oil 20 g, sugar 25 g</i>	<i>2008</i>	<i>7,840</i>	<i>7,809</i>	
	<i>WFP</i>	<i>HIV/AIDS</i>	<i>365</i>	<i>cereals 150 g, pulses 50 g, oil 30 g, salt 3 g,</i>				
				<i>CSB 50 g, sugar 25 g (x5)</i>	<i>2008</i>	<i>500</i>	<i>500</i>	
	<i>WFP</i>	<i>OVG</i>	<i>365</i>	<i>cereals 370g, pulses 40 g, oil 25 g, salt 5 g,</i>				
			<i>CSB 50 g, sugar 15 g</i>	<i>2008</i>	<i>400</i>	<i>400</i>		
<i>Bonthe</i>	<i>WFP</i>	<i>FFT</i>	<i>195</i>	<i>cereals 200 g, pulses 60 g, oil 25 g</i>	<i>2008</i>	<i>900</i>	<i>477</i>	
	<i>WFP</i>	<i>FFW</i>	<i>300</i>	<i>cereals 2g, pulses 0.4 g, oil 0.125 g</i>	<i>2008</i>	<i>6,000</i>	<i>5,568</i>	
	<i>WFP</i>	<i>MCHN</i>	<i>360</i>	<i>CSB 200 g, oil 20 g, sugar 25 g</i>	<i>2008</i>	<i>30,168</i>	<i>16,117</i>	

District	Cooperating Sponsor/Organization	Category of beneficiary	# of days feeding per year	Ration	Program Duration: Month/Year	No planned beneficiaries	No actual beneficiaries	Comments
Kailahun	Africare	FFA	***	cereals 60 kg, pulses 12 kg, oil 3.75 kg	March 2007-March 2010	9,600	7,597	No. of days feeding depends on type of asset
	Africare	VGf	365	cereals 12 kg, pulses 3.3 kg, oil 0.75 kg	March 2007-Mar 2010	3,000	3,000+	Actual beneficiaries declared = 600+ hh x 5 family members
	WFP	School Feeding	195	cereals 100 g, pulses 30g, oil 10 g, salt 3 g	2008	55,000	46,000	
	WFP	FFT	195	cereals 200g, pulses 60 g, oil 25 g	2008	2,100	1,245	
	WFP	FFW	300	cereals 2 g, pulses 0.4 g, oil 0.125 g	2008	20,000	15,584	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	30,166	16,116	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g,				
				CSB 50 g, sugar 25 g (x5)	2008	2,050	1,355	
		WFP	OVG	365	cereals 370 g, pulses 40 g, oil 25 g, salt 5 g,			
			CSB 50 g, sugar 15 g	2008	340	271		
Kambia	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	35,000	33,566	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	2,080	2,070	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g,	2008	250	250	
Kenema	WFP	FFT	195	cereals 200 g, pulses 60 g, oil 25 g	2008	3,750	2,212	
	WFP	FFW	300	cereals 2 g, pulses 0.4 g, oil 0.125 g	2008	12,000	9,489	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	31,677	16,923	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g,				
				CSB 50 g, sugar 25 g (x5)	2008	2,300	1,000	
		WFP	OVG	365	cereals 370 g, pulses 40 g, oil 25 g, salt 5 g,			
			CSB 50 g, sugar 15 g	2008	1,340	240		

District	Cooperating Sponsor/Organization	Category of beneficiary	# of days feeding per year	Ration	Program Duration: Month/Year	No planned beneficiaries	No actual beneficiaries	Comments
Koinadugu	CARE	FFA	37	bulgur 400 g, pulses 80 g, oil 25 g (1,862 kcal)	Oct. 2008-June 2009	16,420	16,420	average no. of days worked by each beneficiary
	CARE	VGf	180	bulgur 400 g, pulses 110 g, oil 25 g (1,968 kcal)	Oct. 2008-June 2009	1,002	1,002	
	CRS	USDA FFE	176	CSB 2.2 kg,	Oct. 08-June 2011	10,556	10,226	monthly ration per student for breakfast
	CRS	USDA FFE	***	lentils 7.5 kg	Oct. 2008-June 2011	1,400	1,500	take-home ration delivered 4 times/year to girls in grades 4-6 who have min. 80% attendance
	CRS	USDA FFE	176	CSB 11 kg (bkfast), bulgur 11 kg, lentils 3.3 kg,				
				oil 1.1 kg (lunch)	Oct. 2008-June 2012	183	183	family ration to 1 cook per canteen
	CRS	USDA FFE	***	bulgar 60 kg, lentils 12 kg, oil 4l	Oct. 2008-June 2012	900	915	1 x ration given to each FFW participant upon completion of agreed-upon work
	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	18,000	17,500	
	WFP	MCHN	360	CSB 200g, oil 20 g, sugar 25 g	2008	1,600	1,594	
	WFP	HIV/AIDS	365	cereals 150g, pulses 50 g, oil 30 g, salt 3 g,				
			CSB 50 g, sugar 15 g	2008	750	750		
Kono	CRS	FFA	30	bulgur 60 kg, lentils 12 kg, oil 3.75 kg	Oct. 2008-Sept. 2009	3,477	2,727	
	CRS	VGf	304	bulgur 36 kg, lentils 10 kg, oil 2.25 kg	Oct. 2008-Sept. 2009	3,365	3,365	
	WFP/WVI	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	45,000	42,500	
	WFP	FFT	195	cereals 200g, pulses 60 g, oil 25 g	2008	2,250	1,544	
	WFP	FFW	300	cereals 2g, pulses 0.4 g, oil 0.125 g	2008	15,000	14,136	
	WVI	FFA	12 months	cereals 2 kg, pulses 0.4 kg, oil 0.125 kg	Oct. 2008-Sept. 2009	6,178	6,178	

District	Cooperating Sponsor/Organization	Category of beneficiary	# of days feeding per year	Ration	Program Duration: Month/Year	No planned beneficiaries	No actual beneficiaries	Comments
	WVI	VGf	8 months	cereals 36 kg, pulses 9.9 kg, oil 2.25 kg	Feb. 2009-Sept. 2009	2,129	2,129	
Moyamba	WFP	FFW	300	cereals 2 g, pulses 0.4 g, oil 0.125g	2008	0	686	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	3,017	1,612	
Port Loko	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	22,000	19,500	
	WFP	MCHN	360	CSB 200g, oil 20 g, sugar 25 g	2008	2,560	2,550	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g, CSB 50 g, sugar 15 g				
Pujehun	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	25,600	22,000	
	WFP	FFT	195	cereals 200 g, pulses 60 g, oil 25 g	2008	1,350	754	
	WFP	FFW	300	cereals 2 g, pulses 0.4 g, oil 0.125 g	2008	12,000	5,299	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25g	2008	24,135	12,894	
Tonkolili	CARE	FFA	32	bulgur 400 g, pulses 80 g, oil 25 g (1,862 kcal)	Oct. 2008-June 2009	30,335	27,165	average no. of days worked by each beneficiary
	CARE	VGf	150/180	bulgur 400 g, pulses 110 g, oil 25 g (1,968 kcal)	Oct. 2008-June 2009	1,503	1,503	160 & 341 beneficiaries, respectively
	CRS	FFA	30	bulgur 60 kg, lentils 12 kg, oil 3.75 kg	Oct. 2008-Sept. 2009	5,822	5,522	
	CRS	VGf	304	bulgur 36 kg, lentils 10 kg, oil 2.25 kg	Oct. 2008-Sept. 2009	2,695	2,695	
	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	35,000	32,417	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	1,920	1,913	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g, CSB 50 g, sugar 15 g	2008	500	500	
Western Rural Area	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	0	43,897	
	WFP	FFT	195	cereals 200 g, pulses 60 g, oil 25 g	2008	600	310	

<i>District</i>	<i>Cooperating Sponsor/Organization</i>	<i>Category of beneficiary</i>	<i># of days feeding per year</i>	<i>Ration</i>	<i>Program Duration: Month/Year</i>	<i>No planned beneficiaries</i>	<i>No actual beneficiaries</i>	<i>Comments</i>
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	906	484	
	WFP	HIV/AIDS	365	cereals 150g, pulses 50 g, oil 30 g, salt 3 g,				
				CSB 50 g, sugar 25 g (x5)	2008	2,925	2,850	
	WFP	OVG	365	cereals 370 g, pulses 40 g, oil 25 g, salt 5 g,				
				CSB 50 g, sugar 15 g	2008	268	255	
Western Urban Area	WFP	School Feeding	195	cereals 100 g, pulses 30 g, oil 10 g, salt 3 g	2008	0	31,410	
	WFP	MCHN	360	CSB 200 g, oil 20 g, sugar 25 g	2008	603	322	
	WFP	HIV/AIDS	365	cereals 150 g, pulses 50 g, oil 30 g, salt 3 g,				
				CSB 50 g, sugar 25 g (x5)	2008	2,925	1,900	
	WFP	OVG	365	cereals 370 g, pulses 40 g, oil 25 g, salt 5 g,				
				CSB 50 g, sugar 15 g	2008	268	277	

## ANNEX 8: DETERMINING IMPACT OF A DISTRIBUTION PROGRAM

The “Bellmon Amendment” requires assurance that a proposed food aid distribution program would not result in a substantial disincentive to or interference with domestic production or marketing. The extent to which distributed food aid has the potential to introduce a disincentive to produce or disruption of markets rests fundamentally on whether or not proposed food aid will represent “additional consumption” for beneficiary households, i.e., food consumption which would not have occurred in the absence of the food aid distribution program.

### *Why Would Food Aid Introduce a Substantial Disincentive to Local Production and Markets?*

Though food aid beneficiaries are expected to consume the food provided, households may respond to the receipt of food aid in a number of ways depending on prices, local diet preferences, perceived needs for non-food goods and access to local markets. A beneficiary household may:

- Consume the food aid without reducing its regular market purchases or small-scale production to compensate for a food deficit in the normal diet caused by insufficient purchasing power, in which case the food aid represents additional consumption;
- Use a portion or all the food aid to displace market purchases that otherwise would have been made;
- Use a portion or all the food aid to substitute for the home consumption of a household’s own production and sell the released production in the market; or
- Consume some portion (or none of) the food aid and sell the other portion (or all) on the market, and use the income generated from that sale to consume other food and non-food goods.

Effective targeting of food-deficit households will avoid substantial disruption of local production and markets caused by providing food aid to households who would reduce market purchases and/or household production of staples after receiving food aid.

In the case of a distribution intervention such as PM2A, which has a very specific goal of preventing early childhood malnutrition, and therefore targets pregnant women, lactating mothers and children under two years old, ‘effective targeting’ from a Bellmon perspective would involve initial geographic targeting based on household food deficits, followed by targeting households based on PM2A activity eligibility (i.e. all children 6-23 months and all pregnant/lactating women).

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### *How Can We Determine Whether A Specific Proposed Food Aid Distribution Program Would Introduce a Substantial Disincentive?*

The key to determining whether or not food aid would result in a substantial disincentive is to assess whether or not food aid would represent additional consumption. Ideally, one would conduct household surveys to determine whether or not a household would consume the food aid without changing their production and purchasing behavior, which would indicate whether or not food aid would represent additional consumption for the household. However, because household surveys are expensive and time-consuming, proxy indicators of ‘additionality’ can be used to assess the potential for leakage. This is the approach taken in the present analysis.

Among the other possible proxy indicators of additionality are an estimated nutrition gap, food consumption score (or some other measure of actual consumption), sources and levels of income, malnutrition rates and other food insecurity classifications (e.g., IPC), or some combination of these indicators.

### **Nutrition or Food Gap**

A nutrition or food gap estimate provides a measure of the difference between available food (proxied by domestic food production) and the amount of food needed to support a specific per capita daily nutritional standard (generally 2100 kcal per person per day, although FAO estimates have been revised and are now country-specific). If estimated on a more localized level (i.e., at the level closer to the communities in which a cooperating sponsor would implement a distributed food aid program), a nutrition or food gap can provide a very useful measure of that volume of food which is not currently supplied by local production and/or markets, and which would represent an appropriate volume under a proposed Title II non-emergency food aid *distribution* program to assure minimal to no disincentive effect. In order to estimate a sub-national food or nutrition gap, it is necessary to collect data on population, production and trade flows within relevant catchment areas. Collection of trade flow data at a sub-national level is an extremely time-consuming and expensive undertaking and outside the present BEST scope of work. For the purposes of the distribution analysis, one or more proxy indicators of ‘additionality’ are used to characterize the *relative* food or nutrition gap at the sub-national level.

One source of estimated food deficits is FAO’s new “depth of hunger” estimates, which provide national averages for the estimated food deficit of undernourished population in countries across the globe. According to the most recent estimates for Sierra Leone (2003-2005), the estimated food deficit for the undernourished population is 380 kcal per person per day based on a Minimum Daily Energy Requirement of 1790 kcal per person per day. These figures provide a useful national benchmark which can be used prior to conducting formative research in proposed target communities to determine in more precise detail the average household deficits of beneficiary households. While this report makes use of these figures to develop an illustrative household ration under PM2A, the analysis nevertheless maintains the use of proxy indicators of ‘additionality’ to characterize the *relative* food or nutrition gap at the sub-national level in order to provide initial geographic targeting guidance.

## **Prevalence of Malnutrition in Children**

While analysis of livelihood strategies may allow food insecurity to be assessed on the basis of the availability of and access to food, the analysis can ignore other effects including the degree to which food is effectively utilized. The relation between income and food security is context- and location-specific, with livelihood strategies as intervening variables. Such factors as disease, food hygiene, social customs and food storage and preparation practices can all influence the extent to which available food is effectively utilized and will contribute to the ultimate level of nutrition. Where wealth and nutrition outcomes are strongly and positively correlated, improving food access will help to improve nutritional outcomes. Conversely, where wealth status and nutritional status are only weakly correlated, increasing access alone will very likely be an insufficient intervention to reversing malnutrition. Where intra-household resource allocation, poor feeding practices, or disease burdens are a significant underlying cause of malnutrition, distributed food aid will be more effectively used, as an incentive to attend nutrition and health training.

The direct determinants of child malnutrition (breastfeeding, complementary food, disease incidence and access and utilization of healthcare) may be more important factors in determining the prevalence of child malnutrition than household food security.

## ANNEX 9: RATION COSTS CALCULATIONS

The assumptions made to calculate monthly PM2A ration costs are outlined below. These scenarios are meant to be illustrative only of the general differences in commodity volumes and potential beneficiary coverage since the ration size, composition (and delivery frequency of household rations) that might be proposed for any upcoming PM2A is unknown at this time.

### HAITI PILOT (for reference):

Ration size and composition as used in preventive interventions in Haiti trial:

- Individual mother ration, individual child ration and household ration provided on year-round basis to all households within catchment area
- 29 kilograms per month per beneficiary household composed of CSB, WSB, pulses and oil

### INDIVIDUAL RATINGS:

- Ration size and composition based generally on ration used in preventive interventions in Haiti trial, but scaled down partially to reflect maximum physiological capacity of children under 23 months of age
- Mother's ration of 6 kg of CSB per month provided for 12 months (assuming detection of pregnancy in 4<sup>th</sup> month of gestation through exclusive breastfeeding period of infant's first 6 months of life)
- Child's ration of 3 kg of CSB per month provided for 18 months (between 6 – 23 months)
- One child 6-23 months of age or one pregnant or lactating mother per household
- July and August 2009 Commodity Calculator food and freight costs

### HOUSEHOLD RATINGS:

According to FAO "depth of hunger" estimates for Sierra Leone for 2003-2005, the estimated food deficit for the undernourished population is 380 kcal per person per day based on a Minimum Daily Energy Requirement of 1790 kcal per person per day. For purposes of ration cost calculations, the household ration assumed in this analysis is designed to meet 77% of the estimated household deficit of the average undernourished population, and 16% of the total household monthly caloric requirements.

- 13 kilograms per month per beneficiary household, composed of 10 kg bulgur, 2 kg of lentils and 1 kg of vegetable oil

- For calculations involving distribution limited to lean season, a four-month lean season is assumed
- One child 6-23 months of age or one pregnant or lactating mother per household
- July and August 2009 Commodity Calculator food and freight costs

While specific commodities were assumed for purposes of this illustration, please consult with Food For Peace to determine if a specific commodity, particularly a specific pulse, is available in sufficient quantities to fulfill program needs.

# ANNEX 10: CONTACTS

**Table 46: List of Contacts**

Name	Organization	Meeting Date	Purpose/Information Expected	City	Phone 1	Phone 2	E-mail
Edward BENYA	USAID/Freetown	23-Jun-09	Contacts/USAID Strategy/Logistics	Freetown	076 515 000		<a href="mailto:ebenya@usaid.gov">ebenya@usaid.gov</a>
Dorrance COOPER	World Vision	25-Jun-09	WVI Programming	Freetown	076 663 111		<a href="mailto:cooper19d@yahoo.com">cooper19d@yahoo.com</a>
Abdulai JALLOH	SL Ag Research Inst	27-Jun-09	Agriculture in SL	Freetown	076 604 983		<a href="mailto:palmojay2@yahoo.com">palmojay2@yahoo.com</a>
Jim DEAN	ACDI/VOCA	25-Jun-09	ACDI/VOCA Programming/Value Chains	Freetown	076 611 313		<a href="mailto:j.dean52@yahoo.com">j.dean52@yahoo.com</a>
Alusine DEEN	CRS	29-Jun-09	CRS Monetization History	Freetown	033 334 603		<a href="mailto:adeen@sl.waro.crs.org">adeen@sl.waro.crs.org</a>
Issa KOROMA	CRS	29-Jun-09	CRS Direct Distribution	Freetown	076 632 457		<a href="mailto:ikoroma@sl.waro.crs.org">ikoroma@sl.waro.crs.org</a>
Myles HARRISON	World Vision	25-Jun-09	WVI Programming	Freetown	076 878 606		<a href="mailto:myles.harrison@wvi.org">myles.harrison@wvi.org</a>
Vicki JOHNSON	Africare	26-Jun-09	Africare Programming	Freetown	076 737 761		<a href="mailto:vjohnson@africare.org">vjohnson@africare.org</a>
Alexander MATHEW	CRS	29-Jun-09	CRS Programming	Freetown	076 607 892		<a href="mailto:amathew@sl.waro.crs.org">amathew@sl.waro.crs.org</a>
Jacques MONTOUROY	CRS	6-Jul-09	CRS Monetization/Traders/Commodities	Freetown	076 610 111		<a href="mailto:jmontouroy@sl.waro.crs.org">jmontouroy@sl.waro.crs.org</a>
Christian PORTAL	CARE/CORAD	24-Jun-09	CARE/CORAD Programming	Freetown	034 227 228	227 222	<a href="mailto:Christian.Portal@co.care.org">Christian.Portal@co.care.org</a>
Christa RADER, Dr.	WFP	26-Jun-09	WFP Programming/Vulnerability	Freetown	076 379 695	-	<a href="mailto:christa.rader@wfp.org">christa.rader@wfp.org</a>
Fadi HOLLOWAY	CTC, Ltd.	8-Jul-09	Commodities/Trading/Monetization	Freetown	076 620 228	227 015	<a href="mailto:fadihall@yahoo.com">fadihall@yahoo.com</a>
James BARIYANGA	Africare	3-Jul-09	Africare Programming	Kenema	076 747 733	-	<a href="mailto:james_bariyanga@yahoo.com">james_bariyanga@yahoo.com</a>
Donald RETREAGE Jr.	Seaboard West Africa, Ltd.	9-Jul-09	Wheat Imports/Milling	Freetown	076 602 845	-	<a href="mailto:donaldr@somc.co.za">donaldr@somc.co.za</a>
Stefano FEDELE	UNICEF	7-Jul-09	UNICEF Therapeutic Feeding/Malnutrition	Freetown	076 912 422	-	<a href="mailto:sfedele@unicef.org">sfedele@unicef.org</a>
Leonard BAIROH	CRS	2-Jul-09	CRS Regional Programming/Warehouse	Kabala	076 604 428	-	<a href="mailto:lbairoh@sl.waro.crs.org">lbairoh@sl.waro.crs.org</a>
Chris NECKER	CARE	1-Jul-09	CARE Regional Programming	Freetown	076 610 204	-	<a href="mailto:Chris.Necker@co.care.org">Chris.Necker@co.care.org</a>
Dodou BARBOE	WFP	1-Jul-09	WFP Regional Programming	Magburaka	076 455 433	-	<a href="mailto:dodou.darboe@wfp.org">dodou.darboe@wfp.org</a>
Florence LANYERO	WFP	3-Jul-09	WFP Regional Programming	Kenema	078 333 567	-	<a href="mailto:florence.lanyero@wfp.org">florence.lanyero@wfp.org</a>
Maurice KALLON	ACDI/VOCA	2-Jul-09	PAGE Project Programming	Kabala	076 648 835	-	<a href="mailto:mauricekallon@yahoo.com">mauricekallon@yahoo.com</a>
Monica WOLDT	FANTA	30-Jul-09	Discuss distribution analysis	Washington DC	202 884 8578	-	<a href="mailto:mwoldt@aed.org">mwoldt@aed.org</a>
Kavita SETHURAMAN	FANTA	30-Jul-09	Discuss distribution analysis	Washington DC	202 884 8000	-	<a href="mailto:ksethuraman@aed.org">ksethuraman@aed.org</a>

## ANNEX 11: NATIONAL POLICY

Major sector reforms are at an advanced stage and progress has been made in strengthening accountability and transparency, anti-corruption strategies, monitoring of service delivery, and devolution of government authority to local councils through the following Acts:

- The Anti-Corruption Act, 2000: Being an Act to provide for the prevention of corrupt practices and for related matters.
- The National Commission for Privatization Act, 2002: Being an Act to establish the National Commission for Privatization to be responsible for the privatization and reform of public enterprises, to amend certain laws relating to public enterprises and to provide for other related matters.
- Investment Promotion Act, 2004: Being an Act to promote and attract private investment both domestic and foreign for the development of production and manufacturing activities, to improve exports and provide employment opportunities, and generally to create an environment conducive for investment and to provide for other related matters.
- Local Government Act, 2004: Being an Act to consolidate with amendments, the law on local government, and to provide for the decentralization and devolution of functions, powers and services to local councils and for other matters connected therewith.
- Public Procurement Act, 2004: Being an Act to establish the National Public Procurement Authority, to regulate and harmonize public procurement process in the public service, to decentralize public procurement to procuring entities, to promote economic development, including capacity building in the field of public procurement by ensuring value for money in public expenditures and the participation in public procurement by qualified suppliers, contractors, consultants and other qualified providers of goods, works and services and to provide for other related matters.
- The Lands Commission Act, 2005: Being an Act to establish the lands commission to be responsible for granting rights to use state lands vested in the State, to regulate the uses to which public lands are to be put, and to provide for other related matters.

**Import duty, Sales tax and Excise:** See attachment currently published in newspapers in the country.

The current Minister of Agriculture, Forestry and Food Security has a vision for the agricultural sector to serve as the engine for overall economic growth in the Sierra Leone. With that in mind, he has developed the following policy objectives: a) increase agricultural productivity; b) diversify production of agricultural products; c) improve research and the extension delivery system; d) promote effective and efficient utilization of resources and sector coordination; and, e) oversee cross-cutting issues.

Three programs have been developed to solicit private sector involvement in agriculture, as follows:

- Establish a system to supply essential inputs to farmers and provide outlets for farm output in rural and urban communities through a network of actors, including ABCs, trained stockists, wholesalers and importers, etc.
- Add value addition by establishing agro-industrial processing facilities, employing appropriate technologies, and developing an organized market for domestic agricultural products; and,
- Financing large, medium and small scale investments

Sierra Leone has submitted a draft National Rice Development Strategy (NRDS) under the Coalition for African Rice Development (CARD), an initiative supported by the government of Japan. The goal of the Sierra Leone NRDS is to lay out a framework for significant increases in rice production in order to contribute to the improvement of food security and economic development in Sierra Leone.

The specific objectives of the NRDS are to:

- Ensure an increase in the sustainable productivity and production of rice in Sierra Leone;
- Promote appropriate post-harvest handling, processing and marketing of rice;
- Develop appropriate infrastructure for rice production and marketing; and,
- Improve the capacity of stakeholders and institutions involved in the rice sector.

According to the draft NRDS, the strategy for increasing rice production is two pronged: 1) increase the area cultivated, mainly in the lowlands where there is much under-utilized capacity; and, 2) increase productivity per unit area in all ecosystems. (Area expansion will mainly be in the inner valley swamps, due to their existence in all parts of the country and their potential for sustainable production. The goal of the GOSL is to achieve rice self sufficiency by 2013. This objective can be met by a combination of extending the area under production to 830,000 ha and increasing the yield to an average of 2 metric tons per hectare.

The table below summarizes the key policy issues affecting agriculture in Sierra Leone.

**Table 47: Summary of Policy Issues Affecting Agriculture**

<b>AREA</b>	<b>POLICY</b>	<b>PRACTICE</b>	<b>IMPLICATIONS</b>
<b>TRADE &amp; MARKETING POLICIES</b>			
<b>Import and Export</b>	Export promotion	Establishment of the Sierra Leone Investment and Export Promotion Agency (SLIEPA)	Potential boost to local exports
	Export restriction	Periodic imposition of export ban on major food products particularly rice and palm oil to prevent increasing prices	Violation of free movement of goods in ECOWAS states and disincentive to increase local production
	Pricing	No price control	Potential for high prices when supply can be manipulated by few suppliers
<b>INPUT POLICIES</b>			
<b>Input supply</b>	Provision of free inputs	Planting materials and fertilizer are provided for resource poor farmers	Farmers will develop dependency habit and input sellers are often undermined. Quality of input not assured.
<b>Subsidy</b>	Liberalized (no subsidy)	Cooperative fertilizer sold at market price	Supply is limited by the purchasing power of the buyers
<b>MACRO POLICIES</b>			
<b>Improving the delivery of public services</b>	Strengthening Public Financial management	Reviewing the legal and regulatory framework for public financial management	Improved management of resources and delivery of desired outputs.
		Improving budget planning and execution Extending the coverage of the integrated Financial management Systems (IFMIS) Strengthening the Public procurement Implementing Public Expenditure Tracking Surveys	
<b>Improving the investment climate</b>	Improve access to finance	Improve the efficiency of operations of commercial banks	Increased access to funds for the implementation of projects and programs.
		Improving the outreach and regulatory environment for microfinance institutions Improving the laws, regulations and oversight institutions in the financial sector	
	Improving the legal and regulatory environment for business	Drafting of intellectual property law. Enacting Acts relating to Companies, Bankruptcy and Commercial use of land Review labor laws	compliance with international standards Better framework for the operations of companies Improved conditions of service for workers
		Improving physical infrastructure	Establishing an emergency power program to provide reliable energy to Freetown. Completion of Bumbuna HEP and construction of major roads

<b>AREA</b>	<b>POLICY</b>	<b>PRACTICE</b>	<b>IMPLICATIONS</b>
<b>Monetary and Exchange rate</b>	Strengthen monetary policy framework to limit the threat of higher inflation	Bank of Sierra Leone will utilize stocks of additional securities to mop excess liquidity in the financial market through open market operations	Reserve money is projected to grown at 11.6 percent sufficient to accommodate the continues strong expansion of private sector credit
	Increase exchange rate flexibility to allow for appropriate exchange rate responses to external shocks	Bank of Sierra Leone to participate in the foreign exchange market also as a buyer not only as a seller	This would allow the BSL to more actively manage its foreign exchange reserves
<b>Revenue and Tax policies</b>	Improve tax administration and broaden tax base	Introduce the General services Tax	To address some of the controversial tax related issues faced by domestic industries
	Duty free	To qualify for duty free all NGOs must provide the ministry of finance with their work plans for the ensuing year, quarterly reports of their activities, and schedule of yearly import requirements.	Increased accountability
<b>STRATEGIC FRAMEWORK</b>			
<b>Decentralization</b>	Devolution of authority to local councils	Phased devolution of designated components and staff.	Delay in the implementation of the devolution process and delivery of desired results
<b>Commercialization of Agriculture</b>	Agriculture as the engine of economic growth	Inadequate funding to ensure that agriculture becomes the engine of economic growth	The desired results may not be realized
<b>Land tenure</b>	Improved access to land by large scale commercial farmers	Appropriate laws not yet in place. Access to desired large tracts of land remains a challenge.	Participation of large scale farmers and anticipated contribution to production may not be achieved.

## ANNEX 12: STORAGE CAPACITY

Table 48 shows current Title II Awardees' in-country capacity of storing commodities. The total available capacity is 8,350 metric tons.

**Table 48: Warehouses Used by the Awardees**

<i>Awardee</i>	<i>Location</i>	<i>Capacity (MT)</i>	<i>Ownership</i>	<i>Comment</i>
<i>Africare</i>	<i>Daru, Kailahun</i>	<i>250</i>	<i>Private</i>	<i>Rented by Africare</i>
<i>CARE</i>	<i>Makeni, Bombali District</i>	<i>450</i>	<i>Private</i>	<i>Rented by CARE</i>
<i>CARE</i>	<i>Kabala, Koinadugu</i>	<i>500</i>	<i>Private</i>	<i>Rented by CARE</i>
<i>CRS</i>	<i>Freetown</i>	<i>4,000</i>	<i>Private</i>	<i>Two warehouses that serve as central stores to hold commodity for onward shipment to CORAD members' stores up-country.</i>
<i>CRS</i>	<i>Kabala, Koinadugu District</i>	<i>300</i>	<i>Private</i>	<i>Rented by CRS</i>
<i>CRS</i>	<i>Segbwema, Kailahun District</i>	<i>350</i>	<i>Private</i>	<i>Rented by CRS</i>
<i>WVI</i>	<i>Kono, Kono District</i>	<i>2,500</i>	<i>Private</i>	<i>Rented by WVI</i>
<b>TOTAL</b>		<b>8,350</b>		

Source: Awardees

# ANNEX 13: TITLE II SIERRA LEONE PROGRAMMING DESCRIPTION

CORAD will undergo changes in membership, leadership and management roles for the upcoming FY2010 MYAP cycle, if for no other reason than the fact that CARE has opted out of the consortium, given a CARE headquarters policy decision prohibiting participation in the monetization of food aid commodities.

A general description of consortium functions and activities conducted by each Awardee, only insofar as they pertain to CORAD or Title II food aid programming, follows:

## **Africare**

Africare manages LEAD Project activities in the District of Kailahun. While the other consortium members restrict their projects and activities to a relatively limited palette of sectors, Africare implements activities in agriculture, health and nutrition, youth empowerment, water and sanitation, micro-enterprise development, and natural resource management. Africare is also planning to implement a school feeding program with the support of WFP (see below).

## **CARE**

CARE is the lead agency for CORAD and is responsible for overall consortium coordination and compliance. Interestingly, while CRS serves as the consortium Commodity Manager, CARE prepares the Calls-Forward. CARE operates geographically in the Districts of Bombali, Koinadugu, and Tonkolili, managing LEAD projects that focus on youth empowerment and micro-enterprise activities.

## **Catholic Relief Services**

From the standpoint of the commodity, Catholic Relief Services (CRS) is the most important member of CORAD as they serve as the Commodity Manager for all Title II commodities imported, monetized, and direct-distributed by the consortium. The bills of lading for arriving food shipments are signed over by CARE to CRS who clears the shipment(s) and either sells, i.e. monetizes, the commodity or has it transported to its central warehouses in Freetown where it is stored and then forwarded by CRS in installments to the regional warehouses of the consortium members. From that point in the food aid delivery chain, i.e., the regional warehouse of the consortium member, each consortium member assumes responsibility for moving the commodity to the final distribution point and arranging for its distribution, etc.

In addition to participation in CORAD and implementing LEAD Project activities in the Districts of Kailahun, Koinadugu, and Tonkolili, CRS manages a USDA-supported McGovern-Dole

International Food for Education and Child Nutrition Program (Food for Education) (FFE), in four (4) chiefdoms of Koinadugu District for approximately 36,800 beneficiaries. That program, which entails delivery of a take-home ration for girls attending school and a prepared breakfast and lunch for all children in attendance, is scheduled to operate during the period FY2009-2011.

### **World Vision International**

World Vision International (WVI) operates in the District of Kono, seriously damaged by the war, and has responsibility for CORAD higher-level M&E (monitoring and evaluation), specifically, the coordination of reporting on the achievement of intermediate results (IRs) at the consortium level. WVI focuses CORAD-supported LEAD Project activities on the health sector.

In addition to its activities under CORAD, WVI manages a World Food Programme-supported school-feeding and HIV/AIDS life-skills project in all fourteen (14) chiefdoms of Kono. That program provides a ration to 90,000 beneficiaries, including schoolchildren and persons living with HIV/AIDS (PLWHIVAIDS). Its duration is September 2007-September 2009, with the possibility of extension through December 2009.

# ANNEX 14: TRANSPORTATION

Contracts between CRS, on behalf of the CORAD consortium, and truckers list the prices currently paid for hauling one metric ton of food aid commodity from the CRS central warehouses in Freetown to various points in Sierra Leone as ranging from \$20.97 (Lunsar) to \$67.74 (Matru Jong). For more information about rates, please see the following:

- Makeni - \$31.61
- Daru - \$66.12
- Segbwema - \$64.52
- Matru Jong - \$67.74
- Bumbuna - \$29.03
- Lunsar - \$20.97
- Bo - \$35.48
- Pujehun - \$56.45

# ANNEX 15: FOOD AID STRATEGY AND POLICY

Sierra Leone is well organized in terms of coordination of food aid related activities. The Committee on Food Aid (CFA) has a Food Aid Strategy and Policy, adopted in May 2002, which outlines the current strategies of all major food aid agencies. In order to better implement food programs, to prevent duplication of assistance, and to ensure the full coverage of the country, geographical areas are assigned to the four major food aid agencies, namely World Food Programme (WFP), World Vision (WVI), CARE and Catholic Relief Services (CRS).

To contribute to the 1998 government-defined goal of achieving near self-sufficiency in food production, CFA priorities are, among others, to:

- meet the immediate food needs of vulnerable people
- support farm family resettlement and rehabilitation of infrastructure
- reinforce the transitions from relief to rehabilitation to sustainable development
- monitor the impact of food aid to avoid distortion of local agriculture and markets

The Food Aid Strategy outlines the following basic consensual strategies for Sierra Leone:

- Emergency Response
- Vulnerable Group Feeding
- Food for Work
- Emergency School Feeding
- Food for Training

# ANNEX 16: DETAILED IPP CALCULATION FOR RICE

**Table 49: Import Parity Price for Pakistani 25% Broken, FOB Karachi\***

Date	Commodity Price	Ocean freight	Insurance	CIF Freetown	IPP	Prices Achieved	Price Achieved as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
<b>Jan-04</b>	203.00	71.67	2.03	276.70	<b>276.70</b>		
<b>Feb-04</b>	212.25	74.69	2.12	289.06	<b>289.06</b>		
<b>Mar-04</b>	237.50	76.22	2.38	316.09	<b>316.09</b>		
<b>Apr-04</b>	238.50	75.52	2.39	316.41	<b>316.41</b>		
<b>May-04</b>	241.00	73.36	2.41	316.77	<b>316.77</b>	346.86	110%
<b>Jun-04</b>	244.00	69.94	2.44	316.38	<b>316.38</b>		
<b>Jul-04</b>	244.00	68.45	2.44	314.89	<b>314.89</b>		
<b>Aug-04</b>	232.00	70.39	2.32	304.71	<b>304.71</b>		
<b>Sep-04</b>	231.00	70.69	2.31	304.00	<b>304.00</b>		
<b>Oct-04</b>	224.00	71.81	2.24	298.05	<b>298.05</b>		
<b>Nov-04</b>	220.00	71.78	2.20	293.98	<b>293.98</b>		
<b>Dec-04</b>	230.00	72.15	2.30	304.45	<b>304.45</b>		
<b>Jan-05</b>	244.00	70.64	2.44	317.08	<b>317.08</b>		
<b>Feb-05</b>	245.00	70.98	2.45	318.43	<b>318.43</b>		
<b>Mar-05</b>	245.00	73.68	2.45	321.13	<b>321.13</b>		
<b>Apr-05</b>	243.00	74.08	2.43	319.51	<b>319.51</b>		
<b>May-05</b>	235.00	73.38	2.35	310.73	<b>310.73</b>		
<b>Jun-05</b>	239.00	71.93	2.39	313.32	<b>313.32</b>	350.88	112%
<b>Jul-05</b>	238.00	69.92	2.38	310.30	<b>310.30</b>		
<b>Aug-05</b>	236.00	68.34	2.36	306.70	<b>306.70</b>		
<b>Sep-05</b>	234.00	69.58	2.34	305.92	<b>305.92</b>		
<b>Oct-05</b>	225.00	69.46	2.25	296.71	<b>296.71</b>		
<b>Nov-05</b>	223.00	68.57	2.23	293.80	<b>293.80</b>		
<b>Dec-05</b>	218.00	67.67	2.18	287.85	<b>287.85</b>		
<b>Jan-06</b>	220.00	68.65	2.20	290.85	<b>290.85</b>		
<b>Feb-06</b>	215.00	68.45	2.15	285.60	<b>285.60</b>		
<b>Mar-06</b>	218.00	69.32	2.18	289.50	<b>289.50</b>		
<b>Apr-06</b>	228.00	70.09	2.28	300.37	<b>300.37</b>		
<b>May-06</b>	238.00	70.44	2.38	310.82	<b>310.82</b>		
<b>Jun-06</b>	239.00	71.30	2.39	312.69	<b>312.69</b>		
<b>Jul-06</b>	247.00	72.43	2.47	321.90	<b>321.90</b>	355.21	110%
<b>Aug-06</b>	248.00	74.39	2.48	324.87	<b>324.87</b>		
<b>Sep-06</b>	237.00	75.30	2.37	314.67	<b>314.67</b>		
<b>Oct-06</b>	224.00	75.16	2.24	301.40	<b>301.40</b>		

Date	Commodity Price	Ocean freight	Insurance	CIF Freetown	IPP	Prices Achieved	Price Achieved as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
<b>Nov-06</b>	221.00	74.64	2.21	297.85	<b>297.85</b>		
<b>Dec-06</b>	227.00	75.16	2.27	304.43	<b>304.43</b>		
<b>Jan-07</b>	233.00	75.31	2.33	310.64	<b>310.64</b>		
<b>Feb-07</b>	249.00	75.71	2.49	327.20	<b>327.20</b>		
<b>Mar-07</b>	264.00	77.23	2.64	343.87	<b>343.87</b>		
<b>Apr-07</b>	263.00	79.39	2.63	345.02	<b>345.02</b>		
<b>May-07</b>	273.00	84.04	2.73	359.77	<b>359.77</b>		
<b>Jun-07</b>	292.00	84.03	2.92	378.95	<b>378.95</b>		
<b>Jul-07</b>	305.00	85.26	3.05	393.31	<b>393.31</b>		
<b>Aug-07</b>	295.00	87.66	2.95	385.61	<b>385.61</b>	425.42	110%
<b>Sep-07</b>	300.00	92.83	3.00	395.83	<b>395.83</b>		
<b>Oct-07</b>	314.00	100.01	3.14	417.15	<b>417.15</b>		
<b>Nov-07</b>	350.00	102.95	3.50	456.45	<b>456.45</b>		
<b>Dec-07</b>	342.00	100.58	3.42	446.00	<b>446.00</b>		
<b>Jan-08</b>	369.00	94.97	3.69	467.66	<b>467.66</b>		
<b>Feb-08</b>	388.00	93.82	3.88	485.70	<b>485.70</b>		
<b>Mar-08</b>	488.00	99.18	4.88	592.06	<b>592.06</b>		
<b>Apr-08</b>	641.00	99.35	6.41	746.76	<b>746.76</b>		
<b>May-08</b>	670.50	101.14	6.71	778.35	<b>778.35</b>		
<b>Jun-08</b>	700.00	101.42	7.00	808.42	<b>808.42</b>		
<b>Jul-08</b>	620.00	101.45	6.20	727.65	<b>727.65</b>		
<b>Aug-08</b>	508.00	95.32	5.08	608.40	<b>608.40</b>		
<b>Sep-08</b>	472.00	89.59	4.72	566.31	<b>566.31</b>		
<b>Oct-08</b>	400.00	74.94	4.00	478.94	<b>478.94</b>		
<b>Nov-08</b>	342.00	64.36	3.42	409.78	<b>409.78</b>		
<b>Dec-08</b>	330.00	64.23	3.30	397.53	<b>397.53</b>		
<b>Jan-09</b>	342.00	64.38	3.42	409.80	<b>409.80</b>		
<b>Feb-09</b>	353.00	66.73	3.53	423.26	<b>423.26</b>		
<b>Mar-09</b>	350.00	66.67	3.50	420.17	<b>420.17</b>		
<b>Apr-09</b>	360.00	65.62	3.60	429.22	<b>429.22</b>		
<b>May-09</b>	360.00	68.01	3.60	431.61	<b>431.61</b>		
<b>Jun-09</b>	340.00	70.10	3.40	413.50	<b>413.50</b>		
<b>Jul-09</b>	340.00	71.00	3.40	414.40	<b>414.40</b>		
<b>average of price achieved relative to IPP</b>							<b>111%</b>

Sources: *FAO Rice Market Monitor, Fearnsearch, the Rice Trader, CRS*

\* Note that this calculation is based on the price series for Pakistani 25% Broken as this rice dominates commercial imports and therefore would be the rice against which the US grade monetized rice would compete.

# ANNEX 17: DETAILED IPP CALCULATION FOR WHEAT

**Table 50: Import Parity Price Calculation for US Hard Red Winter Wheat, FOB US Gulf**

Date	Commodity Price	Ocean freight	Insurance	CIF Freetown	IPP	Prices Achieved	Price Achieved as % of IPP
	/MT	/MT	/MT	/MT	/MT	/MT	
	USD	USD	USD	USD	USD	USD	
Jan-04	166.00	45.79	1.66	213.45	213.45		
Feb-04	163.00	51.70	1.63	216.33	216.33		
Mar-04	168.00	49.36	1.68	219.04	219.04	189.50	87%
Apr-04	168.00	43.53	1.68	213.21	213.21		
May-04	164.00	37.42	1.64	203.06	203.06		
Jun-04	155.00	36.19	1.55	192.74	192.74		
Jul-04	152.00	38.90	1.52	192.42	192.42		
Aug-04	143.00	37.42	1.43	181.85	181.85		
Sep-04	152.00	38.90	1.52	192.42	192.42		
Oct-04	152.00	42.15	1.52	195.67	195.67		
Nov-04	158.00	45.92	1.58	205.50	205.50		
Dec-04	155.00	49.04	1.55	205.59	205.59		
Jan-05	154.00	49.73	1.54	205.27	205.27		
Feb-05	151.00	52.19	1.51	204.70	204.70		
Mar-05	152.00	53.18	1.52	206.70	206.70	168.00	81%
Apr-05	145.00	55.34	1.45	201.79	201.79		
May-05	145.00	53.67	1.45	200.12	200.12		
Jun-05	142.00	49.73	1.42	193.15	193.15		
Jul-05	146.00	45.50	1.46	192.96	192.96		
Aug-05	154.00	36.68	1.54	192.22	192.22		
Sep-05	167.00	39.79	1.67	208.46	208.46		
Oct-05	173.00	37.91	1.73	212.64	212.64		
Nov-05	165.00	35.21	1.65	201.86	201.86		
Dec-05	171.00	34.07	1.71	206.78	206.78		
Jan-06	168.00	32.50	1.68	202.18	202.18		
Feb-06	180.00	23.63	1.80	205.43	205.43		
Mar-06	176.00	23.24	1.76	201.00	201.00		
Apr-06	182.00	26.84	1.82	210.66	210.66		
May-06	195.00	27.57	1.95	224.52	224.52		
Jun-06	197.00	29.54	1.97	228.51	228.51		
Jul-06	204.00	34.22	2.04	240.26	240.26	*	
Aug-06	194.00	36.93	1.94	232.87	232.87		
Sep-06	201.00	47.07	2.01	250.08	250.08		
Oct-06	215.00	51.95	2.15	269.10	269.10		

<b>Date</b>	<b>Commodity Price</b>	<b>Ocean freight</b>	<b>Insurance</b>	<b>CIF Freetown</b>	<b>IPP</b>	<b>Prices Achieved</b>	<b>Price Achieved as % of IPP</b>
	/MT	/MT	/MT	/MT	/MT	/MT	
	USD	USD	USD	USD	USD	USD	
Nov-06	213.00	51.33	2.13	266.46	266.46		
Dec-06	210.00	52.78	2.10	264.88	264.88		
Jan-07	203.00	55.64	2.03	260.67	260.67		
Feb-07	203.00	48.99	2.03	254.02	254.02		
Mar-07	206.00	53.77	2.06	261.83	261.83	225.00	86%
Apr-07	207.00	55.64	2.07	264.71	264.71		
May-07	199.00	63.03	1.99	264.02	264.02		
Jun-07	226.00	58.89	2.26	287.15	287.15		
Jul-07	241.00	66.47	2.41	309.88	309.88		
Aug-07	264.00	80.56	2.64	347.20	347.20		
Sep-07	338.00	109.56	3.38	450.94	450.94		
Oct-07	345.00	110.79	3.45	459.24	459.24		
Nov-07	329.00	93.10	3.29	425.39	425.39		
Dec-07	374.00	90.60	3.74	468.34	468.34		
Jan-08	374.00	89.12	3.74	466.86	466.86		
Feb-08	436.00	95.13	4.36	535.49	535.49		
Mar-08	450.00	94.05	4.50	548.55	548.55		
Apr-08	371.00	97.25	3.71	471.96	471.96		
May-08	331.00	110.89	3.31	445.20	445.20		
Jun-08	347.00	99.22	3.47	449.69	449.69		
Jul-08	330.00	101.43	3.30	434.73	434.73		
Aug-08	336.00	89.81	3.36	429.17	429.17		
Sep-08	299.00	86.17	2.99	388.16	388.16		
Oct-08	245.00	60.66	2.45	308.11	308.11		
Nov-08	237.00	39.38	2.37	278.75	278.75		
Dec-08	229.90	39.88	2.30	272.08	272.08		
Jan-09	248.00	40.38	2.48	290.86	290.86		
Feb-09	235.06	44.32	2.35	281.72	281.72	241.24	86%
Mar-09	236.09	57.61	2.36	296.06	296.06		
Apr-09	230.93	55.64	2.31	288.88	288.88		
May-09	253.61	55.34	2.54	311.49	311.49		
Jun-09	251.55	55.64	2.52	309.71	309.71	267.78	86%
Jul-09	221.00	50.42	2.21	273.63	273.63		
<b>Price Achieved as Percentage of IPP:</b>							<b>85%</b>

Sources: USDA ERS, US Wheat Associates, CRS

\* Note that a sixth sale was negotiated in January 2006 and delivered in June 2006. This transaction has been excluded as an outlier in the above analysis because the BEST team was unable to resolve an uncertainty as to whether the GOSL rebated the CS for duties and port fees originally included in the negotiated price. The exclusion of this sale would not change the current recommendation since, even under the assumption that all fees were rebated, the originally negotiated sales price was below IPP at the time (personal discussions with Seaboard, 7/2009; personal discussion with CRS, 9/2009).

**USAID OFFICE OF FOOD FOR PEACE**

**SIERRA LEONE**

**BELLMON ESTIMATION**

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