

**REPUBLIC OF LIBERIA
MINISTRY OF AGRICULTURE**

**TECHNICAL CONSULTATIVE MEETING ON THE 2008/2009 EX-POST AND
THE 2009/2010 CEREAL AND FOOD BALANCE SHEET OF CILSS AND
ECOWAS COUNTRIES
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Country Presentation

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PRESENTATION

I. INTRODUCTION

The Ministry of Agriculture remains the main implementation arm of government with respect to the promotion of agricultural development policies. The government is indeed determined to restore agricultural activities, encourage and promote agriculture production with the aim of reducing dependency on food imports. Thus, current and accurate statistical information relevant to agricultural production is of necessity.

II. PROGRESS OF THE 2009/2010 CROPPING SEASON

The activities of 2009/2010 cropping season are in progress. Some regions started harvesting while others are weeding. Clearly, as efforts are made to revive the war-torn Liberian economy, giving special attention to the plight of the rural farmers plays a major role in facilitating the recovery of the economy.

2.1. Crop Situation

Rice is Liberia's principal staple food with cassava as major substitute. Shifting cultivation with slash and burn farming method on upland soil dominates rice and cassava production in the country. Over 80 percent of the rice (with cassava mixed) is cultivated on slash and burn upland soil. It is labor intensive; thus, requires enough time.

Major farming activities considered include brushing, felling, clearing, planting, fencing, weeding, and harvesting. Unfortunately, nearly all of these activities did not start on time in all of the regions due to early rain.

III. THE 2009/2010 CEREAL (RICE) AND OTHER FOOD PRODUCTION FORECAST

3.1. 2009/2010 Survey Methodology

Sample Design - The sample design for the 2009 survey is a multi-stage sampling plan with the following features: (a) Enumeration Areas (EAs) as the primary sampling units (PSUs), (b) Agricultural Holders (AHs), within EA as the secondary sampling units (SSUs), (c) Holders' Rice Farms (HRFs) as the tertiary sampling unit, and (d) Experimental plots for crop-cutting in selected farms as the ultimate stage-sampling unit. The sampling plan was adopted with each county as domain of study. The survey is designed purposely to collect rice and cassava data

For the first stage of sampling, the basic frame consists of a list of Enumeration Areas (EAs) from Liberia Institution for Statistics and Geo-Information Services (LISGIS). These EAs were delineated as a result of the 2008 National Housing and Population

Census. According to the 2008 frame, number of households for each EA was indicated, and from this list EAs were selected within county using systematic sampling. The sample was designed with a total sample size of 100 EAs for the country from the total of 4,690 rural EAs. This number was derived based on the amount of resources (time and money) available.

For the second stage of sampling, the basic frame consists of a list of holders. Enumeration areas, which were selected at the first stage of sampling, will be quickly canvassed; that is agricultural households counts will made within EA and recorded on a listing form. Based on the quick canvassing operations, a list of holders will be prepared and the number of farms for each holder will be recorded. From the listing record of holders for each sample EA, a systematic sample of fifteen (15) holders will be taken. The holders selected constitute the sample of farming households that will be interviewed.

For the third stage sampling, the basic frame consists of rice farms for holders selected at the second stage. From the listing record of rice farms a sample of eight (8) farms will be selected for farm area measurement. The selection of these farms will be done using simple random sampling without replacement.

For the ultimate stage of sampling, the basic frame consists of a list of rice farms selected at the third stage for measurement. A sample of five (5) farms will be taken using simple random sampling without replacement. The farms selected constitute the sample of rice farms that will be used for yield estimates.

Determination of sample size and Allocation of Samples

The sample size for the survey was largely determined by the constraint imposed by finance and time. Considering the inadequacy of funds coupled with the cropping season of the country, 38 days on the average were estimated as the minimum for the survey field activities (which include: listing of households, household interview, farms measurement, and crop cutting experiment). Based on pervious production survey, it was estimated that on the average, each enumerator would complete one enumeration area for all the activities within 21 working days. To cover the 15 counties, 56 enumerators including GPS staff are expected to be recruited during the survey; thus, the sample size of approximately 100 EAs from a total of 4,699 rural EAs was derived as shown below:

$$n = (56 \text{ enumerators} * 38 \text{ days}) / 21 \text{ days per EA} = 100$$

Proportional allocation was used to determine the number of EAs selected from each county based on the number of EAs and households as indicated below:

County	EAs	Probabilities	Av.of 2 prob	Household	Probabilities	Sample
Bomi	271	0.06	0.05	9323	0.04	5
Bong	818	0.17	0.18	39644	0.19	18

Gbarpolu	149	0.03	0.03	6758	0.03	3
Grand Bassa	398	0.08	0.08	15965	0.08	8
Grd. Cape Mount	255	0.05	0.05	7869	0.04	5
Grand Kru	129	0.03	0.03	5419	0.03	3
Grand Gedeh	122	0.03	0.04	12915	0.06	4
Lofa	505	0.11	0.10	20227	0.10	10
Margibi	432	0.09	0.08	13845	0.07	8
Maryland	147	0.03	0.03	6957	0.03	3
Montserrado	331	0.07	0.08	16852	0.08	8
Nimba	677	0.14	0.13	25231	0.12	13
River Cess	149	0.03	0.03	7167	0.03	3
River Gee	112	0.02	0.03	6337	0.03	3
Sinoe	204	0.04	0.06	15328	0.07	6
Liberia	4699	1.00		209837	1.00	100.00

Fields and Yields Measurements

Fields Measurement - Statistics on crop areas and yields are the most important component of crop Production Experience has shown that subjective methods of estimating production (even when other data are available for adjustments) cannot provide reliable results. Accordingly, objective measurements are considered reliable and unbiased (even though it is relatively costly and difficult).

In our traditional setting no farm has all its sides equal or in straight lines. Most of the farms are curvilinear. Therefore, this phase of the field activities requires the taking of point coordinates using GPS following the shape of the farm.

Objective Yields Measurement - The concept of yield has been generally used to represent the amount of produce obtained per unit of crop area. A random process is adopted to select areas (usually called sample plots) planted to rice and cassava. A circular plot with 5 feet radius is to be used for rice and 7 feet radius for cassava. Drying method is adopted for rice yields estimation

3.2. Cereal (Rice) Production

The Government of Liberia with the support from FAO, WARDA and AfDB concluded the implementation of 2009 crop survey. Field staff has been trained and deployed for data collection. Field data are expected in the Central Office between December 2009 and January 2010

IV. CEREAL BALANCE SHEET

4.1. Population.

According to the 2008 National Housing and Population census, the population of Liberia is 3,476,608 with an annual growth rate of 2.1 percent. Using the estimated growth rate, the population of Liberia for the year 2009 is calculated at 3,549,617.

4.2. Available Production

The rehabilitation of agricultural statistical system has been a major concern of the Ministry of Agriculture. This is because of the continued request and demand of agricultural data in the country. Efforts have been made to revive the Ministry's pre-war agricultural survey activities.

However, production data have been produced from special surveys in which subjective methods of data collection were used while others are derived by projection.

Year	Paddy for Consumption	Milled (Mt.)	
2004	127,660	82,980	Projection
2005	133,630	86,860	Projection
2006	139,870	90,915	Projection
2007	175,121	113,830	Subjective
2008	182,570	118,670	Projection

4.3. Commercial Import and Food Aids

The table below depicts the import of rice during the year 2004 – 2008

Year	Rice Import	
	Commercial (Mt)	Non-commercial (Mt.)
2004	120,063.52	
2005	54,379.92	
2006	162,270.90	11,751
2007	201,221.59	13,877.25
2008	341,284.5	

4.4. Rice Available for Consumption

Year	Imported Rice		Local Milled	Total Available for Consumption
	Commercial	Non-commercial		
2004	120,063.52		82,980	203,043.52
2005	54,379.92		86,860	141,239.92
2006	162,270.90	11,751	90,915	264936.9
2007	201,221.59	13,877.25	113,830	328,920..84
2008	341,284.5		118,670	459,954.5

V. FOOD SITUATION AND RISK ZONES

5.1. Food Situation

After 14 years of conflict and associated widespread destruction of the social, economic and physical infrastructure, Liberia has started enjoying relative political stability and improved security, especially since the peaceful legislative and presidential elections in October 2005.

Despite this progress, formidable challenges still stand in the way of setting Liberia on an irreversible course towards recovery and long-term development. Poverty and food insecurity have been singled out as both drivers and consequences of conflict in Liberia.

Liberia is particularly vulnerable to economic shocks and fluctuations of global market prices. The country is a low-income-food-deficit country and relies heavily on food imports to meet its consumption needs. The global crisis of increasing food prices – coupled with high fuel and fertilizer prices during 2008 – worsened the already high levels of food insecurity in Liberia putting in particular vulnerable population groups such as children under-5 and pregnant and lactating women at risk to malnutrition.

In 2007/8, The Liberia government formulated the Food Security and Nutrition Strategy (FSNS) which emphasizes institutionalization of regular effective food security and nutrition monitoring as central importance to reducing vulnerability to food insecurity. Accordingly, establishment of a Food Security and Nutrition Monitoring System was identified as a key deliverable in the PRS led by Ministry of Agriculture (MOA). The 2008 food price crisis reemphasized the need to monitor shocks and impacts on vulnerable population groups. Thus, Food security and nutrition monitoring in Liberia is an integral part of the Government response to increasing prices.

The Government of Liberia with support from FAO, UNICEF, WFP and several NGOs conducted the Food Security and Nutrition Survey (LFSNS) in late 2008 as a follow-up to the Liberia and Greater Monrovia Comprehensive Food Security and Nutrition Surveys (CFSNS) which were conducted in 2006. The survey was designed to provide updated information on key food security and nutrition indicators and causes of food insecurity and malnutrition to inform project/programme formulation processes and provide a baseline for the national Food Security and Nutrition Monitoring System. Due to several factors, the survey results are not yet finalized.

5.2. Market Situation

Currently, the Ministry of Agriculture and the Institute of Statistics and Geo-Information Services (LISGIS) is monitoring market prices across the country with support from WFP and FAO.

The purpose of the monitoring exercise is to analyze prices of commodities in order to inform stakeholders of food availability and access issues; food price changes over time; food price differences at different locations; food price changes in different seasons and how food price change relative to other commodities. Generally, the September 2009 exercise reveals that:

- The price of rice was relatively staple with the exception of Pleebo in Maryland County that recorded a steep increase in price between June and September 2009
- The prices of palm oil and charcoal were staple
- Price of rice in markets far from Monrovia were high
- The increase in the price of rice is linked to the deplorable road condition which makes transport cost very high.

5.3. Nutritional Situation

The Comprehensive Food Security and Nutrition Survey (CFSNS) conducted in 2008 revealed that food utilization in Liberia is undermined by malnutrition, particularly among women and young children. Malnutrition was reported to be widespread due to food insecurity, inadequate health services, poor water sanitation, high illiteracy rates among women and teenage mothers. Acute malnutrition among children five years was reported to be 4.9% while prevalence of stunting was put at 36.1% in eight out of the fifteen counties. An estimated 44% of childhood deaths were said to be attributed to malnutrition thus making it the single most important cause of death for Liberian.

WFP is working with Ministry of Health and Social Welfare in collaboration with UNICEF and some NGOs to provide nutritious food for pregnant and nursing mothers and children under five years of age who are at risk of malnutrition.

A lighter survey was conducted in late October 2009. The result of that survey will determine whether has been an improvement the nutrition situation.

VI. IDENTIFICATION OF RISK ZONES

Unlike some other countries that suffer from drought and flooding, Liberia is relatively blessed. However, the draft report of the first sets of market data collected in September 2009 suggest that counties with markets that are less integrated with the rest of the country particularly Monrovia which is the main entry port for all imports are at risk in terms of food security. The counties that are at most risk are Grand Kru, Maryland, Gbarpolu and River Gee.