

# The Food Security Situation in Sierra Leone 2008/2009

## 1.0 INTRODUCTION

- The national population of Sierra Leone as at 2007 was 5,402,285
- Sierra Leone emerged from a decade long brutal civil war in 2002.
- Given the extent of destruction however, seven (7) years of peace, resettlement and recovery programs have not been sufficient to restore the infrastructure and livelihood security to pre-war levels; let alone catch up with the ten years of lost development.
- Sierra Leone is among the least developed countries ranking second to last as at 2009 human development index.

## 2.0 National staple food

- Rice is the main staple food of Sierra Leone; eaten on a daily basis by every household in sierra Leonean.
- Rice is the most important food crop -grown widely by every farmer across all districts.
- Beside rice; cassava, sweet potato, maize, and groundnut are other important food crops in Sierra Leone.
- There is also a huge potential for all types of commercial fruit production.

# 3.0 Agricultural Potential

- The climatic condition is favorable
- The soil fertility status is rich.
- Large expanse of virgin land is available for expansion of agricultural production, amidst abundance of unemployed youth population, which could be harnessed for commercial food production.

# 4.0 Farming systems

- Subsistence rice farming is the dominant agricultural practice undertaken by nearly 90% of farm families.
- Farmers even though cultivate a variety of other food crops, they do that in a very small scale, about 0.5 ha to 1.0 ha per farm family.
- Some livestock; cash crops; fishing; forest resources; and off-farm income activities also characterize this sector in varying amounts.

# 5.0 Farming Constraints

- Poor road network and poor market infrastructure have pose considerable difficulties for farming communities to sell their farm produce and generate incomes.
- This problem is compounded with limited storage and processing facilities and high transaction costs.
- Those poverty indicators are occasioning deprivation, marginalization and apathy in the livelihood condition of farmers in Sierra Leone.

# 6.0 Cropping Seasons

- Agricultural production is predominantly rain fed.
- There is one main cropping season (April-November) throughout the country;
- A second cropping season is possible in some wet land areas.
- Both total and spatial distribution of rainfall is critical for agricultural production in Sierra Leone.

# 7.0 2007/2008 Production of key Food Crops

	Crop	Area under cultivation	Total Production
1	Rice	659,487 ha	637,983 Mt
2	Cassava	223,887 ha	1,236,852 Mt
3	Groundnut	64,897 ha	38,938 Mt
4	S/ potato	26,295 ha	92,033 Mt
5	Maize	16,360 ha	13,906 Mt

# 8.0 Cassava Production

- Cassava is the second most important food crop after rice.
- Estimated cassava production is 1,236, 852 Mt for 2007
- Yields of cassava range from 5.8mt in North to 10mt /HA in South & Eastern provinces
- National production of cassava is large enough to meet national requirement, but lack of processing facilities for processing of cassava into gari, flour, starch & chips for both domestic export markets, has limited the impact of cassava production in Sierra Leone.

## 8.0 Projected rice production in 000'mt 2007-2012.

Year	Pop	Sufficiency	% target	Milled .	Gap	Production
2007	5.4	561.6	70%	393.0	168.6mt	655.0
2008	5.5	572.0	75%	429.0mt	143.0mt	715.0
2009	5.6	582.4	85%	495.0mt	87.4mt	825.0
2010	5.7	592.8	100%	592.8mt	0.0mt	986.6
2011	5.8	603.2	110%	663.5mt	+60.0mt	1,105.0
2012	5.9	613.6	120%	736.0mt	+123mt	1,226.0

NOTE: Per capita rice requirement of 104kg/year

Mill recovery of 60%, seed 5% and PHL 35%.

Yield potential of 1.2Mt/ha

# 9.0 Trend in Rice Production

- The 2007 projection of 561,600Mt national requirements catered for 70% (393,000 Mt) milled rice self sufficiency
- Production estimates for 2007 was 637,983 metric tons (paddy) with equivalent milled recovery of 382,661mt (68%) rice self sufficiency achieved.
- National rice gap of 178,939mt was closed with 145,000 Mt commercial and food aid rice imports and 33,939mt from other major food sources.

# 10.0 Rice Availability

- Rice availability depends largely on domestic production and marketing.
- The production of rice maintained an incremental trend from 2005 to 2007 as a result of favorable environmental farming conditions such as:
  - i. Continuing government and donor assistance in farm inputs services;
  - ii. Increased number of farm families that have cultivated rice fields

# 11.0 Livestock ownership and population

- The most commonly owned livestock for rural households were chickens followed by goats, sheep and ducks
- Very few households own oxen, cattle or pigs
- No recent livestock census has been conducted to ascertain the existing data on livestock population.
- Existing data and information on livestock is based the 2004 population and housing census.

# 12.0 Constraint on food security data

- There is no consistent and continuous monitoring of food security parameters like agricultural, market prices, imports and exports volumes etc. since end of the war. There is no reliable recent data for 2008.
- The only dependable source of information on food security in the country is the Vulnerability analysis and mapping (VAM) surveys, conducted bi-annually by WFP, MAFFS, FAO, UNICEF & Statistics Sierra Leone.

# Constraint on food security data continues.

- There is great reliance on farmers estimation of acreages under cultivation and for estimating crop yields in such surveys.
- The number of house holds covered in such surveys is not large and representative enough to allow for acceptable error margin.
- Existing field surveys are designed to meet the requirements of rapid results assessments.

# Constraint on food security data continues.

- Reliable and dependable data collection system in Sierra Leone is in desperate need for reinforcement with sufficient funding for regular data collection, processing and reporting.
- Data collection methodologies adopted in such surveys are highly subjective, basically to analyze recovery capacity and improvement in self sufficiency.

# 13.0 Consumption, Food Access and Expenditures

- The main indicator used to determine access is the food consumption score and the food consumption groups made up of households with similar consumption levels

# 14.0 Food consumption Score as measure of access

- This approach captures both dietary diversity and consumption frequency
- Food items consumed in the various food groups are weighted
- According to this classification there are 3 main food consumption groups : poor, borderline and adequate food consumption.

# 15.0 Gender of Household head and food consumption in 2007

- Gender of Household head and expenditure on food consumption

HH head	Poor	Borderline	Adequate
Male	2.1%	25.4%	72.5%
Female	2.6%	28.8%	68.7%
Total	2.1%	25.8%	72.1%

# Gender analysis of household heads and food consumption in 2007 continues

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- Female headed households are more vulnerable to food insecurity than male headed households, because they are more likely to have poor or border line food consumption.

# Food consumption Score as measure of access continues

- Households with poor & borderline consumption prepare fewer meals than those with adequate food consumption
- 27.9% (2.1%+25.8%) of households in Sierra Leone's rural population fall under inadequate food consumption level
- Of this 2.1% had poor food consumption level and 25.8% borderline food consumption levels.
- 72.1% of households were in the adequate level

# 14.0 Monthly Expenditure of households on food as against non-food items

Food consumption group	Non-food items (Le)	Food items (Le)	Total Leone (Le)	% Expenditure on food
Poor or borderline	138,223	144,395	282,618	51.1
Adequate	198,106	179,420	377,526	47.5

# Monthly Expenditure analysis on food continues.

- The proportion of total household expenditure on food gives a useful indication of household access to food.
- Poor households spend more of their incomes on food than wealthy households.
- Adequate consumption groups spend 48.1% of monthly expenditure on food

# Monthly Expenditure analysis on food continues.

- Poor or borderline consumption groups spend 51% of monthly expenditure on food.
- This scenario is important in the comparison of rural and urban h/hs, where about 80% of the rural h/hs are farming and about 90% of urban h/hs are not farming.

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# 17 Risk zones

- Majority of households in Sierra Leone do experience serious problems of producing and purchasing enough food all year round.
- These problems can not be classified as shock in the traditional sense, because they are not sudden and unexpected events.
- Instead, they are more of slow onset events that have become chronic poverty factors which have prevented access to farm inputs and incomes, particularly remote communities.

# 18 Current Interventions

- Over 60% of the farm families are affected.
- These problems affect farm production level negatively.
- Various interventions from government, multilateral and bilateral arrangements are afoot to address the food insecurity issues in Sierra Leone.

# 18.0 Current Interventions contd

- Interventions include:
  - i. Political commitment and determination to make agriculture the "engine" for socio-economic growth and development through policy shift and commercial agriculture .
    - a. Heavy investment on food and cash crops and export savings; to create wealth contribute to domestic and foreign revenue;

# 18.0 Current Interventions contd

b. Produce raw materials from agricultural products to trigger industrialization;

c. Upstream and downstream employment opportunities along the food chain.

d. Use the agriculture chain (Private sector participation in inputs supply; production; value addition in agro- processing)

# 18.0 Current Interventions contd

- e. Sub-sector commodity approach (coffee, cocoa, cashew, rice, ginger, oil palm & gatropha)
- f. Farmer Based organizations (FBOs)- Reform, decentralize, democratize, re-focus and build capacity as potential key agriculture private sector investors.
- g. privatization of agriculture sector promotion arms.

# 18.0 Current Interventions contd

## ii. PROJECT INTERVENTIONS

1.0 Support from ADB for revamping the  
Agricultural sector

2.0 Support from IFAD for strengthening  
community based poverty reduction projects

3.0 IFAD support for Rural Finance and  
community improvement projects

# 18.0 Current Interventions contd

4.0 World bank rural & private sector development projects

4.0 Support from IDB on diversified food production, community infrastructure and feeder roads.

5.0 WFP Purchase for progress Food for recovery and agricultural development projects

6.0 ADB NERICA rice dissemination project

# 18.0 Current interventions continues.

7.0 IDB Diversified Food Production Project.

8.0 Italian Trust Fund for development of FBOs

9.0 Malaysian Oil Palm Project.

10.0 FAO / GtZ sustainable seed development program

11.0 JICA Kambia agricultural development project

# 18.0 Current interventions continues.

12.0 Vietnamese rice production scheme

13.0 Chinese hybrid rice production/South-South cooperation

14.0 Govt. of SL / FAO operation feed the Nation

15.0 Govt. promotion of private sector participation in agriculture through the Local Councils

16.0 Establishment of sector coordination mechanism by Govt.

# 19.0 Conclusion

- Overall significant food commodity price increase was observed in almost all of the sampled communities due partly to effects of poor feeder road network and increased transportation cost
- Scope for inter district trade and commodity movement from surplus to deficit areas remains limited given the poor rural road network conditions.
- Immediate action for increased rice production is to focus on interventions to increase yields.

# 1.0 THE NUTRITION SITUATION

- The 2008 SLDHS findings about Sierra Leone collected information on the situation of children and women in Sierra Leone.
- This survey involved Statistics Sierra Leone; UNICEF/SL Project Officers in education; health; water and sanitation and HIV/AIDS

# 1.0 THE NUTRITION SITUATION CONTINUES

- Survey tools included models and standards developed by the global multiple indicator cluster survey project, designed to collect information on the situation of women and children.

## 2.0 OBJECTIVES OF THE NUTRITION SURVEY

- To provide current information for assessing the present situation of women and children in Sierra Leone.
- To produce data to monitor progress towards the achievement of targets and goals of the MDG and PRSP.
- To contribute to the improvement of data and monitoring systems in Sierra Leone

## 3.0 INDICES OF THE KEY FINDINGS:

- Nutrition places children at increased risk of morbidity and mortality, and has also shown to be related to impaired mental development in the following prevalence:
- Under weight prevalence      30 %
- Stunting prevalence              40 %
- Wasting prevalence                9 %

## 3.0 INDICES OF THE KEY FINDINGS CONT.

- The height and weight data were used to compute three summary indices of nutritional status of children in Sierra Leone; and were expressed as standardized scores (z-scores) or standard deviation units from the median for the international reference population:
  - Height for age - Stunting
  - Weight for height - Under weight
  - Weight for age - Wasting

# 4.0 NUTRITIONAL STATUS OF CHILDREN

- Percentages of children under five years were classified as malnourished, according to the three anthropometric indices of the nutritional status.
- Children who fall more than two (2) standard deviation below the reference median were regarded as under nourished;
- Those who fall more than three standard deviations below the reference median were considered severely under nourished.

# 4.0 NUTRITIONAL STATUS OF CHILDREN

- Children whose height for age was below minus two (-ve2) standard deviation from the median of the reference population were considered stunted (short for their ages).
- Stunting is the outcome of failure to receive adequate nutrition over an extended period, and is affected by recurrent or chronic illness.

# 4.1 Height for Age in Months

Background) Age in months	% Below -3 SD	% Below -2 SD	Number of children
>6	6.5	13.6	240
6-8	11.2	20.5	146
9-11	8.6	18.4	140
12-17	19.8	20.5	341
18-23	20.7	32.7	194
24-35	26.0	47.5	486
36-47	24.7	39.6	626
48-59	23.1	43.0	589
<b>Sex</b>			
Male	22.5	38.6	1342
Female	18.7	34.3	1423

## 4.1.1 Height for Age Analysis

- Stunting has become widespread among older children, one in three children ages 12 to 17 months and older.
- Stunting was 48% among children age 24 to 35 months.

## 4.1.2 Height for Age Regional Analysis

Residence	% below -3 SD	% below -2 SD	Number of children
■ Urban	13.9	29.7	750
■ Rural	23.0	38.9	2,014
Region			
East	16.4	33.6	507
North	22.6	39.5	1328
Southern	24.0	38.1	546
Western	14.0	26.9	383

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### 4.1.3 Height for Age Regional Analysis continues

- Stunting levels are slightly higher for boys than girls, and markedly higher for rural children (39%) than for urban children (30%)
- The prevalence of stunting varies by region from 27% in the Western region to 40% in the Northern region.

#### 4.1.4 Height for Age –District Analysis

District	% below -3 SD	% below -2 SD	Number of children
Kailahun	17.1	38.7	112
Kenema	20.3	36.6	203
Kono	11.9	27.3	192
Bombali	18.6	35.8	266
Kambia	17.1	35.4	229
Koinadugu	29.5	41.9	166
Port Loko	27.0	44.2	271
Tonkolili	22.5	40.2	397
Bo	25.9	39.9	259
Bonthe	22.2	35.0	89
Moyamba	33.0	45.9	80
Pujehun	15.3	30.9	118
Western Area Rural	14.0	28.7	98
Western Area Urban	14.1	26.3	284

## 4.1.4 Height for Age - District Analysis

Children living in Moyamba (46%), and Port Loko (44%) districts, are more likely to be short for their age than children from other districts.

## 4.1.5 Height for Age – Mother's Education

Mother's Education	% below -3 SD	% below -2 SD	Number of children
No Education	21.1	38.0	1,807
Primary Educ.	21.4	31.1	253
Secondary Educ.	12.4	22.9	204
Above Secondary	( 0.0)	(18.2)	22

TOTALS                      20.6                      36.4                      2,764

Children of mothers with some secondary or higher education are much less likely to be stunted than children whose mothers achieved only the primary school level or never attended school.

# 4.2.1 Weight for height – Age in Months

Background)

Age in months	% below -3 SD	% below -2 SD	% above +2 SD	Number of children
>6	4.8	15.3	12.0	240
6-8	4.6	10.8	11.0	146
9-11	9.6	14.9	8.2	140
12-17	5.3	11.9	5.9	341
18-23	2.4	8.3	4.8	194
24-35	3.1	8.8	9.8	486
36-47	5.0	10.2	9.7	626
48-59	2.9	7.6	6.6	589
<b>Sex</b>				
Male	4.6	9.9	8.4	1,342
Female	3.9	10.5	8.4	1,423

- Wasting levels are highest at ages below six (6) months and at nine (9) to eleven(11) months(15% each); which is unusual since it is before the time the children is being weaned and thus more vulnerable to illness 10% of Sierra Leonean children are wasted , with 4% severely wasted

## 2.2.2 Weight for height Analysis

- Children whose weight-for height is below minus two (-ve2) standard deviation from the median of the reference population are considered wasted (thin).
- Wasting represents the failure to receive adequate nutrition in the period immediately before the survey.
- Wasting is typically the result of recent illness episodes, especially diarrhoea, or of a rapid deterioration in food supply.

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## 2.2.3 Weight for height Analysis Regional

Residence	% below -3 SD	% below -2 SD	%above +2 SD	Number of children
▪ Urban	5.4	11.3	10.3	750
▪ Rural	3.8	9.8	7.7	2,014
<b>Region</b>				
East	4.1	9.9	11.6	507
North	3.3	8.6	5.8	1328
Southern	6.5	14.5	11.7	546
Western	4.4	9.9	8.6	383

- Wasting is more common in the southern region (15%) of sierra Leone.

## 2.2.4 Weight for height Analysis-Districts

District	% below -3 SD	% below -2 SD	% above +2 SD	Number of children
Kailahun	4.1	9.3	6.9	112
Kenema	2.8	9.1	5.3	203
Kono	5.4	11.1	20.9	192
Bombali	2.9	7.4	9.7	266
Kambia	7.2	15.2	7.6	229
Koinadugu	4.0	8.1	3.2	166
Port Loko	3.0	9.7	7.5	271
Tonkolili	1.3	5.0	2.2	397
Bo	6.7	16.3	7.4	259
Bonthe	7.9	14.1	17.3	89
Moyamba	4.8	12.6	30.2	80
Pujehun	6.2	12.0	4.1	118
Western Area Rural	3.3	7.5	2.6	98
Western Area Urban	4.8	10.8	10.6	284

Children living in Bo (16%), Kambia (15%) and Bonthe (14%) are more likely to be wasted than children from other districts.

## 2.2.5 Weight for height Analysis–Mother's Education

Mother's% Educ.	below -3 SD	% below -2 SD	%above +2 SD	No. of children
No Education	4.5	10.8	8.0	1,807
Primary Educ.	6.3	10.1	12.3	253
Secondary Educ.	0.8	8.1	9.4	204
Above Secondary(0.0)		(5.0)	(5.0)	22
<b>TOTALS</b>	<b>4.2</b>	<b>10,2</b>	<b>8.4</b>	<b>2,764</b>

# 4.3.1 Weight for Age

Background)

Age in months	% below -3 SD	% below -2 SD	% above +2 SD	Number of Children
>6	4.5	14.2	10.0	240
6-8	6.2	13.8	4.3	146
9-11	6.3	17.3	3.0	140
12-17	7.7	20.9	3.9	341
18-23	4.6	18.5	3.3	194
24-35	5.5	20.7	5.1	486
36-47	9.1	23.6	2.1	626
48-59	8.1	25.5	0.7	589
<b>Sex</b>				
Male	7.9	23.6	3.4	1,342
Female	6.3	18.8	3.5	1,423

## 4.3.2 Weight for Age District Continues

- Children whose weight-for-age is below minus two (-ve2) standard deviation) from the median of the reference population are considered under weight.
- The measure reflects the effects of both acute and chronic malnutrition.

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## 4.3.3 Weight for age Analysis Regional

Residence	% below -3 SD	% below -2 SD	%above +2 SD	Number of children
Urban	6.7	15.7	4.4	750
Rural	7.2	23.1	3.3	2,014
Region				
East	6.3	17.7	5.7	507
North	7.5	23.5	2.7	1328
Southern	8.7	23.6	3.4	546
Western	4.5	13.9	3.4	383

- Looking at the regional distribution pattern, the prevalence of over weight children ranges from 6% in the Northern region, to 12% each in the Eastern and Southern regions.

## 4.3.3 Weight for age Analysis Regional Continues

- Children living in rural areas are more likely to be under weight (23%), than urban children(16%)
- The proportion of under weight children ranges from 14% in the western region to 24% in the in each of the Northern and Southern regions. About 30% of children are under weight in the Bonthé , Kambia and Koinadugu districts.

## 4.3.4 Weight for age Analysis Districts

District	% below -3 SD	% below -2 SD	% above +2 SD	Number of children
Kailahun	3.9	17.2	3.8	112
Kenema	7.8	20.2	1.5	203
Kono	6.1	15.4	11.2	192
Bombali	4.9	18.9	1.6	266
Kambia	10.0	29.1	4.3	229
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Bo	9.5	29.9	0.8	259
Bonthe	7.7	18.3	8.4	89
Moyamba	7.1	19.2	6.3	80
Pujehun	8.8	16.7	3.6	118
Western Area Rural	2.5	19.3	1.3	98
Western Area Urban	5.1	12.0	4.2	284

## 4.3.4 Weight for age Analysis Districts Continues.

- At the district level, obesity is the highest among children living in Moyamba (30%); followed by Kono (21%), and Bonthe(17%).
- 21% of Sierra Leonean children are under weight, with 7% classified as severely under weight.

## 4.3.5 Weight for age Analysis Mother's Education

Mother's% Educ.	below -3 SD	% below -2 SD	%above +2 SD	No. of children
No Education	8.1	23.1	3.7	1,807
Primary EduC.	3.0	14.2	2.4	253
Secondary Educ.	1.3	11.5	4.0	204
Above Secondary(0.0)		(4.4)	(7.0)	22
TOTALS	7.1	21.1	3.5	2,764

# 5.0 CONCLUSIONS

- Overall nutritional statistics vary significantly by place of residence and mother's education.
- Rural children are more likely to be nutritionally disadvantaged in terms of stunting and under nutrition; but not wasting.
- Variation by region and district are striking, with moyamba district having the highest proportions of stunted (46%) and obese 30% children;
- Children whose mothers have no education are twice as likely to be under weight as children of mothers with at least some secondary school education