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(a) PREFACE

This report is the result of a joint effort among researchers from the three East African countries of Kenya, Uganda and Tanzania. The consultancy, commissioned by the Eastern Africa Grain Council (EAGC) in collaboration with USAID-CIOMPETE and funded by SIDA was aimed at coming up with National Food Balance Sheets (NFBSs) for the three countries. The entire work was coordinated by Geoffrey R. Njeru and Francis Onditi of the Institute for Development Studies (IDS), University of Nairobi who also did the Kenyan component. The IDS contracted researchers from Uganda and Tanzania. The Ugandan component was undertaken by Kennedy Oyugi of Techforum Agricultural and Economic Consultants and Ronald Jagwe of the Ministry of Finance, Planning and Economic Development, Kampala, Uganda, while the Tanzanian component was undertaken by David Tuhoye of Corporate Business Advisory Company Ltd of Tanzania. The Report is divided into three main parts with each part covering one of the three countries, starting with Kenya. The three-country reports were guided by a common set of Terms of Reference (TOR) which are enumerated in section C below. Each of the three reports has five main chapters in line with the five main TOR. These are Assessment of current practices of constructing national food balance sheets, Public and Private Sector Views on the quality of data assembled into the national food balance sheets; Gaps in the FBSs that are currently being pooled at national level with recommendations on how to address them; National Food Balance Sheets as at March 2010; and the last chapter (Five) contains conclusions, recommendations and areas for further research.
EXECUTIVE SUMMARY

The development of a Food Balance Sheet (FBS) is an important component of a country’s planning not only for the purpose of forecasting future food demand and supply, but also as a tool for informing development of plans in other sectors of the economy. Efficient and effective production and distribution of food and agricultural products is dependent on timely and reliable statistical information. In any case, the ability of any country to make accurate forecasts of food availability determines the strategies required for fighting food poverty thus improving living standards of the country’s population. Enhancing a comprehensive food inventory that reflects the regional food situation is imperative in this era of globalization and regional integration. Having a regional or common food balance sheet is indeed a step ahead within the framework of East African Community’s economic development agenda as articulated in the EAC Development Strategic Plan 2006-2010. The benefits of developing a common food balance sheet in East Africa are numerous and include the need to fast-track and harmonize regional policies for the interests of all the member states.

The consultancy involved primary and secondary research in each of the three East African countries. The findings were astonishingly similar. To begin with, national and regional forums for FBS stakeholders were absent in all three countries. This was aggravated by lack of inter-ministerial coordination of relevant government departments especially agriculture, livestock, fisheries and national statistics organs. Official data in the hands of government custodians were difficult to access thus disadvantaging traders and researchers. Often, food data users have to make do with inaccurate or obsolete data whose validity and reliability were minimal. In other cases, food data are collected and tailored for specific clients and uses, not necessarily for preparation of national FBSs. This makes the data as well as the FBSs prone to political interference. In countries like Kenya, FBS preparers are few, overwhelmed by work and under-funded. Data collection is usually not meant for FBS preparation and it is done by agricultural extension officers, not professional researchers. Users occasionally stumble upon accurate data and traders mainly rely on the internet and informal networks. However, the volume of cross-border trade is difficult to capture as most of it is clandestine. The absence of accurate national FBSs therefore renders a structured trading system (STS) within the region almost impossible. Among the recommendations is the need to create national FBS committees in each country with clear mandates. There is also need for EAGC to chair and
coordinate committees for preparing national FBSs in the region and carry out joint data validation exercises in the region on a regular and continuous basis. To avoid over-reliance on other data generators, the EAGC will need to conduct research on its own by hiring professional researchers. This way, the EAGC will be able to establish a regional food data base that will be updated every month. In addition, it will facilitate a regional STS by linking food-needy and food-surplus areas and populations. By then it will have become a major food security stakeholder in the Eastern Africa region.

(b) ABBREVIATIONS AND ACRONYMS
CGIAR Consultative Group on International Agricultural Research
EABL East African Breweries Limited
EAGC Eastern Africa Grain Council
FAO Food and Agriculture Organization
FBS Food Balance Sheet
FBSs Food Balance Sheets
ICRAF International Council for Research in Agro-forestry
ICRISAT International Crops Research Institute for the Semi Arid Tropics
IDS Institute for Development Studies
IFAD International Fund for Agricultural Development
IFPRI International Food Policy Research Institute
IPAR Institute for Policy Analysis and Research
JKUAT Jomo Kenyatta University of Agriculture
KACE Kenya Agricultural Commodity Exchange
KARI Kenya Agricultural Research Institute
KBL Kenya Breweries Limited
KIPPRA Kenya Institute for Public Policy Research and Analysis
KNBS Kenya National Bureau of Statistics
KRA Kenya Revenue Authority
LBDA Lake Basin Development Authority
NCPB National Cereals and Produce Board
NFBSs National Food Balance Sheet(s)
RFBS Regional Food Balance Sheet
TARDA Tana and Athi Rivers Development Authority
UON University of Nairobi
WFP World Food Programme
(c) TERMS OF REFERENCE (TOR)
The development of the national and regional Food Balance Sheets (FBSs) was guided by several Terms of Reference (ToR). After dis-aggregation, the following eight could be isolated. These were to:

(i) Assess the current practices of constructing National Food Balance Sheets (NFBSs) at national level;
(ii) Assess the use(s) into which the FBSs are put;
(iii) Assess the institutional structure within which the FBSs are constructed and used;
(iv) Assess the views of the public and private sector on the quality of data/information that is assembled into the national FBS;
(v) Identify gaps in the FBSs that are currently being pooled at national level and recommend measures to take care of the gaps;
(vi) Facilitate the formation of an all-inclusive National Food Balance Sheet Consultative Forum. Where a committee already exists, expand it in order to include any institution that the stakeholder may perceive as necessary in building credibility of the FBS; Draft Terms of Reference and modus operandi for the committee(s) as an EAC/COMESA regional cell for pooling of data on food availability on a monthly basis and submission of the same to the RATIN by 15th of every month;
(vii) Facilitate construction of an all-stakeholder FBS through a National Forum using the template provided by EAGC; and
(viii) Submit the NFBS, after its validation, to the regional focal point i.e. EAGC. This will then be posted to RATIN and further linked to the EAC and COMESA websites.

This consultancy will address TOR (i-v) and TOR vi-viii will be addressed by the client (EAGC) with advice from the consultant(s).
PREAMBLE FOR EAST AFRICA

The development of a Food Balance Sheet (FBS) is an important component of a country’s planning not only for the purpose of forecasting future food demand and supply, but also as a tool for informing development of plans in other sectors of the economy. Efficient and effective production and distribution of food and agricultural products is dependent on timely and reliable statistical information. In any case, the ability of any country to make accurate forecasts of food availability determines the strategies required for fighting food poverty thus improving living standards of the country’s population. Enhancing a comprehensive food inventory that reflects the regional food situation is imperative in this era of globalization and regional integration. Having a regional or common food balance sheet is indeed a step ahead within the framework of East African Community’s economic development agenda as articulated in the EAC Development Strategic Plan 2006-2010. The benefits of developing a common food balance sheet in East Africa are numerous and include the need to fast-track and harmonize regional policies for the interests of all the member states.

Regional Economic Communities (RECs) such as EAC and COMESA have established economic and trading frameworks within which food can be availed to the population through a Structured Trading System (STS). It is also common knowledge that these regions have the potential for producing tradable surpluses for cereals. Despite this reality, the region remains a net importer from extra regional sources. The trading arrangement amongst regions is however, curtailed by a number of restrictive policies ranging from import restrictions through seasonal pricing to marketing controls. To a large extent, these policies are catalyzed by food security concerns that are premised on lack of reliable information on available food stock in the region. Each country plans what is available within the borders as opposed to a comprehensive regional food availability situation in form of a Regional Food Balance Sheet (RFBS).

Food Balance Sheets (FBSs) were the major source of data when, in 1936, at the request of the League of Nations Mixed Committee on the problem of nutrition and its sub-Committee on Nutritional Statistics, a systematic international comparison of food consumption data was prepared. The need for food balance sheets became more pronounced during World War II. During the period 1942/43, European countries, through a joint committee of experts from Canada, United States and the United Kingdom developed detailed techniques
for preparation of FBSs. Subsequently, FBSs were developed in Germany, for itself as well as for the occupied countries. Food Balance Sheets played a major role as they dealt with issues of food allocation and distribution in the period of worldwide food shortages after the war.

Since its establishment in 1945, the Food and Agriculture Organization (FAO) has placed great emphasis on the development of comprehensive food and agricultural statistics as the only sound basis for the analysis of the food and nutrition situation and for action to improve it. The statistics contained in food balance sheets play an important role in this respect. FBSs provide comprehensive information on patterns, levels and trends of national diets. It is important however to note that food can be a function of culture, hence different regions depict food and nutrition situations differently. In 1946, a Handbook for the Preparation of Food Balance Sheets was printed. In the same year, food balance sheets were published for 41 countries covering the period 1934-38, with a supplement in 1950 giving 1948/49 data for 36 countries. In 1955, food balance sheets giving 1950/51 and 1951/52 data were published for 33 countries, together with revised data for the 1934-38 periods. Supplements were also issued in 1956 giving 1952/53 data for 30 countries and in 1957 giving 1953/54 and 1955 data for 29 countries. Following discussions regarding methodological issues, it was decided in 1957 to discontinue the publication of annual food balance sheets and instead publish three-year average food balance sheets. The first set for 30 countries was issued in 1958, covering the period 1954-56, the second for 43 countries in 1963 covering the period 1957-59, the third for 63 countries in 1966, covering the period 1960-62 and the fourth in 1971 for 132 countries, covering the period 1964-66. Again in 1960, time series covering the periods 1935-39-50, 1951-53 and 1954-56 were published showing data for 32 countries. This was more detailed including information on production, available supply, feed and manufacture, as well as per caput. Food supplies available for human consumption in quantity, calorific value and protein and fats content were also revealed.

In 1977, it was possible to publish provisional 1972-74 average food balance sheets for 172 developed and developing countries. For the first time, tables were included showing data for all countries, continents, economic classes, regions and the world, long-term series of per caput food supplies in terms of calories, protein and fats for major food groups for the average period 1961-63 and individual years 1964 to 1974. During the period 1979-81, three-year average food balance sheets were published in a standardized format covering 146 countries. Subsequently, the 1992-94 issue covered 175 countries whereas in 1994-96 180 countries were covered.

The first World Food Survey, conducted in 1946, was made successful by the presence of food balance sheets. The FBSs also provided a major source of information for establishing the statistical base of FAO’s indicative World Plan for Agricultural Development for which purpose the 1961-63 average food balance
sheets were prepared for all the 64 developing member countries that participated in the study. According to FAO, the data used in the construction of food balance sheets, both official and unofficial, are obtained from FAO’s Statistics Division and other relevant units within FAO. The missing data are estimated on the basis of surveys and other information as well as technical expertise available in FAO. Comments on the previously published average food balance sheets and suggestions for their improvement received from countries are also been taken into account.

Food Balance Sheets are assembled from a variety of sources. The quality of the balance sheets and their coverage vary considerably among countries and commodities. In practice, inaccuracies and errors may be introduced at each stage of a balance sheet’s construction. For the purpose of consistency, the data for the construction of a food balance sheet should be obtained from the same source. This implies that, first, the country should have a comprehensive statistical system which records all current information relating to every component of the food balance sheet. Second, any information adopted or co-opted should add value to the food balance sheet. Third, the information available should be consistent, at least with respect to measurement units and time reference periods. The accuracy of a food balance sheet, which largely depends on derived statistics, is, in turn, dependent on the reliability of the underlying basic statistics of population, supply and utilization of foods and their nutritive value. These vary a great deal both in terms of coverage as well as accuracy. In fact there are many gaps particularly in the statistics of utilization for non-human food purposes, such as animal feeds, seed and manufacture, as well those in commercial and even government stocks. To overcome this limitation, estimates can be made while the effect of the absence of statistics on stocks is considered to be reduced by preparing the food balance sheet as an average for a given period of time depending on factors such as seasonality and harvesting periods.

As already indicated, most potentially edible commodities should be taken into account in preparing food balance sheets, regardless of whether they are actually eaten or used for non-food purposes. It can be difficult to establish an absolute list of items that balance in time and space. However, the generic component of a food balance sheet will include; primary crops, livestock and fish commodities up to the first stage of processing in the case of crops and to the second stage of processing in the case of livestock and fish products. Usually, a food balance sheet contains widely classified items such as cereals, roots, tubers, sugar and syrups, pulses, tree nuts, fruits, meat, fish and fish products, milk and cheese, alcoholic beverages, as well as oil and fats. For the purpose of this study, only six grain food crops are within the scope; i.e. maize, rice, wheat, millet, sorghum and beans.

A Food Balance Sheet is an important tool that facilitates decision making at both tactical and strategic policy levels. Firstly, it depicts the overall trend in national
food supply while at the same time disclosing the types of foodstuffs taken by a given socio-cultural class of people in terms of quantity and nutritional requirements. Secondly, a FBS may be useful in carrying out an appraisal to establish the food situation through estimations and projections. At policy level, a FBS is a barometer for measuring national food supplies, famine and malnutrition for interventional measures. Last but not least is the role of FBS in promoting data-based agricultural development through policy analysis and trade-related activities such as imports and exports.

The Uganda food situation has remained relatively constant with minimal changes over the last decade. On average though, crop harvest and household stocks have maintained normal availability with access to food in most parts of the country. Food security in Uganda, like any other developing economy, is uncertain, for various reasons. Spatiality and the political architecture of the country dictate the status of food security in terms of geographical regions. For instance, majority of Northerners (Gulu, Lira, Kitgum and Pader) are among the districts that continue to depend on humanitarian supplies for a major portion of their food and non-food needs (see www.food.security/uganda). The World Food Programme (WFP) estimates that 1.3 million people still live in displaced persons' camps. Populations under displacement lack the basic requirements needed for enhancement of livelihood on a daily basis. Time and physical resources needed for production become limited hence low aggregate crop yields. Inaccessibility to productive land reduces the ability of the population to compliment food aid from own production, and when the people’s purchasing power declines sharply, this may cascade into food poverty if the state delays in taking the necessary measures. The interplay among several factors in food security within this section of the Ugandan population compromises the people’s recommended daily allowance (RDA) and WFP has been instrumental in filling the gap by about 74% of the 2,100 Kcal per person per day.

As already mentioned in this report, the food situation in Uganda, to some extent follows geographical suitability of the land. In this respect, in areas such as Kotido, Moroto, Nakapiripirit districts of the Karamoja region, household food stocks are low and reports by WFP indicate that stocks are diminishing rapidly. Reduced food stocks in these areas have implications on coping mechanisms. It has been reported that at onset of famine, the households’ dependency on hunting and gathering of wild fruits, honey and vegetables rises. Other coping mechanisms in the dry spells include increased sharing of food between the rich and poor kinfolk, which cushions the poor against such vagaries of nature.

The United Republic of Tanzania has reported poverty as one of the causes of food insecurity in the country with the most expansive land area in the East African region. According to the Poverty and Human Development Report (PHDR, 2005), basic needs poverty decreased from 38.6 percent in 1991/1992 to 35.6 percent in 2000/2001. Statistical projections that have been used indicate that there has been a further decline to 29.5 in 2005. Food poverty has also
declined from 21.6 percent in 1991/1992 to 18.7 percent in 2000/2001. Food poverty was targeted to further decline to 15 percent by 2003, and to 10 percent by 2010. Regionally, there is a big disparity between urban and rural poverty for both food and basic needs poverty. Poverty remains a major challenge in rural areas where 87 percent of the population lives and ironically the level of poverty is high among households who practice agriculture, thus underscoring Africa’s agrarian paradox.

Malnutrition is still a common problem in some parts of Tanzania. Nutrition is a significant component of human development, particularly among young children in the under-five age category. Despite the importance attached to proper nutrition, the PHDR Report for 2005 indicates that there is no significant nutritional status improvement for the under fives in the country. Nutritionally-related ailments such as stunted growth continue to affect a sizeable proportion of children in the country and worse still the rural population suffers most as compared to urban dwellers. This phenomenon is common in the less developed countries (LDCs) where development policies are urban-biased and agricultural products tends to move towards urban areas probably as a response to the higher purchasing power among the urbanites.

Tanzania’s main source of food for the majority of the population is agricultural production. The government classifies the country as both transitory and chronic in nature with regard to poverty and food security. Transitory food insecurity arises from instability in food production, high food prices and/or low household incomes. This is common in the marginal areas of the central and northern regions of Dodoma, Singida, Shinyanga, Tabora, some parts of Tanga, Arusha, Kilimanjaro and Manyara. Due to the high priority accorded subsistence needs, yields are sold almost immediately after harvest and the farmers and/or producers are subsequently unable to make adequate stock savings that could be useful in times of drought or for exchange. Price fluctuations are the main shocks at this stage of production. Other factors contributing to seasonal food insecurity according to the PHDR include, overselling due to competing needs for cash including health, education, and clothing. In addition, inadequate post-harvest management knowledge contributes to food insecurity. This scenario perpetuates the cycle of food insecurity, as it causes people to change their eating patterns and habits. It is important to note that continuous or chronic food insecurity is common to the urban poor households, the rural landless and the asset-poor smallholder farmers and pastoralists. Again, this depicts a typical situation in any other country in sub-Saharan Africa.

In Tanzania, food security can be analyzed in three aspects; food availability, accessibility and utilization. The major source of food supply in Tanzania is local production. On average, Tanzania produces about 95% of its food requirements. In some years, the country’s food self sufficiency measured by the Self Sufficiency Ratio (SSR) was over 100. However, there are pockets of food shortage in some regions and districts even when the SSR is over 100. This is mainly due to regional input allocation and output distribution.
Most food imports in the country usually comprise substantial amounts of wheat in both surplus and food shortage years. For example, over the period 1999 to 2003, the country imported an average of 300,000 tons of wheat to supplement domestic production of 71,000 tons per year. Food imports however increased during the drought periods. In 2003/2004 when there was food shortage due to drought, total food imports amounted to 698,668 tons comprising 103,762 tons of maize, 157, 597 tons of rice, and 437,309 tons of wheat grain. Out of the total imports, commercial imports amounted to 607,600 tons comprising 42, 694 tons of maize, 135,597 tons of rice, and 429,309 tons of wheat. Food aid amounted to 59,068 tons comprising 29,068 tons of maize, 22,000 tons of rice and 8,000 tons of wheat.

The major factors affecting food availability are low production due to low productivity of land, labour and other production inputs, high incidences of crop and livestock pests and diseases, inadequate processing, storage and marketing infrastructure. This is mainly caused by inadequate financial resources to obtain productivity-enhancing inputs, limited availability of support services and appropriate technologies. Other factors affecting food availability include high pre- and post-harvest losses due to pests, diseases and climatic variations. According to PHDR (2005), post-harvest losses account for over 30% of all crop losses in the country. It is estimated that post-harvest losses range from 30%-40% for cereal grains and legumes, up to 45% for roots and tubers and 40%-80% for fresh vegetables and fruits.

In terms of accessibility to food, Tanzania’s infrastructure remains a daunting factor. The spatial distribution of surplus food production areas is such that food production is mainly concentrated in the southern highland regions and peripheral areas of the country, while the traditional food-deficit areas are located mostly in the central corridor and parts of the northern regions. Given the fact the country is vast and there are long distances between food producing and deficit areas with inadequate transportation networks, there are high costs of transportation involved leading to high distribution costs which are often reflected in high prices. Decisions on food utilization are dependent on availability of timely and reliable data on the food balance sheet. Food utilization and health status of population are closely related aspects of human development. The status of nutrition among children in Tanzania seems to be incompatible with this principle. Empirical evidence reveals that 38% of the children in Tanzania suffer from chronic protein energy malnutrition, indicative of chronic food insecurity (Demographic Health Survey, 2005). The report further reveals that underweight and weighting in children stand at 30% and 3% respectively, indicative of transitory food poverty.

The government of Kenya has indicated that some 10 million people are highly food insecure (GOK, 2009). This is mainly attributed to the seasonality of rains in the recent past. The food situation in Kenya also varies with geographical
location with the most insecure areas being Eastern, Coast and North Eastern provinces. The food security situation in the country has deteriorated reaching critical levels in the pastoral areas of Moyale, Kajiado, parts of Marsabit and Mandera districts. The overall country food insecurity has been exacerbated by shortages in rains, livestock diseases, rise in prices, crop failure in some parts of the country, and conflict in pastoral areas. A combination of all these factors precipitates acute food insecurity while accentuating chronic food insecurity across the most vulnerable urban, arid, and semi-arid areas of the country.

In terms of food security and nutrition, Kenya’s main staple food is maize. Despite the high demand for maize, production does not match the growing population hence the relationship has continued to portray unequivocal situation. Recent studies indicate that national maize production levels have been declining since 2006 (EAGC, 2009). The Grain Council reported that 34 million bags were produced in 2006 compared to 25 million bags in 2008. In 2009, the failure intensified such that 35-45 percent of the long rains crop was not realized. This is partly the situation due to overdependence on rain-fed farming.

Recurring seasons of failed or poor rains, sustained high food prices, environmental degradation, outbreak of diseases and flooding are cited as some of the obstacles against food security (USAID, 2008). Food insecurity in Kenya has also occurred in the context of on-going civil and political unrest, including violence associated with the December 2007 general elections that displaced nearly 664,000 persons in Nairobi, Rift Valley, Western and Nyanza provinces (GoK, Ministry of Special Programmes, 2009). On August 20, 2009, the Kenya Food Security Group (KFSG) increased the projected number of people in need of emergency food assistance between September 2009 and February 2010 to 3.8 million individuals representing a 32% increase since February 2009. In response to on-going humanitarian needs, on October 1, 2009, the US government renewed the disaster declaration for food insecurity in Kenya for 2010.
KENYA FOOD BALANCE SHEET REPORT 2010

PREPARED AND SUBMITTED TO THE EASTERN AFRICA GRAIN COUNCIL (EAGC)

BY

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Institute for Development Studies (IDS)
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ABBREVIATIONS AND ACRONYMS

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FBS Food Balance Sheet
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TERMS OF REFERENCE (TOR)
The development of the national and regional Food Balance Sheets (FBSs) was guided by several Terms of Reference (ToR). After disaggregation, the following eight could be isolated. These were to:

(ix) Assess the current practices of constructing National Food Balance Sheets (NFBSs) at national level;

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(xi) Assess the institutional structure within which the FBSs are constructed and used:

(xii) Assess the views of the public and private sector on the quality of data/information that is assembled into the national FBS;

(xiii) Identify gaps in the FBSs that are currently being pooled at national level and recommend measures to take care of the gaps;

(xiv) Facilitate the formation of an all-inclusive National Food Balance Sheet Consultative Forum. Where a committee already exists, expand it in order to include any institution that the stakeholder may perceive as necessary in building credibility of the FBS; Draft Terms of Reference and *modus operandi* for the committee(s) as an EAC/COMESA regional cell for pooling of data on food availability on a monthly basis and submission of the same to the RATIN by 15th of every month;

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PREAMBLE FOR KENYA

The development of a Food Balance Sheet (FBS) is an important component of a country’s planning not only for the purpose of forecasting future food demand and supply, but also as a tool for informing development of plans in other sectors of the economy. Efficient and effective production and distribution of food and agricultural products is dependent on timely and reliable statistical information. In any case, the ability of any country to make accurate forecasts of food availability determines the strategies required for fighting food poverty thus improving living standards of the country’s population. Enhancing a comprehensive food inventory that reflects the regional food situation is imperative in this era of globalisation and regional integration. Having a regional or common food balance sheet is indeed a step ahead within the framework of East African Community’s economic development agenda as articulated in the EAC Development Strategic Plan 2006-2010. The benefits of developing a common food balance sheet in East Africa are numerous and include the need to fast-track and harmonize regional policies for the interests of all the member states.

Regional Economic Communities (RECs) such as EAC and COMESA have established economic and trading frameworks within which food can be availed to the population through a Structured Trading System (STS). It is also common knowledge that these regions have the potential for producing tradable surpluses for cereals. Despite this reality, the region remains a net importer from extra regional sources. The trading arrangement amongst regions is however, curtailed by a number of restrictive policies ranging from import restrictions through seasonal pricing to marketing controls. To a large extent, these policies are catalyzed by food security concerns that are premised on lack of reliable information on available food stock in the region. Each country plans what is available within the borders as opposed to a comprehensive regional food availability situation in form of a Regional Food Balance Sheet (RFBS).

The government of Kenya has indicated that some 10 million people are highly food insecure (GOK, 2009). This is mainly attributed to the seasonality of rains in the recent past. The food situation in Kenya also varies with geographical location with the most insecure areas being Eastern, Coast and North Eastern provinces. The food security situation in the country has deteriorated reaching critical levels in the pastoral areas of Moyale, Kajiado, parts of Marsabit and Mandera districts. The overall country food insecurity has been exacerbated by
shortages in rains, livestock diseases, rise in prices, crop failure in some parts of the country, and conflict in pastoral areas. A combination of all these factors precipitates acute food insecurity while accentuating chronic food insecurity across the most vulnerable urban, arid, and semi-arid areas of the country.

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Recurring seasons of failed or poor rains, sustained high food prices, environmental degradation, outbreak of diseases and flooding are cited as some of the obstacles against food security (USAID, 2008). Food insecurity in Kenya has also occurred in the context of on-going civil and political unrest, including violence associated with the December 2007 general elections that displaced nearly 664,000 persons in Nairobi, Rift Valley, Western and Nyanza provinces (GoK, Ministry of Special Programmes, 2009). On August 20, 2009, the Kenya Food Security Group (KFSG) increased the projected number of people in need of emergency food assistance between September 2009 and February 2010 to 3.8 million individuals representing a 32% increase since February 2009. In response to on-going humanitarian needs, on October 1, 2009, the US government renewed the disaster declaration for food insecurity in Kenya for 2010.
CHAPTER ONE: CURRENT PRACTICES OF CONSTRUCTING NATIONAL FOOD BALANCE SHEETS, USES AND INSTITUTIONAL STRUCTURES

1.1 The General Practice in Kenya
In Kenya, a food balance sheet is not common terminology. It is understood by a restricted circle of stakeholders who include the FAO, Tegemeo Institute, an affiliate research wing of Egerton University; the ministry of Agriculture; the Kenya National Bureau of Statistics (KNBS); the National Cereals and Produce Board (NCPB); and the Eastern Africa Grain Council (EAGC). In terms of preparation, the study found out that Tegemeo Institute, the Ministry of Agriculture and KNBS are the main (and perhaps only) entities that prepare food balance sheets although they do not share any coordinated forum for this important national task. There is therefore lack of a clear-cut institutional set up and coordination in the preparation of food balance sheets in Kenya. However, there exists a Food Security Committee within the Ministry of State for Planning and Economic Development of the Prime Minister’s office. The role of this committee was ambivalent as it was neither tasked to prepare FBSs nor to coordinate the stakeholders who include producers (farmers), transporters or consumers of the FBSs or the food itself e.g. traders and end-users. The Kenyan food chain is therefore without clear a governance system. On the supply side, there is no forum for data collection forum except the Ministry of Agriculture’s skeleton staff that has a gigantic task of collecting data for all crops on a continuous but irregular basis and feeding the KNBS for eventual production of the FBS. The NCPB and the Ministry of Special Programmes, both heavy potential consumers of FBS data, operate like independent agencies without a common meeting point. More importantly, the NCPB was found to be more of a victim of politics than an independent strategic national food reserve. Any food data going into or emanating from the NCPB is difficult to ascertain or believe by potential users. Out of the three East African countries therefore, Kenya’s food balance data were the most unreliable.

1.2 Uses and Users of National Food Balance Sheet Information in Kenya
Whereas the study established that indeed there are no more than a couple of FBS preparers in Kenya, there is a conspicuous absence of a structured of uses and users. It was not clear from the preparers who the users were and neither was it clear from the users whether they deliberately sought food balance data from the preparers or it came to them by accident. There was no indication that FBS preparation was a monthly exercise so posting accurate monthly data was not possible. Food data pooling is therefore not taken seriously at the national level. In terms of uses, what goes to the WFP Reserve was not clear, neither was what goes to the NCPB. The latter was reluctant in divulging data on reserves held and it appeared that it is only when government agencies such as the Ministry of Special Programmes approaches the NCPB for famine relief efforts does the latter budge and even then, the statistics on amount released or retained need to be approached with caution. Demand for food data for trading purposes did not appear to be the main motivating factor in FBS preparation. This is a major shortcoming in the whole exercise. In addition, political interference in the activities of the NCPB makes the latter appear ineffectual as custodian of the country’s strategic food reserves. A case in point was the recent instance where maize ridden with aflatoxin at the Ishiara Depot was condemned
by public health officials who recommended that it be burnt but to date, the burning is not known to have been done.

1.3 Institutional Structures Governing Construction of National Food Balance Sheets in Kenya

1.3.1: The Official Mandate

The collection, collating and compiling FBS data in Kenya is a preserve of the ministry of Agriculture and the KNBS. The latter is the official agency charged with the responsibility of producing official government statistics. The Tegemeo Institute has been producing food data mainly on maize but the uses as well as the users of these data are not clearly stipulated. Thus, it is not unlikely that any available systematically compiled food data may be user-specific or client-based.

1.3.2: Sources of Data

The food data sources in Kenya are basically secondary with few instances of primary data. In particular, no national survey is known to have been conducted with the aim of preparing a National food balance sheet. The main sources of secondary data include official statistics provided by the ministry of Agriculture and forwarded to KNBS for analysis and compilation into outputs such as the annual Economic Surveys. Both the ministry of Agriculture and Tegemeo Institute have been conducting interviews with farmers and other stakeholders although the study did not establish any serious or regular inter-institutional data exchanges with the wider group of stakeholders. While production and consumption data are usually estimated from household surveys, external trade data were difficult to obtain from institutions such as the Kenya Revenue Authority (KRA) or the Customs Department. Data on cross-border trade were the most difficult to capture as the bulk of it is usually done under cover of darkness and NGOs such as FEWSNET have not been able to unravel the full extent of this trade. Although the enormity of cross-border trade needs to be captured at border points by government agencies such as Ministry of Trade and Industry, this has proved elusive. The other difficult type of data to capture is that on post-harvest losses which are usually estimated from production figures. Regular studies are clearly needed with improved scientific estimation procedures.

1.3.3 Institutions Involved in Construction of FBSs and/or Related Information

As mentioned above, the Kenyan public institutions involved in the preparation of food balance sheets and related informational profiles are chiefly the Ministry of Agriculture and the Kenya National Bureau of Statistics. Non-official actors in FBS preparation are the Tegemeo Institute, the Eastern Africa Grain Council and Food and Agriculture Organization of the United Nations. The others are marginal or unwitting players who, though they might be aware of the importance
of a national FBS, have never taken part in the preparation of one or are not officially mandated by the government to prepare or take part in such preparation. The study has identified a wide array of FBS stakeholders whose efforts could be harnessed and coordinated to produce national FBSs with accurate and timely information if only politics could be persuaded to keep a distance. What is clear however, is that construction of a national FBS in Kenya has not been taken seriously before and those who need such data land on it usually more by accident rather than design.

CHAPTER TWO: PUBLIC AND PRIVATE SECTOR VIEWS ON DATA QUALITY IN NATIONAL FOOD BALANCE SHEETS

2.1 Methodology and Data Collection Tools

This chapter reports on findings from questionnaire-based interviews with sampled farmers, traders, transporters, processors and key informants in the public and private sectors. The main issues include accessibility, validity, accuracy, reliability, relevance and timeliness of food data that could be used to prepare national food balance sheets. A structured questionnaire was administered to a sample of 10 purposively selected respondents who were/are either actual or potential FBS data consumers. On the other hand, an interview guide/checklist was used to elicit qualitative data from discussions with 4 key informants who were the preparers of national food balance sheets purposively selected from 4 organizations namely, Ministry of Agriculture, KNBS, the National Cereals and Produce Board and Tegemeo Institute. For the FBS preparers, discussions revolved around what and who is involved in FBS preparation; methods of food data collection; data sources, validity and reliability; access to data on non-commercial crops such as millet and sorghum, data dissemination; feasibility of food monitoring systems; role of chain actors in the food trade; data on eating habits; and impact of politics on reliability of national food balance sheets.

2.2 The Findings

2.2.1 Public and Private Sector Views on Access, Validity and Reliability of FBS Data

Public sector actors were actually the FBS preparers while private sector actors were the users of FBS data. The former were limited to the ministry of Agriculture, KNBS, NCPB and Tegemeo Institute. According to information provided by respondents from these two sectors, the preparation or construction of a national food balance sheet is a process that entails planning, data collection as well as estimation of production targets against expected outputs. The data are collected by Ministry of Agriculture staffers (extension officers and statisticians) who conduct 2 interviews with farmers during the short rains and 6 during the long rains, traders, millers and the NCPB. The interviews are district
and province based. The data are then processed by the Kenya National Bureau of Statistics. However, there was no mention of data validation.

While household data were/are easier to capture, those on cross-border trade are more difficult as much of it is clandestine. However, the Kenya Revenue Authority (KRA) and the Customs Department do capture what legally passes through their eyes. The WFP and USAID may also be privy to the magnitude of cross-border food trade. Although data on stored food may be difficult to domesticate, the respondents were agreed that if only data gathering and updating could be stepped up, a food monitoring system would be feasible. Sometimes, data on eating habits are captured through food security assessments. All in all, a majority of the preparers and users indicated that the data so collected were 80-90% reliable.

2.2.2 The Process of Preparing a Food Balance Sheet and Who is Involved

FBS preparation involves use of data from crops, livestock and fisheries sectors. Such data are official and/or estimates relating to production, utilization and external trade. Thus, it is a process that entails obtaining and compiling statistical data from government ministries/departments, manufacturing and processing industries, merchants and transporters. The basic assumption in collecting farm household data is that area planted equals the area harvested. The seeding rate has been estimated at 150 bags per hectare while wasted food or post-harvest losses have been estimated at 5% of available supply by marketing boards and local merchants, and at 3% by transportation and storage entrepreneurs. On the other hand, millers estimate the extraction rate for wheat at 75%.

Below is a dummy showing domestic supply and utilization of any food item, which, ideally, should precede the preparation of a NFBS.

Table 2.1: Domestic Food Supply and Utilization Dummy

<table>
<thead>
<tr>
<th>Domestic Supply ('000 MT)</th>
<th>Domestic Utilization ('000 MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production =</td>
<td>Animal feeds =</td>
</tr>
<tr>
<td>Stocks available =</td>
<td>Seed =</td>
</tr>
<tr>
<td>Exports =</td>
<td>Processed =</td>
</tr>
<tr>
<td>Imports =</td>
<td>Waste =</td>
</tr>
<tr>
<td>-</td>
<td>Food =</td>
</tr>
<tr>
<td>TOTAL</td>
<td>TOTAL</td>
</tr>
</tbody>
</table>

Table 2.2 below is a detailed template of what should go into a national food balance sheet.

Table 2.2: NFBS Template

<table>
<thead>
<tr>
<th>Production</th>
<th>Domestic Supply ('000 MT)</th>
<th>Domestic Utilization ('000 MT)</th>
<th>Per Caput</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prod. Imports Stock Exports Total</td>
<td>Feed Seed Processed Food Waste Other Total KgCal /P/ Ye</td>
<td></td>
</tr>
</tbody>
</table>
2.2.3 Role of Chain Actors in Food Trade

Chain actors such as traders and middlemen help in stabilizing the food market and also create jobs. However, FBS data are prone to manipulation due to political interference. The longer the food commodity chain the more likely that the end-user will bear the excess transactions costs, thus pushing food prices up. In chain governance, the traders have an upper hand while the farmers and end-consumers have less power in the chain. However, if there are more buyers and competition is stiff, the producer/farmer benefits from the highest bidder while end-consumers benefit when there is overproduction, several trading agents or when government intervention brings down food prices.

2.2.4 Data on Non-Commercial Food Crops

Some FBS preparers reported that they could capture data on non-commercial food items such as millet and sorghum. The reality is that data on these crops are difficult to capture accurately. Trade in these items is basically local and farmers rarely keep records of harvests. However, the study came across one organization that links millet and sorghum growers with EA/Kenya Breweries as the two crops are used as raw materials in the brewing industry. This organization is called Smart Logistics Solution Ltd which, among other things, deals with agro-commodity sourcing, contracting, supply chains, warehousing and industry policy development.

2.2.5 Cross-border Trade

The actual extent of cross-border trade may never be ascertained as most of it is illegal. However, in 2009, KEPhIS and MOA recorded that 2 million bags of maize was transacted as imports and exports through permits in cross-border
trade from Uganda into Kenya in 2009, against an expected output of 3.6 million bags. Estimation of carry-over stocks is done by importers, other traders and the NCPB.

2.2.6 Impact of Politics on Reliability of FBS Data

The reliability of data from government ministries and departments as well as KNBS depends on underlying basic statistics of population, food supply and utilization of goods and technical conversion factors. Dissemination is mainly through publications such as the annual Economic Surveys.

2.3 FBS Data Users

A greater majority of the FBS data users are traders and transporters in maize and beans. Millet and sorghum had more dealers than wheat and rice which had the least number of dealers, perhaps depicting the relative importance of these commodities as food items. Among the key stakeholders were seed suppliers who dealt directly with the farmers. Others were those in seed production and bulking; storage; trading; and processing. In terms of scale of operation, maize and beans had greater latitude of coverage, from local to international levels, meaning that these were the two most transacted food items. While rice and wheat were transacted across national borders, millet and sorghum were mainly locally traded commodities. FBS data users had no inputs in their preparation and relied more on non-official sources of data, usually face-to-face discussions with their colleagues.

2.4 Food Information Sources for Stakeholders

The government was cited as the biggest source of information on food and related aspects. This did not come as a surprise as the available FBS preparers are government departments. This was followed by private research institutions, colleagues, internet, farmers and traders, in that order. As custodian of strategic food reserves, government is likely to continue being the biggest food information source. FBS data users such as traders and the private sector players will continue relying on government for food information until the private sector is fully developed. However, we hasten to add that the control of food data should not be divested away from government due to its sensitivity as a security issue.

2.5 Rating of EAGC and RATIN as Food Information Sources

The respondents were asked to give their ratings on the EAGC and RATIN as sources of food information in the region, using criteria namely, access, reliability, relevance and accuracy for all the six crops in the TOR. The responses were as follows:
Data Access - MODERATE
Data reliability - LOW
Data relevance - HIGH
Data Accuracy - LOW
These responses suggest that though the data emanating from the two institutions are of high relevance, their reliability, accuracy and access need to be improved a great deal. This is a challenge that now falls squarely on the shoulders of the EAGC in their new role as convener and coordinator of the proposed FBS Committees in the region.

2.6 Means of Access to Food Information

The Internet was given as the biggest means of accessing food information by stakeholders, a fact that underscores the rising use of ICT among food stakeholders to access information. The second place went to face-to-face informal talks. Daily newspapers fell into third place, followed by SMS/mobile telephone, magazines and television. Asked whether the data accessed through these means were reliable, about a quarter of the respondents indicated that there was sufficient grain commodity information flow especially for staples such as maize and beans. This is a rather low reliability level as the majority either fairly agreed or fairly disagreed. However, a small group strongly agreed that for millet and sorghum, there was sufficient information flow. The most widely available Information, though not necessarily from official circles, was that on maize. Thus, maize and beans continue to dominate in local and regional markets. The frequency of access to such information was spread equally through weekly, monthly, quarterly and annually.

2.7 Food Information Sharers

Food information sharers were/are diverse. Government ministries and departments, research and development institutes, finance departments, sales and marketing departments, policy makers, farmers, the general public and colleagues were among the many food information sharers. The study found out that the dissemination channels were not clear-cut and accessing information from government departments was characterized by setbacks and frustration. For this reason, the EAGC could seize upon this opportunity to claim the role of principal custodian and disseminator of food data in the region. The EAGC could also enlarge and strengthen the pool of information sharers who are bona fide stakeholders in the food trade. It is also high time that the full list of FBS information sharers or stakeholders became known through EAGC’s midwifery.

2.8 Challenges in Accessing Accurate Data

For both FBS preparers and users, there are challenges in accessing accurate data. The respondents gave some of these challenges, among others, as:

- Existence of different data-sets on the same item(s) and same data-set for different items;
2.9 Information Needs for FBS Preparers
The study unearthed a number of areas on which the FBS preparers need information. These include the following:

- Production per hectare per crop under extreme conditions
- Local vs. certified seed production and use
- Imported seed quantities
- Market size trends for farmers and consumers
- Price fluctuations per commodity per crop season
- Input use per crop per season
- Harvests and post-harvest losses
- Production specifications in quantity and quality
- Offers and bids for supply of foodstuffs

2.10 What Needs to be Done
In view of the critical need to have accurate, reliable and timely food information by stakeholders, the EAGC could consider facilitating following in future:

- Data validation and harmonization for FBS accuracy and reliability;
- Continuous research involving professional researchers, not just extension officers;
- Continuous monitoring of price trends;
- Monitoring the extent of local and certified seed use and recording of yields; and
- EAGC being a proactive conduit for food information in the region, effectively and efficiently linking producers and consumers (traders and end users).

CHAPTER THREE: GAPS IN CURRENT NATIONAL FOOD BALANCE SHEETS AND SUGGESTED MEASURES

This Chapter identifies gaps in the current national food sheet and deficiencies in the preparation process and gives suggestions on how to address such gaps and/or deficiencies.

3.1: Gaps in the Current Kenyan National Food Balance Sheet(s)
After assessing the current practice of constructing FBSs, the following gaps were identified:

3.1.1 Absence of a Standing Committee or National Food Balance Sheet Forum
It was established that despite the importance of agriculture and food related information to traders and end-consumers, the country is yet to form a strong and sustainable forum or committee to be in charge of the nation’s food balance sheet. Absence of such a committee or forum limits the country’s capacity to compile and disseminate the food balance related information to the stakeholders in a regular and timely manner. The Ministry of Agriculture, KNBS and Tegemeo Institute, the entities currently associated with FBSs, do not appear to have a common consultative forum. Except for the imperative of providing food aid in times of need, the country appears to have abdicated its responsibility to the NCPB and the WFP. The Food Security Committee in the Prime Minister’s Office does not appear to have the necessary stamina and direction to oversee the construction of national FBSs.

3.1.2 Lack of Adequate Stakeholder Participation in FBS Preparation

Lack of adequate stakeholder participation has already been alluded to above. While there are over twenty stakeholders in Kenya who could be called upon to assist in the construction of an updated national FBS, only three are currently active and may be called the core stakeholders. There does not appear to have a concerted national effort to identify and co-opt stakeholders who could add value to the national FBS. Except for Egerton University through the Tegemeo Institute, public universities have been conspicuously absent in the preparation of the national FBS. A notable though inadvertent absentee has been the Institute for Development Studies (IDS) of the University of Nairobi. Other vital organs such as the Kenya Agricultural Research Institute (KARI) have also been missing in action. The failure to triangulate the stakeholders into supply-side, intermediate and demand-side actors may have led to the prevailing state of affairs. The three sets of actor are producers/farmers; transporters and middlemen; and buyers and consumers. By so doing, it is easier to identify the core and peripheral actors or players in a national FBS. The fuller range of Kenyan stakeholders is covered in Chapter Four of this Report.

3.1.3 Narrow Range of Food Items Covered

The range of food items covered by a FBS usually depends on how that country defines food security. Whereas Uganda, Tanzania, Rwanda and Burundi define food security in terms of availability of bananas and cassava, and cereals such as millet and sorghum, food security in Kenya is synonymous with the availability of maize. Being a country of small-scale agricultural communities, bumper harvests of maize are seen as ensuring food security. This is despite the drifting feeding habits especially among the youth and urban populations, who have moved into wheat, rice and Irish potatoes as staple foods. However, a steady rise in obesity, blood pressure, diabetes and cancer among the two population groups, the country is witnessing a slow but sure reversal into the traditional food items such as cassava, arrow-roots, sweet potatoes, millets and sorghums as witness the mushrooming of African Dishes eating joints in Nairobi and other urban areas. Representative or inclusive national food balance sheets should
therefore include non-cereal food items and should enlist the services and outputs of ministries such as Livestock and Fisheries. This will correct the existing imbalance in FBSs in favour of maize. This should go in juxtaposition with national studies on the population’s feeding habits. This will help to pinpoint with greater accuracy areas of food deficiency and those of surplus and then link these through a structured trading system (STS), besides improving the accuracy and validity of FBS data.

3.1.4 Inadequate and Doctored Data

The study identified political interests of key personalities in government as a major obstacle in the construction of a reliable national FBS. In addition, interviews with a number of key informants revealed that Kenya has not conducted a study aimed specifically at the construction of a national food balance sheet. Whatever data goes into the FBS is sourced from other studies whose objectives are diverse. This means that data that may be crucial in the construction of an accurate and reliable food balance sheet may not be accessed. This leads to estimations and approximations that may not be guided or informed by the rules of scientific rigour to ensure objectivity, validity and reliability. The situation is aggravated by political interference when data contained or released by the NCPB may be suspected to have been doctored to safeguard secrecy.

3.1.5 Unclear FBS Clientele

So far, the study did not establish a linkage between the FBSs prepared by the Ministry of Agriculture/KNBS or Tegemeo and any trading activities. This is a grave anomaly. Few of the traders interviewed indicated that they relied on any of the FBSs mentioned to transact cereal business. The two institutions involved in the drawing up of the food balance sheet do so for either as a government/donor requirement or for unclear reasons. The resultant FBSs have therefore not been popular items or catalysts for a vibrant interaction between cereal producers and buyers and/or consumers. Different objectives for preparation have led to food balance sheets that are either different but covering the same time periods or similar yet covering different time periods. This would be a major source of frustration among stakeholders interested in using the FBS for trading reasons.

3.2 SUGGESTED MEASURES TO ADDRESS THE IDENTIFIED GAPS

3.2.1 Absence of FBS Standing Committee or Consultative Forum

It is recommended that a Kenya National Food Balance Sheet Standing Committee chaired and coordinated by the EAGC be formed with immediate effect. The membership of this committee should be drawn from the Ministries of Agriculture/KARI, Livestock and Fisheries; Planning and National Development; KNBS; Tegemeo Institute, the Institute for Development Studies of the University
of Nairobi; the Food Security Committee in the Prime Minister’s Office; and KIPPRA. International organizations and the private sector should only be ex-official members and not the core stakeholders. Such a committee should be funded by the exchequer as it performs a crucial public role. The committee should be clearly mandated through an Act of Parliament as the sole agent for the preparation and validation of national food balance sheets on a quarterly basis. This is the committee to liaise and establish linkages and networks among the core and peripheral stakeholders especially food traders, transporters and end-consumers. Through the inputs of the committee, the EAGC will be able to keep track of food-deficient and food-surplus areas or populations within each country and in the region at large and stimulate trading activities between the two. The EAGC will also be able to constantly update their food data-bases on a continuous basis. This will go a long way in not only battling hunger but also reducing illegal cross-border trade that is currently a norm rather than the exception. This way also, the EAGC will claim credit in helping the EA governments access customs duties for the various food items crossing the borders. However, the EAGC will independently conduct research on the various areas and issues of interest from time to time and disseminate the findings to this committee.

3.2.2 Lack of Adequate Stakeholder Participation

In order to ensure a wider and more inclusive stakeholder participation in the preparation and use of a national FBS in Kenya, the study recommends among others:

- That the Eastern Africa Grain Council (EAGC) will chair and coordinate not only the Standing Committee but also the all-inclusive stakeholder forums in all the countries involved. It (EAGC) should also be custodian of a data-base regional cereal exports and imports.

- That a triangulation of stakeholders be carried out to identify who plays what role in preparation and use of the national FBS, i.e. producers, conveyors and consumers. The Ministry of Agriculture and KNBS will continue to be pivotal and proactive in the collection of primary and secondary data for the FBS (see Chapter Four for a list of stakeholders).

- That core stakeholders such as the Ministries of Planning and Economic Development; research institutes (KARI, IDS, KIPPRA); NCPB; and the Food Security Committee in the Prime Minister’s Office be brought on board.

- That peripheral stakeholders such as agro-food industry processors (Unga Limited), transporters/distributors such Grain Bulk Handlers be co-opted. Essentially these are FBS information consumers but also provide valuable information on their grain needs and held stocks per unit of time.
• Except for the commercial ones, most small-scale farmers do not know how much they produce in any given crop season. However, farmers are a useful source of data on issues such as causes and forms of post-harvest losses.

• Some civil society actors such as local and international NGOs are consumers of food balance sheets and could bring in much needed information on where there is hunger in the country and also as distributors of relief food. The Kenya Red Cross, Action Aid (K) and the Kenya Freedom from Hunger Council.

• That to minimize bias in the data presented, the construction of national FBSs be regularized and done with no specific user in mind. This way, the FBS is likely to present an objective position regarding the food situation in the country at all times.

3.2.3 Narrow Range of Food Items Covered

The coverage of food balance sheets will need to be expanded to include non-grain items such as pulses, roots, tubers and fruits (e.g. bananas). This should enable food security stakeholders to estimate consumption levels of each food stuffs and future demand. It will also allow researchers to determine per caput levels for each food item.

CHAPTER FOUR: TOWARDS FORMATION OF ALL-INCLUSIVE NFBS STAKEHOLDER CONSULTATIVE FORUM FOR KENYA

4.1 NFBS Stakeholders in Kenya

The study found out a glaring disconnect among the three East African countries in terms of a harmonized or common regional food balance sheet. Each country has its own FBS and there is no way of telling where there is food surplus or deficit to facilitate legal cross-border trade in the region. Within individual countries, Uganda and Tanzania did not appear to have an official national food balance sheet. In Kenya, the Ministry of Agriculture and Tegemeo Institute of Egerton University have been preparing independent food balance sheets. In addition, the food balance sheet preparers and consumers did not seem to have a common forum to link and enable them harmonize the data apparently originating from several sources. This underscores the fact that a regional FBS stakeholder consultative forum does not exist to date. Consequently, this renders a structured trading system in food grains impossible and opens the flood gates for illegal cross-border trade that goes undetected or graft-laden at border points. FEWSNET, the NGO that aims to document all cross-border trade, has a daunting task.

The study identified a myriad of stakeholders which seem to fall into two main categories: core stakeholders and secondary stakeholders. Core stakeholders
include the Ministries of Agriculture, Livestock and Fisheries in each country; the national bureaus of statistics; research institutes and ministries of trade/commerce and East African Cooperation. Secondary stakeholders are all the other actors that include NGOs; regional development authorities; cereals boards; international organizations such as FAO, ICRISAT, and CGIAR; seed supply companies; national customs and revenue authorities, millers and processors such as brewers. The stakeholders may further be subdivided into three broad categories i.e. supply-side actors, intermediate actors and processor-cum-consumer actors. The table below attempts to present this categorization.

**Table 4.1: National Food Balance Sheet Stakeholders Consultative Forum for Kenya**

<table>
<thead>
<tr>
<th>SUPPLY-SIDE ACTORS (Input Suppliers, Producers)</th>
<th>INTERMEDIATE ACTORS</th>
<th>GRAIN PROCESSING AND CONSUMER ACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Public Sector Operators</strong></td>
<td>1. Transporters</td>
<td>1. Food-deficit populations</td>
</tr>
<tr>
<td>(a) Government of Kenya through the Ministries of Agriculture, Livestock and Fisheries;</td>
<td>(a) Individuals</td>
<td>2. Middlemen</td>
</tr>
<tr>
<td>(b) Farmers and their unions</td>
<td>(b) Private companies</td>
<td>3. Private individuals and companies (local busaa brewers; EABL; Kibo Breweries, etc)</td>
</tr>
<tr>
<td>(c) Universities and research institutes</td>
<td>2. National Bureaus of Statistics</td>
<td></td>
</tr>
<tr>
<td>(d) Regional Development Authorities e.g. TARDA</td>
<td>3. National Cereals and Produce Boards</td>
<td></td>
</tr>
<tr>
<td><strong>2. Private Sector Operators</strong></td>
<td>4. Agricultural Commodity Exchange Actors e.g. KRA</td>
<td></td>
</tr>
<tr>
<td>(a) Seed and fertilizer suppliers</td>
<td>5. Millers</td>
<td>4. Government agencies</td>
</tr>
<tr>
<td>(b) Traders</td>
<td>6. Private traders and NGOs e.g. FEWSNET; FOODNET</td>
<td>5. National and international food aid organizations e.g. WFP</td>
</tr>
<tr>
<td>3. International input suppliers e.g. FAO, ICRISAT, CGIAR</td>
<td>7. Quality Assurance Actors e.g. Health Inspectorates</td>
<td></td>
</tr>
<tr>
<td>4. Seed-supplying NGOs</td>
<td>8. EAGC*</td>
<td>6. Millers</td>
</tr>
<tr>
<td>5. EAGC*</td>
<td></td>
<td>7. EAGC*</td>
</tr>
</tbody>
</table>

*The EAGC is expected to keep track of the grain chain from production through distribution to consumption.*

The Kenya food balance sheet for the first quarter of 2010 is depicted in Table 4.2. This is the product of tedious work by the researchers who encountered countless difficulties accessing the data. However, it covers only the six crops given in the TOR.

**Table 4.2: Kenya Food Balance Sheet**

<table>
<thead>
<tr>
<th></th>
<th>Maize</th>
<th>Wheat</th>
<th>Rice</th>
<th>Beans</th>
<th>Millet</th>
<th>Sorghu</th>
</tr>
</thead>
</table>

xxxii
<table>
<thead>
<tr>
<th>(1) From Stocks</th>
<th>545,000</th>
<th>-</th>
<th>-</th>
<th>35,000</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Imports (projections for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• From Regional sources (EAC&amp;COMESA)</td>
<td>377,800</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4,703</td>
<td>16,500</td>
</tr>
<tr>
<td>• From Extra Regional sources</td>
<td>-</td>
<td>647,375</td>
<td>200,000</td>
<td>12,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Imports</td>
<td>377,800</td>
<td>647,375</td>
<td>200,000</td>
<td>12,000</td>
<td>4,703</td>
<td>16,500</td>
</tr>
<tr>
<td>(3) Production (projections for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Long rains</td>
<td>2,298,000</td>
<td>350,000</td>
<td>31,659</td>
<td>294,582</td>
<td>35,020</td>
<td>58,842</td>
</tr>
<tr>
<td>• Short Rains</td>
<td>574,000</td>
<td>-</td>
<td>-</td>
<td>73,645</td>
<td>32,074</td>
<td>52,180</td>
</tr>
<tr>
<td>Total Production per year</td>
<td>2,872,000</td>
<td>350,000</td>
<td>31,659</td>
<td>368,227</td>
<td>67,094</td>
<td>111,022</td>
</tr>
<tr>
<td>(4) Post harvest loss$^a$</td>
<td>143,600</td>
<td>18,500</td>
<td>6,000</td>
<td>36,823</td>
<td>6,710</td>
<td>11,102</td>
</tr>
<tr>
<td>(5) National Availability (MT) = (1+2+3) – (4)</td>
<td>3,651,200</td>
<td>978,875</td>
<td>225,659</td>
<td>378,404</td>
<td>65,087</td>
<td>116,420</td>
</tr>
<tr>
<td>(6) Exports (projected exports for 2010$^c$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to EAC/COMESA</td>
<td>26,500</td>
<td>5,000</td>
<td>-</td>
<td>2,000</td>
<td>-</td>
<td>1,250</td>
</tr>
<tr>
<td>Extra regional exports</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Exports</td>
<td>26,500</td>
<td>5,000</td>
<td>-</td>
<td>2,000</td>
<td>-</td>
<td>1,250</td>
</tr>
<tr>
<td>(7) National Consumption (MT)</td>
<td>3,861,200</td>
<td>971,000</td>
<td>226,000</td>
<td>376,000</td>
<td>69,750</td>
<td>125,875</td>
</tr>
<tr>
<td>(8) Available stock by end of As at 1$^{st}$ April 2011 (MT) = 5 – (6 + 7)</td>
<td>(236,500)</td>
<td>2,875</td>
<td>(341)</td>
<td>404</td>
<td>(4,663)</td>
<td>(10,705)</td>
</tr>
</tbody>
</table>


Note:

$^a$ Imports estimated from deficits (consumption-production) and actual imports over the last four years

$^b$ Where not provided, post-harvest losses were estimated at 10% of domestic production.

$^c$ Exports obtained from average of four years

$^d$ Production estimated with advice from Ministry of Agriculture staff using secondary data and weather outlook


Note:

$^a$ Imports estimated from deficits (consumption-production) and actual imports over the last four years

$^b$ Where not provided, post-harvest losses were estimated at 10% of domestic production.

$^c$ Exports obtained from average of four years

$^d$ Production estimated with advice from Ministry of Agriculture staff using secondary data and weather outlook
4.2 Composition of NFBS Core Stakeholders

For Kenya, the FBS Committee should include the following core stakeholders:

(i) The Ministry of Agriculture;
(ii) The Ministry of Livestock and Fisheries;
(iii) Kenya National Bureau of Statistics (KNBS);
(iv) The Kenya Agricultural Research Institute (KARI);
(v) The Institute for Development Studies (IDS), University of Nairobi;
(vi) The Food Security Committee in the Prime Minister’s Office;
(vii) KIPPRA; and
(viii) The National Cereals and Produce Board (NCPB).

4.3 Terms of Reference for NFBS Standing Committee

Except for the Food Security Committee in the Prime Minister’s Office, the study found no pre-existing food balance sheet committees in Kenya. The study has therefore proposed the formation of a National Food Balance Sheet Standing Committee (NFBSSC) as an EAC/COMESA regional cell for pooling of food availability on monthly basis and submission of the same to the RATIN by 15th of every month. Its Terms of Reference and modus operandi shall be as follows:

I. To gather, verify and analyze data relevant for the preparation of a national food balance sheet.
II. To compile a national food balance sheet using the data gathered
III. To consultatively validate the compiled food balance sheet for accuracy and reliability
IV. To submit the validated food balance sheet to RATIN by the 15th of every month.

4.4 Draft Modus Operandi for the Proposed Committee

To ensure efficient operation of the committee, we recommend that the following modus operandi:

- The committee shall establish a secretariat, preferably housed by the Ministry of Agriculture. The work of the secretariat shall include data collection and storage; calling for meetings, drafting of the food balance sheet using a predetermined structure; and submitting the balance sheets to RATIN after validation. However, such meetings shall be done in close liaison with the EAGC.

- The Committee shall meet once every 3 months and should as much as possible be synchronized with harvest periods. Such meetings shall be used among other things to verify and validate the data collected from
surveys and elsewhere. The secretariat shall use the verified data to prepare the national food balance sheet.

- The secretariat shall then effect the recommended adjustments, if any, and submit the final document to the RATIN on or before the 15th of the month.

- The EAGC shall coordinate all the national cells in the region and link them to RATIN.

CHAPTER FIVE: CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

5.1 Conclusions
Kenya lacks a clear mechanism and reliable data-base for constructing national food balance sheets. There is lack of seriousness on the part of government in creating the necessary legal, practical and logistical environment for the construction of accurate and reliable national food balance sheets. Despite the existence of several stakeholders in the food (read cereal) trade, these exist as individual actors with no common forum to link them. Neither is there a mechanism to link producers, transporters, traders and end-users of the cereal food items. This is a gap the EAGC could and should readily fill. Many stakeholders are not aware of the existence of RATIN and usually access food data and/or stocks out their own creativity or initiative. The absence of reliable, regular and consistent NFBSs therefore greatly inhibits the realization of a structured trading system (STS) in the country and the region at large. Political interference was found to distort the accuracy of any available national food balance sheets. Similarly, the erratic secrecy surrounding the stocks held at any given time by the national strategic reserve (NCPB) dents the credibility of any figures released, which in turn impacts negatively on the validity of a national FBS. In a country ravaged by hunger on regular basis, absence of a up-to-date FBS implies that food-deficient and food-surplus populations can only be linked by accident or through the proactive foraging of the hungry.

5.2 Recommendations
In view of the above findings, the study makes the following recommendations.

(i) EAGC needs to keep an inventory of all stakeholders in Kenya and the region. These shall include but will not be limited to cross-border traders; farmers, traders and millers’ associations; food aid organizations; governments; government ministries; donors; civil society organizations; KRA and Customs department; health inspectorates; and research institutes.

(ii) That the EAGC, besides chairing and convening FBS committee meetings in the region, takes on a more proactive posture in conducting its own research by hiring or contracting professional
researchers. The data so gathered will be cross-checked with data from other sources.

(iii) The EAGC becomes the custodian and repository of all food-related data and should open a hard and soft copy library for references on food and RATIN data. This will enable the EAGC to link the producers, traders and end-users of grain staples in the region. The data library should form a key reference point for grain traders.

(iv) To avoid missing vital data needed for construction of national food balance sheets, we recommend that surveys be carried out with the national food balance sheet in mind. Given the high costs involved in carrying out surveys, the needed data should be captured during the various related surveys.

(v) Members of the National Food Balance Sheet Standing Committee be trained in food balance sheet preparation and processing.

(vi) To enhance reliability and ownership of the product (i.e. NFBS) by all stakeholders, data validation be done regularly and immediately after national surveys.

(vii) FBS data validation and ownership be achieved through all-inclusive stakeholder consultative workshops and exchange of regional food data.

(viii) That the EAGC facilitates its researchers to attend regional workshops on data harmonization and validation to improve accuracy and reliability of NFBSs, and charting the way forward.

5.3 Areas for Further Research
The EAGC needs to strengthen its research portfolio so as to open its own food data-base and cease to rely on other organizations for data. In this respect, the study identified five key areas that need research as a matter of urgency. These are as follows:

(i) National studies on food consumption trends and feeding habits.
(ii) What constitutes food security in each country in the region
(iii) The magnitude of cross-border trade and its impact on NFBSs
(iv) Monthly national and regional price trends for every tradable commodity.
(v) Use of certified seed, where in each country and with what yields.
(vi) Production per hectare per crop under extreme conditions.
(vii) Local vs. certified seed production and use.
(viii) Imported seed quantities per crop season.
(ix) Market size trends for farmers and consumers.
(x) Price fluctuations per commodity per crop season.
(xi) Input use per crop per season.
(xii) Harvests and post-harvest losses.
(xiii) Production specifications in quantity and quality.
(xiv) Offers and bids for supply of foodstuffs.
The EAGC will need to conduct research in the above areas (and others) where information gaps are clearly evident. Having to wait for government departments to supply the needed data will greatly compromise the efficiency of the EAGC. The latter will have to claim a niche in the research arena and justify its existence this way and/or through other provisions in its official mandate.

REFERENCES FOR KENYA


APPENDICES

Appendix I: Kenya Agricultural Calendar

Seasonal calendar and critical events

Source: FEWS NET
Uganda Food Balance Sheet Report 2010

By

Ronald Jjagwe
Ministry of Finance, Planning and Economic Development, Kampala, Uganda

And

Kennedy Oyugi
Techforum Agricultural and Economic Consultants, Nairobi Kenya

Submitted to
The Eastern Africa Grain Council (EAGC)
May 2010

ABBREVIATIONS AND ACRONYMS

COMESA  Common Market for Eastern and Southern Africa  
EAC  East African Community  
EAGC  Eastern Africa Grain Council  
FAO  Food and Agriculture Organization of the United Nations  
FBS  Food Balance Sheet  
FEWSNET  Famine Early Warning Systems Network  
IFPRI  International Food Policy Research Institute  
MT  Metric Tonne  
NGO  Non-Governmental Organization  
RATIN  Regional Agricultural Trade Intelligence Network  
UBOS  Uganda Bureau of Statistics  
UNDP  United Nations Development Programme  
USAID  United States Agency for International Development
PREAMBLE FOR UGANDA

1.1 Background
Uganda is a key agricultural producer that exports (mostly through informal cross-border trade) huge volumes of foodstuffs to her neighbours. The informal trade is however limited to areas near the borders, a fact that makes it less beneficial to both Uganda and the region. This is so because such trade does not sufficiently respond to supply and demand forces generated/felt in the more interior areas of the trading countries. The recent developments regarding the EAC present huge opportunities for improving the region’s economic status especially in terms of income generation and food security through intra-regional trade. Given that most of the EAC countries rely on agriculture, the smooth flow of timely and adequate information on agriculture is critical for the region’s economic development. One of the most informative tools that could be used by agricultural stakeholders in pursuit of regional food security and enhanced income generation is the Food Balance Sheet (FBS). Simply put, a food balance sheet indicates the country’s or region’s food supply and demand status. This is expressed in terms of domestic production, imports, food aid and release of strategic reserves to the public on the supply side, and domestic consumption, exports and other forms of utilization such as seed, animal feed etc, on the demand side. Combined with population levels which were estimated to be 30.7 million people by mid 2009, a well prepared national food balance sheet gives a picture of the status of food security as well as trade potential for the country or region as a whole.

1.2 Grain Production and Consumption in Uganda
For Uganda, findings by a recent study by the Uganda Bureau of Statistics (commonly shortened and referred to as UBOS) which was presented as a 2009 Statistical Abstract, indicate that maize is the leading cereal followed by millet, sorghum, rice and wheat, in that order. According to the five-year (2004-2008) estimates by the UBOS, beans is another important grain/pulse whose production (in tons) is about three times that of rice. The 2008 estimates by UBOS put the annual production of maize at 1,266,000 tons; millet at 783,000; sorghum 477,000; rice 172,000; wheat 19,000; and beans at 440,000 tons. Compared to other Eastern African countries, Uganda is regarded as being the most food secure of them all.
CHAPTER ONE: ASSESSMENT OF CURRENT PRACTICES OF CONSTRUCTING NATIONAL FOOD BALANCE SHEETS, USES AND INSTITUTIONAL STRUCTURES IN UGANDA

2.1 The General Practice

It was established that most of the key institutional stakeholders such as the Uganda Bureau of Statistics, the ministries of Agriculture and Animal Industry, and Finance, Planning and Economic Development, all understand the basic components and importance of a National food balance sheet. Though all the respondents appreciated the importance of multi-stakeholder involvement in the process of constructing a national food balance sheet, it was evident that most of the available balance sheets were constructed by individual institutions. Given the differences in institutional information needs, each institution may choose to construct a food balance sheet at its own convenient time and focus on crops/products of its choice. It was however reliably established that although each institution compiles their own balance sheet, they tend to borrow data from each other on a case by case basis.

2.2 Institutional Structures Governing Construction of National Food Balance Sheets

2.2.1: The Official Mandate

The mandate of collecting data and compiling the country’s official statistical information is vested in one agency, the UBOS. In particular, the 1998 UBOS Act mandates UBOS to be the principle data Collection, Analysis, Production and Disseminating Agency of the official statistics in Uganda. The Act also mandates UBOS to be the coordinating agency of all producers and users of statistics. This legislative framework empowers UBOS to produce and publish any type of statistics in Uganda. UBOS may delegate to any other organization/agency the production of specific types of Statistics deemed necessary under close scrutiny.

2.2.2 The Sources of Data

The main type of data used is secondary. This is because no surveys have been conducted yet targeting a National Food Balance Sheet as the output. The principle sources of secondary data in the country other than the UBOS include government ministries and Non-Governmental Organizations (NGOs). It is however important to note that there exists strong inter-institutional movement of data. Whereas most institutions go for UBOS for data, UBOS also goes to other institutions such as the Ministry of Agriculture, Fisheries and Animal Industry for data on national agricultural production while the department of Customs
provides data on international trade. Production and consumption data are usually estimated from household surveys while external trade data is captured at border points, points of entry and import/export permit-issuing authorities such as the ministry of trade and industry. Data on post-harvest losses are usually estimated as a percentage of production. This may however change if there is reason to believe that more or less losses would be incurred if for example, El Nino rains coincide with the harvest period. The particular data of interest are usually accessed through publications, periodic reports and relevant websites.

2.2.3 Institutions Involved in Construction of FBSs and Related Information
Some of the public institutions which pool food availability information or related documents include the Uganda Bureau of Statistics itself, the ministries of Finance, Planning and Economic Development, and non-public institutions such as the Eastern Africa Grain Council and Food and Agriculture Organization of the United Nations. As mentioned earlier, UBOS is the primary source of official statistics in the country and statistical information produced by any other organization without involvement of UBOS may not therefore be taken as representing the situation in Uganda. Without relinquishing her overall supervisory role over official statistics, the Act allows UBOS to delegate some official statistics collection duties to other agencies. To this effect, the Ministry of Agriculture, Fisheries and Animal Industry has been tasked by the government to convene a National Food Balance Sheet Taskforce. This will therefore be the official producer of the National Food Balance sheets in Uganda in future. The taskforce is however still at its formative stages.

2.3 Uses of National Food Balance Sheet Information
It was further established that the drawing up of food balance sheets is usually motivated by the need to advance/defend some desired status. The implication here is that most of the balance sheets are for specific purposes and mostly target predetermined and fairly specific information consumers. The discussions revealed that some institutions may draw up food balance sheets with the aim of advancing the country’s need for foreign aid in response to calamities such as the recent land slides. Some non-public institutions may also draw up food balance sheets when called upon by their external donors/development partners. There is, therefore, no regular (monthly/annual) construction of food balance sheets in the country.

CHAPTER TWO: PUBLIC AND PRIVATE SECTOR VIEWS ON DATA QUALITY IN NATIONAL FOOD BALANCE SHEETS

2.1 Public and Private Sector Stakeholder Representation
Generation and usage of food-related information is an important national issue to both public and private sector players. This is so because any decision based on the wrong information is no better than guesswork and is more often than not likely to result in the undesired outcome. The level of commitment one accords a
particular line of thought therefore, will much depend on the level of confidence one has in the information to which he or she is privy. Given the overwhelming importance of reliable information in shaping both public and private decision making processes, the study sought views of the various stakeholders regarding the quality of the information presented in most of the food availability related documents. In appreciation of the fact that the varying information needs among public and sector private players may influence the level of reliability they attach to the available information, the study categorized respondents as either public or private. From our preliminary analysis and experience, we found out that the national food system has much more private players than there are public ones. Most of the respondents were from the private sector comprising NGOs, food manufacturers, distributors and grain traders. Figure 1 below shows the distribution of respondents between these two sectors.

Fig. 1: Public and Private Sector Respondent Distribution


As can be seen from the diagram, private sector players accounted for about 80% of the respondents.

2.2 Stakeholders’ Opinions on Reliability of FBS Data
As indicated earlier, one of the objectives of conducting this study was to gauge the stakeholders’ confidence in the FBS information systems. The two broad categories of stakeholders (public and Private sector players) were therefore asked whether in their opinion, “there was reliable and sufficient grain commodity information flow”. They were then provided with pre-coded responses as follows: 1- Strongly agree; 2=fairly agree; 3=fairly disagree; and 4=strongly disagree. The summary of the responses obtained from public sector players is diagrammatically presented in the figure below.
As can be seen from the above diagram, all the public sector players fairly and/or strongly agreed that the data sets being pooled were reliable. In terms of proportion, 71% of the respondents indicated that they fairly agreed while 29% strongly agreed that the data was reliable. It is also important to note here that none of the public institutions fairly or strongly disagreed with the reliability of the data.

After assessing the opinion of the public sector players, the study turned to the private sector players. The following diagram (Figure 3) shows the responses obtained from the private sector players.
Though most of the private sector players also fairly agreed that the food availability data sets were reliable, there were some who had reservations on the same data. By way of percentages, 64% of the private sector players fairly agreed; 24% were of the opinion that the data were fairly unreliable while 12% strongly disagreed with the data and information systems terming them strongly unreliable. In recognition of the fact that the food systems and the economy as a whole are run by both private and public sector stakeholders, the study assessed the general public’s opinion on the reliability of data and obtained the following results which are presented below.


Table 2: General Public's Opinions on FBS Data Reliability

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fa</td>
<td>21</td>
<td>65.6</td>
<td>65.6</td>
<td>65.6</td>
</tr>
<tr>
<td>fd</td>
<td>6</td>
<td>18.8</td>
<td>18.8</td>
<td>84.4</td>
</tr>
<tr>
<td>sa</td>
<td>2</td>
<td>6.3</td>
<td>6.3</td>
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<td>sd</td>
<td>3</td>
<td>9.4</td>
<td>9.4</td>
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</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2010

Figure 4: General Public's Views on Reliability of FBS Data
As mentioned above, the respondent choices were categorized as fa= fairly agree; fd=fairly disagree; sa=strongly agree; and sd=strongly disagree. It can be seen that most of the respondents (66%) agreed that the data provided was fairly reliable; 19% fairly disagreed, 9% strongly disagreed; while 6% strongly agreed. It is very clear that most of the respondents were of the opinion that the data was fairly reliable. Of particular interest is the fact that two-thirds of the respondents (or 66%) fairly agreed, while only 19% fairly disagreed, which means that FBS data are fairly reliable. Given the nature of sampling which was fairly purposive and targeting people and/or institutions with a direct stake in food systems, a high concentration of responses around “fair” would have indicated low confidence and reservation in the national food information systems. This sharply contrasts with the low number (6%) of respondents who strongly agreed that the data were reliable. This rather low rate of confidence in FBS data among such key stakeholders may be due to the presence of procedural gaps and weaknesses in information channels. Recalling from the previous chapter, the study sought to unravel the low rate of confidence by identifying the procedural weaknesses in the current practice of compiling food availability information.
CHAPTER THREE: GAPS IN THE CURRENT NATIONAL FOOD BALANCE SHEETS
AND SUGGESTED MEASURES

The aim of this chapter is to identify areas of weakness and sources of inaccuracies in FBSs (herein referred to as gaps) and recommend measures to improve the accuracy and reliability of the food balance sheet information. This was achieved by evaluating the current practices against the information needs of the country relating to the food balance sheet.

3.1: Gaps in the Current National Food Balance Sheets

After assessing the current practices of compiling national FBSs, the following gaps were identified:

3.1.1 Absence of Sustainable National Food Balance Sheet Forum

It was established that despite the importance of agriculture and food related information, the country is yet to form a strong and sustainable forum or committee to handle the nation’s food balance sheet. The absence of such a committee or forum limits the country’s capacity to compile and disseminate food information to stakeholders on a regular and timely manner.

3.1.2 Limited Types of Food Covered

Even though it is difficult to accurately capture all foodstuffs in a society characterized by very different nutritional habits, it was found that most of the balance sheets constructed concentrated on cereals and legumes especially beans. In a country like Uganda, where bananas and cassava form an important component of the food system and food security for that matter, making nationwide decisions based on availability or otherwise of only cereals and legumes may not give the correct picture of the food balance. Without proper characterization of the population’s feeding habits, estimating food security status by looking at only a few foodstuffs against the whole population as is the current practice may paint a picture of food deficiency when in actual fact there could be surplus and vice-versa. This in turn disadvantages one or more sections of the population whose feeding habits are not well captured.

3.1.3 Lack of Wider Stakeholder Participation

The preparation of the national food balance sheets by individual institutions without structured consultations with other stakeholders carries with it the risk of oversights and eventual misrepresentation of facts. Individualistic drawing up of such an important national document also means that views and concerns of other stakeholders may not be sufficiently captured. A country using inaccurate or “skewed” information for policy development may not achieve the desired results. The inaccuracy of information may lead to pursuing of the wrong
development objectives and misallocation of resources, thus making the nation worse off.

### 3.1.4 Use and Motivation in Preparing National Food Balance Sheets

It was established that the various individual institutions involved in the drawing up of the food balance sheet do so for a specific objective. Such a practice may encourage tailoring of the food balance to be consistent with the current needs. Given the differences in objectives among the various institutions, it is possible to have food balance sheets that are substantially different yet covering the same period. This may cause confusion among stakeholders who may want to use this important document for reasons other than the objectives that motivated the construction of the balance sheet. Not knowing which balance sheet is correct or wrong, the concerned stakeholder may resort to guesswork thus denting the credibility of the decision making process. Such guesswork increases the risks of making the wrong decisions thereby putting the country’s development programmes in jeopardy.

### 3.1.5 Data Sources and Orientation

Interactions with the key stakeholders revealed that the country does not conduct surveys aimed at the construction of a national food balance sheet. It further emerged that given the irregular nature of constructing national food balance sheets, the objective of constructing the balance sheet is rarely incorporated in the design of the surveys. It is therefore likely that some of the important data required for construction of an accurate and reliable food balance sheet may not be covered. This in turn calls for estimations and approximations thus diluting the reliability of the balance sheet.

### 3.2 Suggested Measures to Address the Identified Gaps

In order to address the identified gaps, we propose the following measures as indicated against each of the gaps:

#### 3.2.1 Absence of a Sustainable National Food Balance Sheet Forum

To take care of this gap and avoid the related limitations, we recommend that a sustainable and independent national food balance sheet committee be formed without further delay. Of essence here however, is the sustainability of such a committee. Given the budgetary constraints facing the country, the committee should be as cost effective as possible. In this regard, we recommend that committee members be drawn from existing institutions and that the food balance sheet preparation be as much as possible, part of their duties at their respective mother institutions. This is to avoid and/or reduce the costs associated with hiring fulltime employees to the committee. Incidental resource facilitation of the committee should however be factored in the national budget. We further recommend that the committee, though independent and impartial in its work, should be anchored in one of the relevant public agencies to allow for easier
approval and ownership of the balance sheet by the people of Uganda. The recent move by the government to task the ministry of Agriculture and Animal Industry with the duty of forming a national food balance sheet taskforce is therefore a step in the right direction. The initiative should therefore be fast-tracked and capacity building efforts enhanced in order to make the taskforce strong and up to the task.

3.2.2 **Limited Types of Food Covered**

In order to capture a realistic food balance situation, we recommend expansion of the list of food stuffs covered in the national food balance sheet. This should however be preceded by a comprehensive characterization of the population in terms of the most consumed food stuffs and the approximate demand for the various food stuffs given the population that consumes the food stuff under consideration. This is particularly important in the computation of per caput food situations.

3.2.3 **Lack of Wider Stakeholder Participation**

The need for wider stakeholder participation in the production of the national food balance sheet cannot be overemphasized. Given the responsibility conferred upon the Ministry of Agriculture and Animal Industry to form a national taskforce, we recommend the strengthening of the Task Force by including the following key stakeholders:

(a) **The Ministry of Agriculture, Fisheries and Animal industry**: This should be able to capture domestic production levels for the various food stuffs including crops and livestock.

(b) **The Uganda Bureau of Statistics (UBOS)**: The UBOS is expected to bring on board both its legal mandate of producing national official statistics given to it by the UBOS Act of 1998, and the wide array of relevant data in its possession.

(c) **The Ministry of Finance, Planning and Economic Development**: As a key consumer of information in the course of policy formulation, this ministry needs to be involved in the process in order to enhance reliability and acceptance of the food balance sheets for policy purposes.

(d) **The Agro-food Industry players**: Required here are representatives of the various food dealers including processors and distributors. In addition to being consumers of the information, they also carry a lot of valuable information regarding their needs for raw materials and the stocks held. Given their commercial orientation, they also invest in generation of information which may compliment the government’s sources.

(e) **Farmer Representatives**: Farmers are the primary source of production and household data and are thus able to bring in vital inputs especially on the difficult-
to-capture aspects such as estimated post-harvest losses. They will also serve to internally validate the production statistics.

(f) **Civil Society Representatives**: Both local and international NGOs should be represented as they form vital avenues for information dissemination to the public. In addition, they are important consumers of the information in the course of designing and implementing development programmes in the country.

(g) **Regional Bodies**: Regional agencies such as the Eastern Africa Grain Council (EAGC) should be part of the taskforce since it links the EAC region to other regions in Africa and beyond. This may come in handy in times of determining the actual or expected regional exports and imports of the important grains.

(h) **Other Relevant Government Representatives**: In addition to the above stakeholders, the government of Uganda may include additional stakeholders as it deems necessary to improve the credibility of the taskforce. This should however take into account technical abilities of such representatives and resource availability.

(i) **Use and Motivation for Preparation of National Food Balance Sheets**: The current issue-specific motivation of constructing food balance sheets may introduce bias in the way such documents are drawn up. In this regard, we strongly recommend the drawing up of detailed but multi-purpose national food balance sheets. If designed with no specific issue or recipient in mind, the balance sheet is likely to reflect the real picture of the country's food situation. We also recommend regular and consistent production of national food balance sheets. This will allow information users to learn the trends and hence make informed decisions.

(j) **Data Sources**: To avoid missing vital data needed for construction of national food balance sheets, we recommend that surveys be designed and carried out with the data requirements for the national food balance sheet in mind. Given the high costs involved in carrying out surveys, the needed data should be captured during the various related surveys. Given the growing importance of regional trade, we recommend that in addition to the national structures, regional bodies such as the Eastern Africa Grain Council take a more active role in information generation and development. This will ensure that Uganda is at par with other Eastern African countries in terms of access to information on availability of food and potential trade in the region. We further strongly recommend an update of estimation models by conducting periodic household, national and regional trade surveys to capture the rapidly changing trade, production and consumption habits.
CHAPTER FOUR: TOWARDS FORMATION OF AN ALL-INCLUSIVE STAKEHOLDER CONSULTATIVE FORUM

4.1 Proposed Composition of the Uganda FBS Consultative Forum

As much as the country has a recent food balance sheet which was used to make food aid and related decisions after the landslide, the government has specifically tasked the Ministry of Agriculture, Fisheries and Animal Industry to come up with a national food balance sheet taskforce. This may imply that the existing food balance sheet committee is either headed for dissolution or is not well equipped for the task. Given that so far there is no task force in place, we recommend that one be formed as a matter of urgency. In order to address the earlier identified gaps, we recommend a National Food Balance Sheet Committee with the structure indicated in chapter three above, that is, it should include the following stakeholders:

- The ministry of agriculture, Fisheries and Animal industry;
- The Uganda Bureau of Statistics;
- The Ministry of Finance, Planning and Economic Development or its official representative;
- Agro-food Industry players such as food manufacturers and distributors;
- Farmer representatives from different regions of the country e.g. Central, Eastern, Western and Northern Uganda;
- Civil society representatives such as local NGOs, The Red Cross, Food and Agriculture Organization (FAO) of the United Nations, International Food Policy Research Institute (IFPRI);
- Regional bodies such as Eastern Africa agencies such as the Eastern Africa Grain Council (EAGC) and
- Other relevant government representatives

We further recommend that the recruited members of the National Food Balance Sheet Committee or Taskforce as the case might be, should be trained in food balance sheet preparation and/or processing. This should cover aspects of data collection, analysis and compilation of the report in form of a national food balance sheet. To enhance reliability and ownership of the task force by all stakeholders, the process of recruiting members of the taskforce should be as open as possible. This could be achieved through all-inclusive and consultative stakeholder meetings. Given the target participants, the exercise may require additional resources both in terms of finance and time.

4.2 Draft Terms of Reference and Modus Operandi of the Proposed NFBS Consultative Forum for Uganda

4.2.1 Draft Terms of Reference

To enable timely and consistent submission of accurate food availability data to the RATIN, we propose the following as the Terms of Reference for the National Food Balance Sheet Committee:
V. To gather, verify and analyze data relevant to the preparation of a national food balance sheet;

VI. To compile a national food balance sheet using the data gathered;

VII. To consultatively validate the compiled food balance sheet for accuracy and reliability; and

VIII. To submit the validated food balance sheet to RATIN by the 15th of every month.

4.2.2 Draft Modus Operadi for the Proposed Committee

To ensure efficient operation of the committee, we recommend the following modus operandi:

- **Establishment of a secretariat**: The committee establishes a secretariat, to be housed preferably by the Ministry of Agriculture or the Uganda Bureau of Statistics. The work of the secretariat should include data collection, calling for meetings, drafting of the food balance sheet using a predetermined structure and submitting of the balance sheets to RATIN after validation.

- **Data collection**: The secretariat should collect and present to the committee all relevant data. Data sources could include the UBOS and any other reliable source including but not limited to the institutions represented in the committee.

- **Meetings**: The committee should meet twice a month. The first meeting should be to verify and validate the data. The secretariat (or approved appointees) should then use the verified data to draft the food balance sheet. The second meeting should then be called to verify and validate the drafted balance sheet for submission to RATIN.

- **Submission of the Food Availability/FBS to the RATIN**: The secretariat should then effect the recommended adjustments if any and submit the final document to the RATIN on or before the 15th of every month.
CHAPTER FIVE: CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

5.1 Conclusions

The importance of accurate and timely food availability information in the formulation of appropriate development policies cannot be overemphasized. Uganda, like many developing countries is not an exception. In fact, Uganda’s superiority in food production as provided by her better agro-ecological conditions in the region naturally puts a heavier agro-information supply burden on the national and regional authorities. As a major intra-regional (EAC) exporter of grains, the country needs sufficient, accurate and timely supply of information on the status of food not only in Uganda but regionally. This will go a long way in enhancing regional trade and income generation for the people of Uganda because as much as the country still imports foodstuffs, it has a high potential of supplying the region with maize, rice, wheat, millet, sorghum and beans.

Though the country has a number of stakeholders engaged in the generation and dissemination of food information, the current food information systems appear to be lacking in some important aspects. Some of the aspects that require attention include the periodic inconsistencies, limited stakeholder involvement and information range, and flawed estimation techniques as influenced by the objectives of the FBS data consumers. Of particular importance regarding estimation is the timing and regularity of the household surveys upon which current consumption figures are based. Given the rapid changes in consumption habits with foodstuffs traditionally regarded as “urban” such as rice now forming important nutritional components in many households, relying on household surveys done years back may be misleading. Another aspect that requires attention is crop coverage. Information on crops like beans, millet and sorghum was very scanty. Information on consumption of these crops was very limited especially for beans, which is a relatively important crop in the region.

It also emerged that most of the publicly available food-related information is on commodity prices. Though important, daily or weekly prices is a much more fluid indicator of food availability because price one day’s price may vary significantly from that of the previous or following day. The various weaknesses in the information systems have fairly eroded stakeholder confidence in the available statistical information thereby making most decision making processes a matter of trial and error.

5.2 Recommendations

For adequate flow of accurate and timely food-related information, we recommend that:
i. Uganda should have a national food balance sheet committee as indicated in Chapter Three;

ii. The food crops covered by the national food balance sheet should include staple foodstuffs such as bananas and cassava;

iii. There should be wider consultation among stakeholders in the process of drawing up the national food balance sheet;

iv. National food balance sheets should be drawn up as public documents intended for all stakeholders both national and international;

v. The process of drawing up a national food balance sheet should be free from any form of political interference;

vi. National food balance sheets in the region should be regularly harmonized to indicate trade potentials; and

vii. Dissemination of food availability information should be enhanced especially regarding its implications for food security and trade in the region.

5.3 Areas for Further Research

To improve on national FBS preparation, research needs to be conducted in the following areas:

i. Grain Substitution

It is natural for humans to substitute between different foodstuffs either at their own will or depending on circumstances. Grains are some of the foodstuffs substituted most. In most communities, maize, sorghum and millet tend to be substituted for each other depending on availability. What is not clear is whether national surplus or deficit in one grain can influence consumption of the other; and if so by how much. Having an idea on how communities can substitute one grain for the other may help in making decisions regarding trade in the various grains.

ii. Grain Consumption Mapping

It is a fact that some of the food deficits experienced in the country are actually related to distribution rather than availability. It is possible to find one region of the country having a surplus while another within the same country is having an acute shortage of food. Determining which regions consume what amounts of which grain will therefore give a clearer picture of the national food availability.
iii. Post-harvest Losses
Another research area is post-harvest losses because all the stakeholders interviewed did not have information on how much grain is lost after harvesting and which factors are responsible for what proportion of such loss.

iv. Processed and Semi-processed Imports and Exports
Some grains enter and/or leave the country as processed grains e.g. wheat flour. This is important in reporting the true food situation because for instance, a ton of processed wheat (wheat flour) is fairly different from a ton of unprocessed wheat.

REFERENCES FOR UGANDA


Food and Agriculture Organization (2001), Food Balance Sheet: A Hand Book

Food and Agriculture Organization (2010), Cereal Supply/Demand for Sub-Saharan Africa as of end-January 2010.

Food and Agriculture Organization (2010), Crop Prospects and Food Situation No 1. February 2010.


Uganda Export Promotion Board, Export Statistics 2008-2009

USAID/FEWSNET. Uganda Food Security Update, February 2010

USAID/FEWSNET. Uganda Food Security Outlook, April to September 2010.

APPENDICES FOR UGANDA

Appendix I: List of Key Informant Organizations/Stakeholders
1. Ministry of Finance, Planning and Economic Development,
2. Ministry of Agriculture, Fisheries and Animal Industry
3. Uganda Bureau of Statistics
4. Uganda Export Promotion Board
5. The Eastern Africa Grain Council, Kampala
6. Nyati Rice Millers
7. East Seed Company Ltd
8. El-Shadai International
9. IITA-FOODNET
10. Uganda Industrial Research Institute
11. FICA Seeds
12. Uganda Red Cross Society
13. Hoima District Farmers Association
### Appendix II: Uganda Food Balance Sheet for Six Grains as at 31st March 2010

<table>
<thead>
<tr>
<th></th>
<th>Maize</th>
<th>Wheat</th>
<th>Rice</th>
<th>Beans</th>
<th>Millet</th>
<th>Sorghum</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9) Carry Over Stocks(^3) - As at 31st March 2010 (MT)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23,000</td>
</tr>
<tr>
<td>(10) Imports (projections for 2010)(^4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• From Regional sources (EAC&amp;COMESA)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>• From Extra Regional sources</td>
<td>105,000</td>
<td>150,000</td>
<td>30223</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total Imports</td>
<td>105,000</td>
<td>150,000</td>
<td>30223</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>(11) Production (projections for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Long rains</td>
<td>804,000</td>
<td>21,000</td>
<td>164,000</td>
<td>173,600</td>
<td>833,000</td>
<td>508,000</td>
</tr>
<tr>
<td>• Short Rains</td>
<td>536,000</td>
<td>-</td>
<td>-</td>
<td>260,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Total Production per year</td>
<td>1,340,000</td>
<td>21,000</td>
<td>164,000</td>
<td>434,000</td>
<td>833,000</td>
<td>508,000</td>
</tr>
<tr>
<td>(12) Post harvest loss</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(13) National Availability (MT) = (1+2+3) – (4)</td>
<td>1,445,000</td>
<td>171,000</td>
<td>254,223</td>
<td>434,000</td>
<td>833,000</td>
<td>531,000</td>
</tr>
<tr>
<td>(14) Exports (projected exports for 2010)(^5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to EAC/COMESA</td>
<td>100,000</td>
<td>-</td>
<td>25,351</td>
<td>28,279</td>
<td>-</td>
<td>13,269</td>
</tr>
<tr>
<td>Extra regional exports</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total Exports</td>
<td>100,000</td>
<td>-</td>
<td>25,351</td>
<td>28,279</td>
<td>-</td>
<td>13,269</td>
</tr>
<tr>
<td>(15) National Consumption (MT)</td>
<td>600,000</td>
<td>171,000</td>
<td>224,000</td>
<td>347,200</td>
<td>690,000</td>
<td>475,000</td>
</tr>
<tr>
<td>(16) Available stock by end of As at 1st April 2010</td>
<td>745,000</td>
<td>-</td>
<td>4,872</td>
<td>58,521</td>
<td>143,000</td>
<td>42,731</td>
</tr>
</tbody>
</table>

\(^3\) Details (physical location) of where stocks are held need to be provided.

\(^4\) Give details of the projected imports indicating specific month when the imports are expected: Imports by private sector and public sector and country of origin.

\(^5\) Provide details of the projected exports – private and public sector projected exports.

**Note:** The Estimated stocks are presumed to be with farm households.
\[(MT) = 5 - (6 + 7)\]

Source: Estimations (averages and projections to 2010) made from UBOS, USAID/FEWSNET, FAO, EAGC/RATIN

Appendix III: Sample of Agricultural Data Pooled by the Uganda Bureau of Statistics

Table 3.2 C: Production of selected food crops in thousand tonnes, 2004-2008

<table>
<thead>
<tr>
<th>Crop</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008 estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bananas</td>
<td>9,686</td>
<td>9,380</td>
<td>9,052</td>
<td>9,233</td>
<td>9,371</td>
</tr>
<tr>
<td>Cereals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finger millet</td>
<td>659</td>
<td>672</td>
<td>687</td>
<td>732</td>
<td>783</td>
</tr>
<tr>
<td>Maize</td>
<td>1,080</td>
<td>1,237</td>
<td>1,258</td>
<td>1,262</td>
<td>1,266</td>
</tr>
<tr>
<td>Sorghum</td>
<td>399</td>
<td>449</td>
<td>440</td>
<td>458</td>
<td>477</td>
</tr>
<tr>
<td>Rice</td>
<td>121</td>
<td>153</td>
<td>154</td>
<td>162</td>
<td>171</td>
</tr>
<tr>
<td>Wheat</td>
<td>15</td>
<td>15</td>
<td>18</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Root crops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>2,650</td>
<td>2,604</td>
<td>2,627</td>
<td>2,654</td>
<td>2,707</td>
</tr>
<tr>
<td>Irish potatoes</td>
<td>573</td>
<td>585</td>
<td>628</td>
<td>650</td>
<td>670</td>
</tr>
<tr>
<td>Cassava</td>
<td>5,500</td>
<td>5,576</td>
<td>4,924</td>
<td>4,973</td>
<td>5,072</td>
</tr>
<tr>
<td>Pulses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>455</td>
<td>478</td>
<td>424</td>
<td>430</td>
<td>440</td>
</tr>
<tr>
<td>Field beans</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Cow peas</td>
<td>69</td>
<td>70</td>
<td>71</td>
<td>75</td>
<td>79</td>
</tr>
<tr>
<td>Pigeon peas</td>
<td>84</td>
<td>85</td>
<td>88</td>
<td>89</td>
<td>90</td>
</tr>
<tr>
<td>Legumes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ground nuts</td>
<td>137</td>
<td>159</td>
<td>154</td>
<td>162</td>
<td>173</td>
</tr>
<tr>
<td>Soya beans</td>
<td>158</td>
<td>158</td>
<td>175</td>
<td>176</td>
<td>178</td>
</tr>
<tr>
<td>Sim Sim</td>
<td>125</td>
<td>161</td>
<td>166</td>
<td>168</td>
<td>173</td>
</tr>
</tbody>
</table>

Note: Estimates are of economic production with post harvest losses are taken into account.

Source: Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and Uganda Bureau of Statistics.
## Appendix IV: Geographical Distribution of Major Food Crops in Uganda

### Table 4.1: Number and Percentage of Ag HHs by type of Crop Produced by region ('000)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Central</th>
<th></th>
<th>Eastern</th>
<th></th>
<th>Northern</th>
<th></th>
<th>Western</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Banana (Food)</td>
<td>1,031</td>
<td>24.8</td>
<td>729</td>
<td>17.6</td>
<td>23</td>
<td>0.6</td>
<td>1,253</td>
<td>30.2</td>
<td>3,036</td>
<td>73.1</td>
</tr>
<tr>
<td>Cassava</td>
<td>966</td>
<td>23.3</td>
<td>847</td>
<td>20.4</td>
<td>546</td>
<td>13.2</td>
<td>726</td>
<td>17.5</td>
<td>3,084</td>
<td>74.3</td>
</tr>
<tr>
<td>Maize</td>
<td>953</td>
<td>23</td>
<td>1,231</td>
<td>29.7</td>
<td>363</td>
<td>8.7</td>
<td>1,015</td>
<td>24.5</td>
<td>3,580</td>
<td>85.8</td>
</tr>
<tr>
<td>Beans</td>
<td>873</td>
<td>21</td>
<td>719</td>
<td>17.3</td>
<td>335</td>
<td>8.1</td>
<td>1,425</td>
<td>34.3</td>
<td>3,352</td>
<td>80.8</td>
</tr>
<tr>
<td>Coffee all</td>
<td>708</td>
<td>17.1</td>
<td>570</td>
<td>13.7</td>
<td>24</td>
<td>0.6</td>
<td>427</td>
<td>10.3</td>
<td>1,728</td>
<td>41.6</td>
</tr>
<tr>
<td>Sweet Potatoes</td>
<td>650</td>
<td>15.7</td>
<td>603</td>
<td>14.5</td>
<td>152</td>
<td>3.7</td>
<td>564</td>
<td>13.6</td>
<td>1,969</td>
<td>47.4</td>
</tr>
<tr>
<td>Banana beer</td>
<td>299</td>
<td>7.2</td>
<td>146</td>
<td>3.5</td>
<td>6</td>
<td>0.1</td>
<td>509</td>
<td>12.3</td>
<td>961</td>
<td>23.2</td>
</tr>
<tr>
<td>Groundnut</td>
<td>156</td>
<td>3.8</td>
<td>194</td>
<td>4.7</td>
<td>163</td>
<td>3.9</td>
<td>261</td>
<td>6.3</td>
<td>774</td>
<td>18.6</td>
</tr>
<tr>
<td>Banana sweet</td>
<td>144</td>
<td>3.5</td>
<td>110</td>
<td>2.6</td>
<td>17</td>
<td>0.4</td>
<td>222</td>
<td>5.3</td>
<td>494</td>
<td>11.9</td>
</tr>
<tr>
<td>Irish potatoes</td>
<td>53</td>
<td>1.3</td>
<td>4</td>
<td>0.1</td>
<td>3</td>
<td>0.1</td>
<td>185</td>
<td>4.5</td>
<td>244</td>
<td>5.9</td>
</tr>
<tr>
<td>Finger Millet</td>
<td>35</td>
<td>0.8</td>
<td>78</td>
<td>1.9</td>
<td>108</td>
<td>2.6</td>
<td>467</td>
<td>11.3</td>
<td>688</td>
<td>16.6</td>
</tr>
<tr>
<td>Sorghum</td>
<td>25</td>
<td>0.6</td>
<td>146</td>
<td>3.5</td>
<td>248</td>
<td>6</td>
<td>209</td>
<td>5</td>
<td>628</td>
<td>15.1</td>
</tr>
<tr>
<td>Soya Bean</td>
<td>10</td>
<td>0.2</td>
<td>71</td>
<td>1.7</td>
<td>7</td>
<td>0.2</td>
<td>21</td>
<td>0.5</td>
<td>109</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Source: UBOS 2006.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Units</th>
<th>2008 Quantity</th>
<th>2008 Value (US$ '000)</th>
<th>2009 Quantity</th>
<th>2009 Value (US$ '000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td>Tonnes</td>
<td>200,640</td>
<td>400,179</td>
<td>101,234</td>
<td>280,200</td>
</tr>
<tr>
<td>Cotton</td>
<td>Tonnes</td>
<td>7,960</td>
<td>13,214</td>
<td>17,888</td>
<td>23,186</td>
</tr>
<tr>
<td>Tea</td>
<td>Tonnes</td>
<td>46,422</td>
<td>47,222</td>
<td>44,446</td>
<td>59,761</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Tonnes</td>
<td>20,042</td>
<td>66,416</td>
<td>32,000</td>
<td>57,170</td>
</tr>
<tr>
<td>Non-Traditional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live Animals</td>
<td>NO '00'</td>
<td>96</td>
<td>1,822</td>
<td>198</td>
<td>3,908</td>
</tr>
<tr>
<td>Fish and Fish Products</td>
<td>Tonnes</td>
<td>24,865</td>
<td>124,436</td>
<td>21,501</td>
<td>103,372</td>
</tr>
<tr>
<td>Flowers</td>
<td>Tonnes</td>
<td>5,349</td>
<td>28,790</td>
<td>3,910</td>
<td>25,270</td>
</tr>
<tr>
<td>Beans and Other Legumes</td>
<td>Tonnes</td>
<td>97,211</td>
<td>17,630</td>
<td>38,160</td>
<td>11,270</td>
</tr>
<tr>
<td>Bananas</td>
<td>Tonnes</td>
<td>396</td>
<td>211</td>
<td>855</td>
<td>118</td>
</tr>
<tr>
<td>Fruits</td>
<td>Tonnes</td>
<td>3,114</td>
<td>3,032</td>
<td>3,250</td>
<td>3,922</td>
</tr>
<tr>
<td>Pepper</td>
<td>Tonnes</td>
<td>304</td>
<td>580</td>
<td>320</td>
<td>617</td>
</tr>
<tr>
<td>Maize</td>
<td>Tonnes</td>
<td>68,671</td>
<td>19,250</td>
<td>94,440</td>
<td>23,066</td>
</tr>
<tr>
<td>Groundnuts</td>
<td>KG5</td>
<td>30,050</td>
<td>26</td>
<td>96,200</td>
<td>69</td>
</tr>
<tr>
<td>Sesame Seeds</td>
<td>Tonnes</td>
<td>14,154</td>
<td>15,884</td>
<td>12,107</td>
<td>13,369</td>
</tr>
<tr>
<td>Cocoa Beans</td>
<td>Tonnes</td>
<td>8,982</td>
<td>22,834</td>
<td>11,882</td>
<td>27,829</td>
</tr>
<tr>
<td>Electric Current</td>
<td>000 Kws</td>
<td>65,308</td>
<td>10,870</td>
<td>82,941</td>
<td>13,172</td>
</tr>
<tr>
<td>Soap</td>
<td>Tonnes</td>
<td>23,891</td>
<td>17,683</td>
<td>17,172</td>
<td>10,878</td>
</tr>
<tr>
<td>Hides and Skins</td>
<td>Tonnes</td>
<td>13,942</td>
<td>12,518</td>
<td>5,160</td>
<td>5,996</td>
</tr>
<tr>
<td>Gold and Gold Compounds</td>
<td>Tonnes</td>
<td>2,005</td>
<td>50,746</td>
<td>931</td>
<td>23,987</td>
</tr>
<tr>
<td>Axes and Hand Tools</td>
<td>NO '00'</td>
<td>298</td>
<td>649</td>
<td>335</td>
<td>760</td>
</tr>
<tr>
<td>Cobalt</td>
<td>Tonnes</td>
<td>1,949</td>
<td>20,033</td>
<td>1,816</td>
<td>14,596</td>
</tr>
<tr>
<td>Petroleum Products</td>
<td>Tonnes</td>
<td>97,365</td>
<td>48,162</td>
<td>106,562</td>
<td>99,314</td>
</tr>
<tr>
<td>Other Precious Metals</td>
<td>KG5</td>
<td>10</td>
<td>481</td>
<td>7</td>
<td>166</td>
</tr>
<tr>
<td>Vanilla</td>
<td>KG5</td>
<td>191,524</td>
<td>3,039</td>
<td>253,666</td>
<td>4,908</td>
</tr>
<tr>
<td>Soya beans</td>
<td>Tonnes</td>
<td>3,250</td>
<td>1,536</td>
<td>2,530</td>
<td>1,976</td>
</tr>
<tr>
<td>Sorghum</td>
<td>Tonnes</td>
<td>15,559</td>
<td>4,034</td>
<td>11,059</td>
<td>1,839</td>
</tr>
<tr>
<td>Plastic Products</td>
<td>Tonnes</td>
<td>8,962</td>
<td>13,095</td>
<td>6,558</td>
<td>10,188</td>
</tr>
<tr>
<td>Animal/Veg Fats &amp; Oils</td>
<td>Tonnes</td>
<td>37,694</td>
<td>46,121</td>
<td>44,360</td>
<td>49,619</td>
</tr>
<tr>
<td>Sugar &amp; Sugar Confectionary</td>
<td>Tonnes</td>
<td>88,859</td>
<td>39,611</td>
<td>91,367</td>
<td>45,234</td>
</tr>
<tr>
<td>Iron and Steel</td>
<td>Tonnes</td>
<td>54,520</td>
<td>64,394</td>
<td>55,246</td>
<td>55,787</td>
</tr>
<tr>
<td>Cement</td>
<td>Tonnes</td>
<td>352,155</td>
<td>77,504</td>
<td>359,374</td>
<td>82,903</td>
</tr>
<tr>
<td>Beer</td>
<td>Litr</td>
<td>58,681</td>
<td>39,932</td>
<td>33,383</td>
<td>30,161</td>
</tr>
<tr>
<td>Telephones for Cellular</td>
<td>Tonnes</td>
<td>781</td>
<td>69,205</td>
<td>548</td>
<td>56,846</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>433,801</td>
<td>430,476</td>
<td>378,603</td>
<td>418,004</td>
</tr>
</tbody>
</table>

Appendix VI: Uganda Crop Calendar

[Diagram of the Uganda Crop Calendar showing the different seasons and months, indicating the timing for various activities such as weeding, harvesting, and sowing.]
Appendix VII: The Map of Uganda
Appendix VIII: Grain Production zones

Source: Adapted from USAID/FEWSNET, Uganda Livelihood Zones.

Notes:  
- “Other activities” include production of other crops like cassava, bananas, coffee, etc and pastoralism among other economic activities.
- The various colours represent the main grain crops produced besides others in those particular areas.
TANZANIA FOOD BALANCE SHEET REPORT 2010

BY

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May 2010
**ABBREVIATIONS AND ACRONYMS**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFSAR</td>
<td>Annual Food Security Analysis Report</td>
</tr>
<tr>
<td>AGSASU</td>
<td>Agricultural Sample Survey</td>
</tr>
<tr>
<td>CASS</td>
<td>Current Agricultural Sample Survey</td>
</tr>
<tr>
<td>CBAFC</td>
<td>Community Based Armyworm Forecasting and Control</td>
</tr>
<tr>
<td>CFSAM</td>
<td>Crop and Food Supply Assessment Mission</td>
</tr>
<tr>
<td>CFSVA</td>
<td>Comprehensive Food Security and Vulnerability Analysis</td>
</tr>
<tr>
<td>COMESA</td>
<td>The Common Market for eastern and Southern Africa</td>
</tr>
<tr>
<td>DALDO</td>
<td>District Agricultural and Livestock Development Officer</td>
</tr>
<tr>
<td>EAC</td>
<td>East African Community</td>
</tr>
<tr>
<td>EAGC</td>
<td>East Africa Grain Council</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>FBS</td>
<td>Food Balance Sheet</td>
</tr>
<tr>
<td>FEWS NET</td>
<td>Famine Early Warning Systems Network</td>
</tr>
<tr>
<td>HBS</td>
<td>Household Budget Survey</td>
</tr>
<tr>
<td>MAFC</td>
<td>Ministry of Agriculture Food Security and Cooperative</td>
</tr>
<tr>
<td>PSU</td>
<td>Primary Sampling Unit</td>
</tr>
<tr>
<td>NFBS</td>
<td>National Food Balance Sheet</td>
</tr>
<tr>
<td>NFRA</td>
<td>National Food Reserve Agency</td>
</tr>
<tr>
<td>NBS</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>RAAs</td>
<td>Regional Agriculture Advisors</td>
</tr>
<tr>
<td>RATIN</td>
<td>Regional Agricultural Intelligence Network</td>
</tr>
<tr>
<td>RVA</td>
<td>Rapid Vulnerability Assessment</td>
</tr>
<tr>
<td>SRO-EA</td>
<td>Sub-Regional Office for Eastern Africa</td>
</tr>
<tr>
<td>SSR</td>
<td>Self Sufficiency Ratio</td>
</tr>
<tr>
<td>(SSU)</td>
<td>Secondary Sampling Unit</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Programme</td>
</tr>
<tr>
<td>UNECA</td>
<td>United Nations Economic Commission for Africa</td>
</tr>
</tbody>
</table>
PREAMBLE FOR TANZANIA

(iii) Terms of Reference for Regional Food Balance Study

(iv) Introduction

This study was sponsored by USAID/COMPETE through the Eastern Africa Grain Council as part of a project titled, “Regional Food Balance Sheet”. The assignment was based on specific terms of reference which involved data collection relating to food situations in Tanzania. Due to time and other resource constraints, the study which was scheduled for 15 days, took more than a month.

The EAGC/USAID-COMPETE provided the following terms of reference that guided the conduct of the study. These are reproduced below to show the scope of the study, and provide a basis for the adopted methodology as well as the discussion of the limitations.

(v) Background

The EAC and COMESA regions have been proved to have tradable surplus in products such as maize, rice and beans. They also have the potential for producing tradable surplus for other cereals. Despite this, they remain net importers from extra regional sources. The movement of products from surplus to deficit regions is restricted by policies motivated by food security concerns. These assume the form of export/import restrictions/bans, and seasonal pricing and marketing controls.

At the heart of these policies is a lack of credible information on available food stocks. The policies are aimed at self preservation. In order for countries in the EAC and COMESA regions to drop adhoc import/export restriction on the concerned products information is very important. At the moment this information is not available. EAGC, in collaboration with COMESA and EAC is working towards the development of a Regional Food Balance Sheet by building on various initiatives at the national and regional levels.

Presently, Food Balance Sheet at national level is pooled by Governments as part of food security programs. Private sector input is never sought or if sought is never integrated into the pooling of the Food Balance Sheet Data. The sector relies on guesswork and firm level estimates (usually for well established firms) for data necessary in guiding projections and business decisions. At the regional level, no one can tell Governments or the private sector the stock of food available for purposes of guiding national level policies and the region. The region’s requires this in order to forge ahead with policies that support a structured trading system. The EAGC is working in collaboration with EAC and COMESA (ACTESA) to facilitate building of Regional Food Balance Sheet that presents a comprehensive picture of the pattern of the region’s food supply for given specific periods. This will
be used as pillars to address the prevailing food security as well as work as a foundation for development of a regional trade policy framework for the said trading system.

(vi) **Scope of Work**

The Food Balance Sheet will focus on the following commodities – maize, rice, wheat, millet, sorghum and beans. To begin with, the focus will be on countries where the VCAs are currently being undertaken, EAC: Burundi, Kenya, Rwanda, Tanzania and Uganda, as well as non EAC COMESA countries: Ethiopia, Malawi, Zambia and Zimbabwe..

(vii) **Reporting Format**

During the report writing phase an additional requirement was added to the TORs calling the consultants to comply with the reporting format agreed by the coordinating unit in Nairobi. This format was very useful in providing a standardized report for the three countries. However, some of the issues to be included in the final report could not be dealt with by using primary data because they were not part of the original set of TORs and at this time, the consultants had completed the data collection phase. Resort was therefore made to secondary data. The issues which formed part of the preamble chapter included:

- The food situation in Tanzania
- Food information needs
- History of FBS construction in Tanzania
- Food production and consumption statistics
- Current situation of 6 crops in the original TOR – maize, wheat, rice, beans, millet and sorghum.

(ix) **Study Methodology**

(x) **Data Collection Approach/Techniques**

The study methodology comprised the following main approaches with respect to data collection:

a) Secondary data collection (Literature review) - Review of available relevant documents, including past Food Balance Sheets produced by Ministry of Agriculture, food reports and statistics from FAO publications as well as the National Bureau of Statistics.

b) Primary data collection, using a questionnaire (Appendices 1 & 2) and personal interviews.
(xi) Study sample
The target respondents that were interviewed included the Prime Minister’s Office – Disaster and Relief Department, Government Ministries, Ministry of Industry, Trade and Marketing, Agriculture, Food Security & Cooperative, Planning, Economy and Empowerment; Government Agencies- the National Food Security Agency, National Bureau of Statistics, National Food and Nutrition Centre; International Organizations- FAO, World Food Programme and FewsNet and selected major millers, food processors and traders.

(xii) Limitations of the study
Like most studies, the Regional Food Balance Sheet assignment was not without limitations, the main ones being as follows:

(a) Time
The 15 days allocated period was not enough. It presumed a perfect world where respondents are readily available when you need them and have a quest for willingness to provide information. This was not the case in Tanzania. Both in the public and private offices and had to schedule and reschedule appointments to meet the respondents convenience. Situations are not rare either when respondents are away on safari, on leave or attending seminars and where questionnaires left for various officers are lost either by secretaries or by the respondents themselves.

(b) Unawareness/Ignorance
Many respondents, including Government Agencies and private institutions (importers, exporters, etc) were not aware of either the concept or existence of the National Food Balance Sheet and hence found themselves at a loss in discussing issues relating to it even though agreeing that it was an important trade and marketing tool.

(c) Suspicion
There was the usual issue of suspicion concerning the nature of the assignment and why trade data was required. This caused uneasiness on the part of private trading institutions in providing the information/data sought, maybe due to fear that such information could land in the hands of competitors or the Tanzania Revenue Authority. This, in our opinion, explains the reason behind short answers such as ‘We don’t export/import’ or it requires several days to organize the export data you are looking for’. Despite strong assurances of confidentiality and anonymity, some respondents provided “guarded responses” on food statistics, even though one could see that they had more to say than what appeared in their responses.

(d) Export Ban
Presently, there is an export ban on cereals in the country, which implies that some of our respondents had genuinely stopped export operations. Yet an important deliverable of the FBS assignment included primary data on exports.
(xiii) **Technical Design of the Study**
Some TORs could not be achieved or achieved effectively because of the nature of the study design. For example, the reporting format, in which the preamble requires information on the history of FBS in Tanzania as well as food production and consumption statistics, was delivered to the consultants after the data collection phase was over. Automatically this made reporting of these issues impossible, or to be restricted to reliance on secondary instead of primary data.

(xiv) **Resource and Mandate Limitations**
The execution of TOR (3) was not possible for several reasons:

- It required mandate/authority/power to call/convene a meeting of stakeholders or even form the NFBS forum. Or, possibly, somebody from the EAGC/government convening the meeting, explaining the agenda, and then empowering the consultants to proceed.

- It required reasonable notice to get the cooperation of stakeholders and to make them attend the forum. This obviously could not be done within 15 days.

- Money was needed to facilitate and make a country-wide forum/meeting happen. For example, money was needed to cover issues of transportation, accommodation, per diems of participants/stakeholders, Etc.

(xv) **The Food Situation in Tanzania**
This section contains a report by the World Food Programme (WFP) and Food and Agriculture Organisation (FAO) on the country’s current food situation.

(a) **Weather, Crop and Livestock Performance**
The agricultural season is gaining momentum is both unimodal and bimodal rainfall areas as many part of the country continue receiving rains generally. In unimodal regimes, most crops are between moderate and good state from vegetative to maturity. In bimodal rainfall areas, final land preparations and planting were the main field activities in late March through early April as the onset of the long rains season “masika” spread in those areas. In many parts of the country, particularly in the pastoral regions, pasture and water availability is good and livestock conditions normal.

(b) **Food Security Update**
The Government has released the report on the rapid vulnerability assessment (RVA) conducted in February-March this years, indicating that about 700,000 people are food insecure, as shown in the Table 1.
Table 1: Current Food Security Situation in Tanzania

Source:

<table>
<thead>
<tr>
<th>Region</th>
<th>Food insecure people</th>
<th>Food requirement MT</th>
<th>Seeds requirement MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Arusha</td>
<td>115,175</td>
<td>3,872</td>
<td>230</td>
</tr>
<tr>
<td>2 Dodoma</td>
<td>190,372</td>
<td>4,548</td>
<td>0</td>
</tr>
<tr>
<td>3 Kilimanjaro</td>
<td>66,701</td>
<td>2,401</td>
<td>133</td>
</tr>
<tr>
<td>4 Manyara</td>
<td>115,955</td>
<td>3,896</td>
<td>232</td>
</tr>
<tr>
<td>5 Morogoro</td>
<td>482</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>6 Mtwara</td>
<td>25,274</td>
<td>607</td>
<td>0</td>
</tr>
<tr>
<td>7 Pwani</td>
<td>53,300</td>
<td>1,919</td>
<td>107</td>
</tr>
<tr>
<td>8 Shinyanga</td>
<td>69,120</td>
<td>1,659</td>
<td>138</td>
</tr>
<tr>
<td>9 Tanga</td>
<td>61,708</td>
<td>2,221</td>
<td>123</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>717,684</strong></td>
<td><strong>21,604</strong></td>
<td><strong>1,004</strong></td>
</tr>
</tbody>
</table>

This caseload will require about 21,000 MT of cereals between now and the beginning of next the harvest expected from June. The government is planning to meet this requirement from its emergency stocks for both free distribution and subsidized sales. The RVA report further recommended seeds assistance to the affected households amounting to 1,004 MT of maize equivalent.

(c) **Government Emergency Reserves Have Dropped to 60,800 MT**

The Government stocks held by the National Food Reserve Agency (NFRA) has dropped to 60,800 MT, about 40% of the emergency level of 150,000MT. During the coming 2010/11 marketing year, the government should have a concrete strategy to replenish the stocks at least to its recommended level.

(d) **Response to Government’s Appeal for Seed Assistance**

Towards the end of 2009, the Tanzania Government of through the Prime Minister’s Office, requested the Food and Agriculture Organization (FAO) to coordinate an appeal for 2,700 MT of maize equivalent seed to assist approximately 270,000 resource weak households in various parts of the country who were affected by various production constraints in the 2008/09 production season. In response, DFID contributed approximately USD 3,663,736 early this year. Due to shortage of the appropriate seed from local sources, and the timing of the beginning of the rainy season, FAO managed to procure 460 MT which was distributed in 10 districts as shown in Table 2.

Table 2: Seed Distribution by FAO in Ten districts in Tanzania
<table>
<thead>
<tr>
<th>S.N.</th>
<th>District</th>
<th>Total Beneficiary Population</th>
<th>Beneficiary Food Insecure Households</th>
<th>Maize seed distributed (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Arusha DC</td>
<td>30,000</td>
<td>6,000</td>
<td>60</td>
</tr>
<tr>
<td>2</td>
<td>Karatu</td>
<td>17,500</td>
<td>3,500</td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>Meru</td>
<td>32,000</td>
<td>6,400</td>
<td>64</td>
</tr>
<tr>
<td>4</td>
<td>Monduli</td>
<td>43,000</td>
<td>8,600</td>
<td>86</td>
</tr>
<tr>
<td>5</td>
<td>Moshi R</td>
<td>14,000</td>
<td>2,800</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>Siha</td>
<td>3,000</td>
<td>600</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Bagamoyo</td>
<td>5,000</td>
<td>1,000</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>Lushoto</td>
<td>27,500</td>
<td>5,500</td>
<td>55</td>
</tr>
<tr>
<td>9</td>
<td>Pangani</td>
<td>13,000</td>
<td>2,600</td>
<td>26</td>
</tr>
<tr>
<td>10</td>
<td>Longido</td>
<td>45,000</td>
<td>9,000</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>230,000</strong></td>
<td><strong>46,000</strong></td>
<td><strong>460</strong></td>
</tr>
</tbody>
</table>

It is planned to use the balance of the DFID contribution to procure more seed for distribution in other Districts for planting in the coming seasonal (msimu) rainfall in October/November. The distribution will target mostly the needy farmers in unimodal rainfall areas.

(e) Farmers Continue to Pressurize Government to lift Export Ban

As the new harvest approaches in the unimodal rainfall areas, farmers in the Southern Highlands have continued to urge the Government to lift the over extended “temporary” export ban on cereals. The major cereal producing regions are expecting about normal to above normal maize production this season, while claiming to remain with significant stocks in their granaries from the previous year’s harvests following failure to dispose-off them owing to the ban in question and limited internal market outlets.

(f) Staple Food Prices Have Remained Above Five-year Average on Most Markets

Most markets across the country are adequately supplied with staple foods. However, food prices have remained above the five-year average 2004/05 - 2009/10. This situation is attributed to several factors, including diminishing household food stocks, particularly in the unimodal areas, poor and delayed *vuli* harvesting in some bimodal rainfall areas and high transportation costs to the major staple markets. As a result of the high costs, the purchasing power of the resource weak households is becoming constrained, compromising their ability to access adequate food. Since harvesting of green crops for early planted crops is began in March in some parts of the country, and harvesting of mature crop is expected to begin in May, the food staple prices may start declining. Planned Government interventions could ease inadequate food access burden among the resource weak, food insecure households.

(g) Government Appeal for Armyworm Control
The latest armyworm outbreak in the country was first reported in December last year. Despite the mitigation measures by farmers and Government triggered by the Community Based Armyworm Forecasting and Control (CBAFC) mechanism established in several districts, a total of 36,395 acres (14,558 ha) in 16 regions of Mainland Tanzania were infested up to the end of February this year. The long term forecast predicts larger outbreaks to happen during the remaining part of the long rainy season. In this regard, the Ministry of Agriculture food Security and Cooperatives (MAFC) has appealed to development partners through FAO for assistance of approximately USD 960,000 to mitigate the impending outbreak. FAO has shared this appeal with some of the DPs and is expecting their good response.

(h) WFP’s Report on Comprehensive Food Security and Vulnerability Analysis (CFSVA)

WFP finalized a report on comprehensive food security and vulnerability analysis (CFSVA), following the completion of data collection and analysis done during the December 2009 through March 2010. The report was shared with relevant stakeholders for review before they were invited for a half-day workshop that was slated for Thursday 27th May 2010.

(i) Food Situation in Zanzibar

The Government of Zanzibar is planning to carry out a rapid vulnerability assessment later this month to assess the impact of drought and other shocks on food security in the two islands of Unguja and Pemba. The assessment is triggered by crop failures caused by severe drought in some parts of the island’s last cropping season and other social economic shocks that have affected the ability of many resource-poor households to access food through market supplies. The assessment will be supported by WFP and FAO staff.

(xvi) Food Information Needs

(a) Components of the Food Balance Sheet

Food Balance Sheets present a comprehensive picture of the pattern of a country's food supply during a specified reference period. The item shows for each food item - i.e. each primary commodity and number of processed commodities potentially available for human consumption - the sources of supply and its utilization. The total quantity of foodstuffs produced in a country, added to the total quantity imported and adjusted to any change in stocks that may have occurred since the beginning of the reference period to give the supply available during that period. On the utilization side, a distinction is made between the quantities exported, fed to livestock, used for seed, processed for food use and non-food uses, lost during storage and transportation and food supplies available for human consumption at the retail level, i.e. as the food leaves the retail shop or otherwise enters the
household. The *per capital* supply of each such food item available for human consumption is then obtained by dividing the respective quantity by the related data on the population actually partaking of it. Data on *per capital* food supplies are expressed in terms of quantity and - by applying appropriate food composition factors for all primary and processed products - also in terms of energy, protein and fat. *(Source: FAO Report).*

(b) **Accuracy of Food Balance Sheets**

The accuracy of Food Balance Sheets, which is in essence a derived statistics, is, of course, dependent on the reliability of the underlying basic statistics of population, supply and utilization of foods and of their nutritive value. These vary a great deal both in terms of coverage as well as accuracy. In fact, there are many gaps, particularly in the statistics of utilization for non-food purposes, such as feed, seed and manufacture, as well as in those of farm, commercial and even Government collected production data and carry over stocks. To overcome the former difficulty, estimates can be prepared while the effect of the absence of statistics on stocks is considered to be reduced by preparing the Food Balance Sheets as an average for a three-year period. But even the production and trade statistics on which the accuracy of Food Balance Sheets depends most are, in many cases, subject to improvement through the organization of appropriate statistical field surveys. Furthermore, there are very few surveys on which to base sound figures for waste. In some cases, these estimates are subject to significant margins of error. Typically, assumptions about losses are based on expert opinion obtained in a country. Identification of major gaps in the available data might also stimulate the improvement of National Statistics at the source.

(c) **Need for Quality Assurance**

Quality assurance is a series of processes to ensure that all information collected and published is reliable. The components of Food Balance Sheets are complex transformations of data from a large number of sources based on sample surveys, censuses, administrative records and best estimates, and this complicates the task of assuring quality. The quality of data varies from one source to another and, in many cases, has not been evaluated and verified. The transformations themselves and the conversion factors used to estimate processed products and the nutritive content of the foods also influence data quality and complicate the task of quality assurance.

The usual approach to quality assurance is to integrate all the statistical information, the underlying concepts, definitions and methods in order to verify them through a series of vigorous consistency checks and comparisons to other related supplementary information. Consistency, however, is no guarantee of quality since consistent data is not necessarily accurate. One of the most valuable data verification techniques for appraising the quality of Balance Sheets is the unsophisticated method of comparing statistical aggregates against all available supplementary information.
Once estimates of the other components of the domestic supply have been made, the estimate of food available for human consumption is usually derived as a residual. Since such factor is derived as a residual, its reliability would depend on the availability and accuracy of the other components on which it is based. In the case where the majority of the basic data are available and reliable, and the adjustments are based on sound judgment, the estimate of the food available for human consumption is likely to be reliable. However, it stands to reason that, where the basic data are incomplete and unreliable, an estimate of food available for human consumption is unlikely to be accurate.

Furthermore, since it is derived as a residual, the error is not quantifiable and its direction is also unknown. In view of the frequent use of the estimate of food available for human consumption in various food and nutritional studies, it would be beneficial if a more reliable and justifiable estimate of this component could be made available. At a minimum, this means the quantity of food available for human consumption would have to be estimated independently based on other existing statistical sources of information.

One such source would be a household survey which collects quantities of food items consumed or acquired. Consideration of the survey data as the basic statistics pertaining to the food availability element does not, of course, necessarily imply using them directly as the estimates of food availability. They should rather be used as inputs or starting points in a process of adjustments that will have to take into account conceptual differences, judgments regarding data quality and also the consistency in relation to the inputs or estimates for the other elements of the Food Balance Sheet. The use of the survey data in this manner should help to reduce the reliance on the residual or balancing approach in arriving at the food availability estimates, while also allowing more flexibility in handling the other elements for which the basic statistics are poor.

(d) Food Production and Consumption Statistics in Tanzania
Crop production (in tones) and rates of growth for major food crops in Tanzania between 2004 and 2008 are depicted in Tables 3 and 4. The analysis is based on five-year averages up to 2008. The average rate of growth in crop production during the period was 2.7%. Among the crops showing higher growth in output achieved is wheat, but its effect on growth of total cereal output was limited because of the relatively small share of in cereal production its contribution into the food basket for Balance Sheets. It is notable that the growth rate of maize production has declined to negative 3.37% (from 4,286 tons in 2003/2004 to 3,555 tons in 2007/08) whilst the growth rate of beans including pulses shows a stable trend with an average growth rate of 19.17%.

An analysis of the crop production data given, if correct and reliable, assumes that for the whole period the country could not achieve food self-sufficiency ratio of 120% and continued to record food insecurity thus justifying an export ban on
cereals. For export ban to be lifted the country has to achieve first, food self-sufficiency ratio of 120% which has never been reached to date.

Table 3 shows food crop production statistics and its rate of growth in the country for a period -2004-2008

Table 3: Food Crop Production and its rate of growth in Tanzania, -2004-2008

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rate %</td>
<td></td>
<td>Rate %</td>
<td></td>
<td>Rate %</td>
<td></td>
<td>Rate %</td>
<td></td>
<td>Rate %</td>
<td></td>
</tr>
<tr>
<td>Maize</td>
<td>4,286</td>
<td>(26.95)</td>
<td>3,131</td>
<td>9.33</td>
<td>3,423</td>
<td>(5.33)</td>
<td>3,302</td>
<td>7.66</td>
<td>3,555</td>
<td></td>
</tr>
<tr>
<td>Rice</td>
<td>1,030</td>
<td>4.56</td>
<td>1,077</td>
<td>(25.25)</td>
<td>805</td>
<td>8.31</td>
<td>872</td>
<td>0.34</td>
<td>875</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>66</td>
<td>(33.33)</td>
<td>44</td>
<td>148.93</td>
<td>109</td>
<td>(24.20)</td>
<td>83</td>
<td>10.80</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Millet</td>
<td>937</td>
<td>(23.05)</td>
<td>721</td>
<td>30.59</td>
<td>941</td>
<td>23.73</td>
<td>1,165</td>
<td>(8.66)</td>
<td>1,064</td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td>2,470</td>
<td>15.43</td>
<td>2,851</td>
<td>(28.00)</td>
<td>2,052</td>
<td>(15.57)</td>
<td>1,733</td>
<td>3.69</td>
<td>1,797</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>603</td>
<td>7.79</td>
<td>650</td>
<td>61.53</td>
<td>1,049</td>
<td>10.11</td>
<td>1,156</td>
<td>(2.75)</td>
<td>1,125</td>
<td></td>
</tr>
<tr>
<td>Banana</td>
<td>2,576</td>
<td>(22.09)</td>
<td>2,007</td>
<td>(41.75)</td>
<td>1,169</td>
<td>(12.16)</td>
<td>1,027</td>
<td>(4.38)</td>
<td>982</td>
<td></td>
</tr>
<tr>
<td>Sweet Potato</td>
<td>1,245</td>
<td>4.42</td>
<td>1,300</td>
<td>7.41</td>
<td>1,396</td>
<td>(5.33)</td>
<td>1,322</td>
<td>4.31</td>
<td>1,379</td>
<td></td>
</tr>
<tr>
<td><strong>Total Tons &amp; Avg Growth</strong></td>
<td><strong>13,213</strong></td>
<td><strong>(9.15)</strong></td>
<td><strong>11,781</strong></td>
<td><strong>20.35</strong></td>
<td><strong>10,944</strong></td>
<td><strong>(2.33)</strong></td>
<td><strong>10,660</strong></td>
<td><strong>1.38</strong></td>
<td><strong>10,869</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Ministry of Agriculture, Food Security & Cooperatives

Table 4: Food Crops rate of growth in Tanzania, -2004-2008

<table>
<thead>
<tr>
<th>Crops</th>
<th>2004/05</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>Total</th>
<th>Avg Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize crop</td>
<td>(26.95)</td>
<td>9.33</td>
<td>(3.53)</td>
<td>7.66</td>
<td>(13.49)</td>
<td>(3.37)</td>
</tr>
<tr>
<td>Rice</td>
<td>4.56</td>
<td>(25.25)</td>
<td>8.31</td>
<td>0.34</td>
<td>(12.04)</td>
<td>(3.01)</td>
</tr>
<tr>
<td>Wheat</td>
<td>(33.33)</td>
<td>148.93</td>
<td>(24.20)</td>
<td>10.80</td>
<td>102.20</td>
<td>25.55</td>
</tr>
<tr>
<td>Millet</td>
<td>(23.05)</td>
<td>30.59</td>
<td>23.73</td>
<td>(8.66)</td>
<td>22.61</td>
<td>5.65</td>
</tr>
<tr>
<td>Cassava</td>
<td>15.43</td>
<td>(28.00)</td>
<td>(15.57)</td>
<td>3.69</td>
<td>(24.45)</td>
<td>(6.11)</td>
</tr>
<tr>
<td>Beans</td>
<td>7.79</td>
<td>61.53</td>
<td>10.11</td>
<td>(2.75)</td>
<td>76.68</td>
<td>19.17</td>
</tr>
<tr>
<td>Banana</td>
<td>(22.09)</td>
<td>(41.75)</td>
<td>(12.16)</td>
<td>(4.38)</td>
<td>(80.38)</td>
<td>(20.10)</td>
</tr>
<tr>
<td>Sweet Potato</td>
<td>4.42</td>
<td>7.41</td>
<td>(5.33)</td>
<td>4.31</td>
<td>10.81</td>
<td>2.70</td>
</tr>
</tbody>
</table>

Source: Own Analysis

(e) Current Situation of maize, wheat, rice, beans, millet, and sorghum Crops in Tanzania

The 2008/09 Final Food Crop Production forecast amounts to 10,772,679 tons grain equivalent and requirement for 2009/10 amounts to 10,569,845 tons. These are just below the previous figures released in June as Preliminary forecasts viz 10,921,536 tons respectively.

Of these 10,772,679 tonnages, the proportional contribution of each cereal and non-cereals were: maize 31%, sorghum 7%, millets 2%, Rice 8%, wheat 1%, Pulses 10%, Cassava 18%, banana 10% and potatoes 13% as portrayed in the figure below.
In terms of cereals and non-cereals a deficit status of 79 (just below 80% previously predicted) implying a shortage amounting 1,348,445 tons (just above the previous forecast of 1,313,199 tons) and a surplus status of 139 tons (just below the previous forecast of 141%) implying a surplus amounting 1,551,278 tons (just below the previous forecast of 1,656,539 tons) are expected respectively.

The net result for food production for 2008/09 was that food self sufficiency ratio of 102% or a little surplus of 202,833 tons was achieved. (just below the 103% or a little surplus of 343,340 tons previous indicated to be attained) This was according to a study commissioned by the United Nations Economic Commission for Africa (UNECA) Sub-Regional Office for Eastern Africa (SRO-EA), the food situation in Tanzania during 2009/2010 period was not been satisfactory, particularly in the parts of the country with bimodal rainfall regime due to poor performance of the 2009/2010 short rains (“vuli”) harvests. Preliminary Food Crop Production Forecast was that Tanzania would be marginally self sufficient in food during the 2009/10 period. Preliminary food crop production forecast was 10,921,536 tons of grain equivalent against the requirement estimated at 10,578,196 tons of grain equivalent during the 2009/10 period. This implies a surplus of 343,340 tons, giving a self sufficiency ratio (SSR) of 103% (Mngodo, 2010; Mtambo 2009).

The analysis of carry-over stocks (COS) shows that in the wake of 2009/10 about 462,870 tons was available from three different sources such as, Private stocks (121,560 tons), Public/SGR (109,876) and Farm retention (231,435. Adding the COS to the 202,833 tons production surplus mentioned above the total food available, over and above national requirement for 2009/10 is 665,703 tons which is 17% draw down from the
preliminary estimate of 806,210 tons mainly attributed to “masika” failure in bimodal areas.

- Based on the Final forecast, the 2009 Vuli season contributed 15% only of the total production (vs. normal 18% national perspective or 26% (vs 32% bimodal area perspective)

To establish the carry over stock on each component for the Balanced Sheet purpose, a contribution factor was used as basis for computation.

Table 5: Carry-Over Stocks Retained by Private, Public & Farms

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Public Stocks</th>
<th>Farm Retention</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maize</td>
<td>37,684</td>
<td>89,637</td>
<td>71,745</td>
</tr>
<tr>
<td>2</td>
<td>Wheat</td>
<td>1,216</td>
<td>2,314</td>
<td>3,530</td>
</tr>
<tr>
<td>3</td>
<td>Sorghum</td>
<td>8,509</td>
<td>20,240</td>
<td>16,200</td>
</tr>
<tr>
<td>4</td>
<td>Millets</td>
<td>2,431</td>
<td>4,629</td>
<td>7,060</td>
</tr>
<tr>
<td>5</td>
<td>Rice</td>
<td>9,725</td>
<td>18,515</td>
<td>28,240</td>
</tr>
<tr>
<td>6</td>
<td>Pulses</td>
<td>12,156</td>
<td>23,144</td>
<td>35,300</td>
</tr>
<tr>
<td>7</td>
<td>Cassava</td>
<td>21,881</td>
<td>41,658</td>
<td>63,539</td>
</tr>
<tr>
<td>8</td>
<td>Banana</td>
<td>12,156</td>
<td>23,144</td>
<td>35,300</td>
</tr>
<tr>
<td>9</td>
<td>Potatoes</td>
<td>15,803</td>
<td>30,087</td>
<td>45,889</td>
</tr>
</tbody>
</table>

100% 121,560 109,877 231,435 462,872

Own: Analysis, assumptions & computations

A surplus of tonnage of was also worked up on the same establish the carry over stock on each component for Balanced Sheet purpose, a contribution factor was used as basis for computation.

Table 6: Carry-Over Stocks retained by Private, Public & Farm retention

<table>
<thead>
<tr>
<th></th>
<th>Private 26.26</th>
<th>Public Stocks 23.74</th>
<th>Farm Retention 50</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maize</td>
<td>62,878</td>
<td>16,512</td>
<td>42,662</td>
</tr>
<tr>
<td>2</td>
<td>Wheat</td>
<td>2,028</td>
<td>533</td>
<td>1,065</td>
</tr>
<tr>
<td>3</td>
<td>Sorghum</td>
<td>14,198</td>
<td>3,728</td>
<td>5,460</td>
</tr>
<tr>
<td>4</td>
<td>Millets</td>
<td>4,057</td>
<td>1,065</td>
<td>2,028</td>
</tr>
<tr>
<td>5</td>
<td>Rice</td>
<td>16,227</td>
<td>4,261</td>
<td>8,113</td>
</tr>
<tr>
<td>6</td>
<td>Pulses</td>
<td>20,283</td>
<td>5,326</td>
<td>10,142</td>
</tr>
<tr>
<td>7</td>
<td>Cassava</td>
<td>36,510</td>
<td>9,588</td>
<td>18,255</td>
</tr>
<tr>
<td>8</td>
<td>Banana</td>
<td>20,283</td>
<td>5,326</td>
<td>10,142</td>
</tr>
<tr>
<td>9</td>
<td>Potatoes</td>
<td>26,368</td>
<td>6,924</td>
<td>13,184</td>
</tr>
</tbody>
</table>

100% 202,833 53,264 48,122 101,417 202,803

Total 174,824 158,000 332,852 665,675

Own: Analysis, assumptions & computations

Table 7 shows the estimated Food Balance Sheet as at 31 st January 2010
### Table 7: Tanzania Food Balance Sheet as At 31st January 2010

<table>
<thead>
<tr>
<th></th>
<th>Maize</th>
<th>Wheat</th>
<th>Rice</th>
<th>Beans</th>
<th>Millet</th>
<th>Sorghum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(17) Carry Over Stocks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>As at 31st December 2009 (MT)</strong></td>
<td>289,678</td>
<td>5,077</td>
<td>40,614</td>
<td>50,768</td>
<td>10,154</td>
<td>61,238</td>
</tr>
<tr>
<td><strong>(18) Imports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(projections for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• From Regional sources (EAC&amp;COMESA)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>• From Extra Regional sources</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Imports</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>(19) Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(projections for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Long rains</td>
<td>2,328,340</td>
<td>65,580</td>
<td>612,930</td>
<td>781,418</td>
<td>142,504</td>
<td>537,363</td>
</tr>
<tr>
<td>• Short Rains</td>
<td>997,860</td>
<td>28106</td>
<td>262,684</td>
<td>334,894</td>
<td>61,073</td>
<td>230,298</td>
</tr>
<tr>
<td><strong>Total Production per year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(20) Post harvest loss</strong></td>
<td>346,476</td>
<td>2,342</td>
<td>21,890</td>
<td>22,326</td>
<td>15,675</td>
<td>65,251</td>
</tr>
<tr>
<td><strong>(21) National Availability (MT) = (1+2+3) – (4)</strong></td>
<td>3,269,402</td>
<td>96,420</td>
<td>894,338</td>
<td>1,144,754</td>
<td>198,056</td>
<td>763,648</td>
</tr>
<tr>
<td><strong>(22) Exports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(projected exports for 2010)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports to EAC/COMESA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Extra regional exports</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Exports</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>(23) National Consumption (MT)</strong></td>
<td>3,141,723</td>
<td>101,346</td>
<td>810,767</td>
<td>1,013,456</td>
<td>202,692</td>
<td>709,421</td>
</tr>
<tr>
<td><strong>(24) Available stock by end of As at 31st January 2010 (MT) = 5 – (6 + 7)</strong></td>
<td>127,679</td>
<td>(4,926)</td>
<td>83,571</td>
<td>131,295</td>
<td>(4,636)</td>
<td>54,227</td>
</tr>
</tbody>
</table>

**Assumption:** National Food Requirement is assumed: 10,134,590 tons see page 29. This also assumes that there shall be no exports or imports of the said commodities.

---

6 Details (physical location) of where stocks are held need to be provided and estimated market price for the held stock.

7 Give details of the projected imports indicating specific month when the imports are expected: Imports by private sector and public sector and country of origin.

8 Provide details of the projected exports – private and public sector projected exports.
CHAPTER ONE

ASSESSMENT OF CURRENT PRACTICES IN CONSTRUCTION OF NATIONAL BALANCE SHEETS

1.1 Introduction

Tanzania’s long term National vision for its agriculture sector (Vision 2025) is operationalized within the medium term initiative under the National Strategy for Growth and Reduction of Poverty (NSGRP-MKUKUTA). The broad outcome under this strategy hinges on the performance of the said sector.

Agriculture is still the predominant sector in Tanzania. It accounts for about half of the National income, three quarters of exports merchandise, is the source of food and provides employment opportunities for about 80% of Tanzanians.

It has linkages with the non-farm sector through forward linkages to agro-processing, consumption and export; it provides raw materials to industries and a market for manufactured goods.

It is still dominated by smallholder farmers (peasants) though, cultivating average farm sizes of between 0.9 and 3.0 hectares each. About 70% of Tanzania’s crop area is cultivated by hand hoe, 20% by ox plough and 10% by tractor.

It is rain-fed agriculture and therefore good or bad cereal harvest is dependent on God’s Rains. Food crop production dominates the sector’s economy, 5.1 million ha are cultivated annually, of which 85% is under food crops.

Women constitute the main part of the agricultural labour force. A major constraint facing the sector is the falling labour and land productivity due to the application of poor technology and dependence on unreliable and irregular weather conditions. Crops are, as a result, adversely affected by periodical droughts.

As a consequence, determining availability of food is of utmost importance to the Government. The determination of food stocks by the Government is carried out continuously using Food Balance Sheets. There are a number of variables that come into play in preparing the National Food Balance Sheet and these are discussed below.

1.2 Rainfall Patterns

The rainfall patterns in Tanzania are highly complex, with at least seven major recognized agro-climatic systems. They have been translated into three main categories as unimodal, bimodal and seasonal rain patterns as explained below:
• Vuli rains, which normally begin in the North East in August/September and end in late December/January. These occur in bi-modal areas (which have two distinct rainfall seasons) and allow two water demanding crops per year to be grown. This pattern of rainfall is typical of the Kilimanjaro Region but also occurs in Kigoma, Kagera, Mwanza, Mara, Arusha, Tanga and parts of Morogoro, Mbeya and the Coast/Dar es Salaam.

• Masika rains, which follow Vuli rains and normally begin in March and end in May/June in regions indicated above. In transition areas, such as Mwanza, Kagera and Kigoma, Masika rains may begin in February, with sometimes no interruption between Vuli and Masika.

• Elsewhere in the country, especially in the South, rainfall is mainly unimodal (seasonal) on season, starting from mid-November and running until mid-April. Hence the two surveys, the preliminary and final focus are geared to capture food production for all season – the Vuli and Masika.

1.3 Crop Production

Since 1993-94, food crop production statistics are being availed from the National Food Security Division of the Ministry of Agriculture and Co-operatives and these are now based on the National Sample Census and Surveys and are expected to be more reliable. For the years prior to 1992, food crops production was estimated on the consumption patterns of 1977 and 1992 HBS duly adjusted for imports and exports, intermediate consumption and addition to stocks to validate the figures from the Ministry of Agriculture.

The current system involves retrieval of data and information from the Regional Agriculture Advisors (RAAs), the District Agricultural and Livestock Development Officers (DALDOs), partly through actual fielding of Ministry of Agriculture Food Security and Cooperatives (MAFC) teams of expert to eye-witness crop performance in bimodal areas in respect of Masika crop for the previous year as well as Vuli crop for the current year. While the former is to establish crop forecasts for the previous year, the latter is intended to rule out or in Vuli contribution to current year food availability.

The interest is to determine the final stable status concluded through capturing the effect of an influential crop production factor that ruled over the various growth stages towards maturity (normally in bimodal areas and thus overwrite the preliminary forecast released earlier in the previous year-June).

1.4 Planted Areas

Estimates of planted areas are derived from the following sources:

• Area figures for the Vuli season, provided by the Ministry of Agriculture, Food Security and Cooperatives at the regional and district levels. These figures are usually divided into "target" and "achieved" categories. In some regions such as Mwanza, Arusha, Kilimanjaro and Tanga, the area figures were not fully disaggregated according to crop in previous estimates and had to be based on long-term average production, discounted for flooding in low-lying areas.
• Average figures for each crop are provided by a variety of sources. Some Regions, such as Tanga and Kilimanjaro specified the area, production and yield figures for Vuli and Masika crops. Others, such as Mara and for some crops in Arusha, did not specify the proportion of crops grown during Vuli rains. In these instances, there is a common convention of estimating that 30% of crops in bimodal areas are produced during the Vuli rains.

• Crop losses in low-lying areas can be established on the basis of field visits, comprehensive aerial surveys of flooded areas, where inaccessible by other means, and routine reports from Extension Officers at Village to District level and the Regional staff of the Ministry of Agriculture and Cooperatives.

• Otherwise most of the seeded area is the same, year after year

1.5 Crop Yields
The Ministry of Agriculture, Food Security and Cooperatives does not undertake cross-cutting exercises at harvest in order to estimate crop yields. Its estimates were based on farm visits, information and data collected from Village, District and Regional agricultural staff along with some experts from the Ministry. In addition, long term average yield figures there from the said Ministry at the National and Sub National levels were also taken into account.

1.6 Crop Production
Available statistics show that there’s a wide variety of food crops grown in Tanzania. They include cereals like maize, wheat, rice, millet and sorghum amongst others and non-cereals like pulses, cassava, banana and potatoes, both sweet and round. Given the range of such food crops produced in the Country as shown in Table 8, and if all of them were reflected in Food Balance Sheets, the contribution of each would be as indicated therein.

Table 8: The average Percent of Food Production by Crop in Tanzania

<table>
<thead>
<tr>
<th>Crop Percent</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>33</td>
</tr>
<tr>
<td>Wheat</td>
<td>1</td>
</tr>
<tr>
<td>Rice</td>
<td>9</td>
</tr>
<tr>
<td>Pulses</td>
<td>5</td>
</tr>
<tr>
<td>Millet</td>
<td>4</td>
</tr>
<tr>
<td>Sorghum</td>
<td>10</td>
</tr>
<tr>
<td>Cassava</td>
<td>21</td>
</tr>
<tr>
<td>Bananas/Plantains</td>
<td>10</td>
</tr>
<tr>
<td>Sweet and Round Potatoes</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>98</strong></td>
</tr>
</tbody>
</table>

(Source: Fews Net)

The current crop production which is estimated in dry weight, of approximate cereal equivalent shows that there will be a surplus to be carried over to 2009/10.
The summary of aggregate production figures in cereal equivalent is given in Table 9, while Appendix 3 provides figures by Region.

Table 9: Tanzania – 2008/09 Production by Crop in Cereal Equivalent

<table>
<thead>
<tr>
<th>Crop</th>
<th>Area ('000 ha)</th>
<th>Yield (kg/ha)</th>
<th>Production (tonnes “000”)</th>
<th>Contribution into food basket as%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>2,961,334</td>
<td>1.1</td>
<td>3,326,200</td>
<td>52.11%</td>
</tr>
<tr>
<td>Wheat</td>
<td>170,732</td>
<td>0.5</td>
<td>93,685</td>
<td>1.47%</td>
</tr>
<tr>
<td>Rice</td>
<td>904,508</td>
<td>1.1</td>
<td>875,614</td>
<td>13.72%</td>
</tr>
<tr>
<td>Beans</td>
<td>1,116,312</td>
<td>0.8</td>
<td>1,116,312</td>
<td>17.49%</td>
</tr>
<tr>
<td>Millet</td>
<td>259,453</td>
<td>0.8</td>
<td>203,577</td>
<td>3.19%</td>
</tr>
<tr>
<td>Sorghum</td>
<td>874,219</td>
<td>0.9</td>
<td>767,661</td>
<td>12.03%</td>
</tr>
<tr>
<td>Total Crop</td>
<td>6,286,558</td>
<td></td>
<td>6,383,049</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: The World Food Programme & Own analysis

The analysis of the data above shows that, with limited crop variety, input into the construction of the Food Balance Sheet places more emphasis on maize crop, thus, therefore, limiting other crops to be factored in FBS evaluation.

1.6.1 Food Supply Situation

The analysis of the National Food Security Division (Crop Monitoring and Early Warning) that carried out a regular and final food crop production forecast survey in the months of December 2009 – January, 2010, to ascertain the food crop harvest status for 2008/09 and the corresponding availability for 2009/10, indicated that 10,772,679 tones of food crops would be available from farm production comprised of 5,218,626 tones of cereals and 5,554 053 tones of non-cereals and would meet National food requirements amounting to 10,569,845 tones by 102 percent, implying a 202,833 tones food surplus.

1.6.2 Food Prices and Access to Food

Normally, cereal (maize) prices would be expected to increase at various times during the year: around April to June/July constituting the lean period before the main long rains and Masika harvest and December/January before supplies from Vuli production came on to the markets. There is also price variation between regions, depending on whether they are deficit or surplus. Accordingly, maize prices in markets like Dar es Salaam, Mwanza and Mtwara, which rely on imports from other regions, are normally higher than Songea, Sumbawanga and Iringa which produce surpluses. Given extremely long and often difficult transport routes, prices in the more remote deficit areas also include an element of transport cost and handling.

Although food prices are an important indicator of generalized scarcity in Tanzania, given the inefficiencies, low purchasing power and lack of integration in food markets, exacerbated by additional transport cost and difficulties, we can say with confidence, from the research findings, that prices alone are not enough to reflect overall food shortages. In assessing how much of the food problem is supply-
related and how much access-related, an attempt has, therefore, been made to differentiate areas of the country where markets previous years were considered accessible and were assumed to be functioning reasonably normally, to ascertain whether prices have risen significantly in response to generalized shortages or there has been significant disruptions to transport to warrant restricting supplies.

1.6.3 Accessible Markets
Examples of accessible/functioning markets include Dar es Salaam, Arusha, Moshi, Tanga, Morogoro, Iringa and Mbeya. In these markets, maize prices would have risen sharply and consistently if serious shortages had developed. Certainly, it would have been reasonable to expect that prices from September onwards would have been similar to or higher than those in the lean period, between April and July, if following with extremely poor Vuli crop during the year. The increases in the prices of maize (markets for and imports of rice, wheat and sorghum and beans produced locally, are comparatively small-save for the Holy Month of Ramadhan when prices of beans and cassava is usually higher) would in turn have stimulated imports.

However, this does not happen and maize prices in accessible markets do not rise sharply and, in relation to seasonal adjustments mentioned above, have more or less remained consistent with trends, which implies what no serious deficit had occurred. Otherwise traders would not decline the Government offer of temporary waiver of taxes on maize imports. Overall, prices have increased in some markets, fallen in others or remained stable; indicating that an aggregate supply to those markets has been adequate, given the people’s purchasing power. It also indicates the Government was operating on unreliable data.

Moreover, average domestic maize prices in the said markets, in the latter part of the year, were also below CIF cost, which meant that, in spite of the Government’s waiver on import taxes, the private sector had little financial incentive to import. During the months of August, to December, the average domestic wholesale price of maize, at prevailing exchange rates was between US $ 146 and $ 163 per ton compared to ex-port (CIF + port transport and handling costs) costs of between US $ 235 and $ 260 per ton on imported maize. (Source: Research findings). This signifies that Government data on food stock balances is inadequate and confirms that private business maize traders and processors are better informed than the Government on available maize stocks or that the law of demand and supply does not work in Tanzania. (Source: Research Findings)

1.7 Structure and Components of Tanzania’s National Food Balance Sheet (NFBS)

The last National Food Balance Sheet to be constructed in Tanzania is dated November 2005 and carried data for the period June 2005 – May 2006. This Sheet which is shown in Table 10, comprises two sections: cereals and non-cereals. Cereals include maize, sorghum and millet, rice and wheat, while the non-cereals include pulses, cassava, banana, and potatoes.
Apart from the food columns, the FBS is structured to provide the following important food information:

- **Domestic availability**, comprising:
  - Opening stock (broken down into public stocks, private stocks, and farm/household retention).
  - Gross harvest
  - Gross domestic requirements
  - Desired Strategic Grain Reserve (SGR) Carryover Stocks
  - National Food Balance
  - Commodity Food substitution

- **Domestic shortfall/surplus**
- **Imports** (broken down into commercial imports and food aid imports)
- **Exports**
- **Forecasted closing stocks, and current stocks.**

### 1.8 Process of Constructing the NFBS in Tanzania

The preparations of NFBS follow the model that was developed by FAO in corroboration with experts from the Ministry of Agriculture, Food Security and Cooperatives. Initially, the Food Balance Sheet was prepared by Tanzania Food...
Nutrition Centre (TFNC) and later this responsibility was transferred back to the Ministry of Agriculture and Marketing as it initially was.

Food Balance Sheet data are assembled, using a survey from a variety of sources, right from the Village level through to the District, Regional and finally are aggregated at the national level. The Planning Unit (domain) of the survey is the District, which means that the data estimates from the survey results is based on the Districts. As for the sample selection, a two-stage method is applied. This includes a Preliminary Survey Sampling Unit (pssu) at the Village and District level carried out in the Month of May and a Final Focus Secondary Sampling Unit (ffssu) carried out in the same way during the month November of. The essence of carrying out final focus in the Months of November is geared to capture the produce of all the seasons. The details on total sample sizes of selected Villages were not available at the time of doing the research.

The process of constructing Food Balance Sheets starts with a survey of the food crops. This survey consists of area yield and production by crop and by season. The crop survey is conducted during the short rains Vuli - Bimodal, long rains Masika - Unimodal and for seasonal rains also Unimodal at different periods as mentioned earlier. So every year, four to six surveys are carried out, i.e. two or three for planted or harvested area and two or three for yield. The area survey is used for data collection, while the sampling method is used for yield and production.

- **Area Survey**
The main focus of this survey is the planted area of crops and productive and non-productive areas. The area survey is conducted thrice a year. The survey method is based on the reporting system. The primary data is collected by the enumerator at the village level from extension teams and land officers, as well as a team of experts from the Ministry Agriculture, Food Security and Co-operatives.

The report on crop-planted area is sent to the District level then to the Regional level where they collate the reports from the village level according to the hierarchy of the Government. At each level, data quality control is supposedly to have been considered. These statistics are ultimately sent to the Ministry of Agriculture, Food Security & Cooperatives to be used to construct Food Balance Sheets. An Interagency Mission, including officers from the National Food Security Division (Crop Monitoring and Early Warning), District and Regional extension officers, District Agricultural Officers, land officers, National Bureau of Statistics are all involved in data collection, assessment and verification of the results.

- **Survey on Crop Production and Yields**
This survey aims to obtain statistical data on production and yield per hectare by District and Regional Agricultural Officers, and land officers. It is conducted every crop season.
Early Forecasting

Early yield forecasting is conducted by all officers mentioned above, twice each season, at every completed planting stage and as the crop passes through various maturing stages. The data is compiled and forwarded to the same enumerators through field observation. A district inter-office team, including the Regional Statistician, finance and agriculture planning officers has to validate and review the forecasts leading to a recalculation of the yield forecast for all the Districts. The yield forecast contributes not only to the timely requirements of the District Leaders’ Economic Management and Planning but also as reference when the actual survey is carried out.

1. Steps in Constructing FBS

The following steps are followed in the process of constructing the Balance Sheet:

i. Determining the production of gross harvest quantities for each commodity required for preparation of FBS including, Opening Stocks from Public, Private, and Farm/Household retention. In Tanzania, the FBS is divided into cereals and non-cereals. Maize crop is being taken as the predetermined base to which other food commodities are referenced. This means that, when other foods are included in the FBS, they are calculated in terms of their equivalences to maize on dry weights.

ii. Determining food available for consumption;

iii. Determining the food requirements;

iv. Working out commodity cross-substitution;

v. Determining domestic shortfall/surplus;

vi. Determining Imports and associated items;

vii. Determining Exports;

viii. Determining Forecast Closing Stocks;

ix. Determining Current Stocks;

2. Determination of Production Data

Determination of production projections is done on basis of mere estimates on seeded area and yield for specific crops. This limits the accuracy of food balance Sheets.

3. Determination of Carry-over-stocks

Reliable and consistent carry-over-stocks statistics can more easily be captured or obtained from public stocks than from the private sector as there is reluctance by the latter to provide information considered sensitive. Currently, there is no formalized system of gathering data on cereal stocks held by commodity traders, commercial farmers; big millers who account for 20% of milled maize and posho millers who account for 80% of maize flour that cannot be verified. In the absence of official and verifiable information on commercial stocks held by millers and traders, they are more likely to underestimate the maize opening stock figure in a surplus year.
Carry-over-stock from the private sectors is hard to get. The only public institution that provides reliable statistics is the National Food Reserve Agency. Its limitation is that it can only provide information on maize and sorghum. Its storage capacity is about fill up to 180,000 tones.

The information system in place leaves it to the discretion of the information provider. Most of the time reliable figures for opening stocks are from NFR and WFP.

4. **Determination of Imports**

To determine import requirements from Regional sources is difficult for maize but possible for wheat from public sector sources like TRA by looking on wheat imports trend over a period of say 3 years and projecting for future or according to production projections. Theoretically, it is possible to forecast maize imports and exports, but in reality is very difficult in the sense that maize is subject to restrictions and allowance when self sufficiency of 120% is achieved. You may need to be a local medicine man to know next years’ food situation. Food Balance Sheets have inherent limitations as they portray food balance on a particular day when it is drawn. They do not tell what will happen in the next three months. But with cooperation amongst the major players and exchange of information with commercial millers and traders it is possible to derive appropriate data.

5. **Calculation of Commodity Cross-substitution**

The cross substitution with other staple food crops which all performed better in the year in comparison to performance in shows in resulted in reduction of total maize requirements (human consumption plus industrial uses and losses) from negative 1,348,445 metric tonnes in 2008/2009 marketing year to positive 1,551,278 metric tonnes in 2009/2010 marketing year.

The final food crop production forecast survey in the months of December 2009 – January, 2010, to ascertain the food crop harvest status for 2008/09 and the corresponding availability for 2009/10, indicated that 10,772,679 tones of food crops would be available from farm production comprised of 5,218,626 tones of cereals and 5,554 053 tones of non-cereals and would meet national food requirements amounting to 10,569,845 tones by 102 percent, implying a 202,833 tones food surplus.

Therefore, the actual maize requirements for the country are affected positively or negatively by availability and requirements of other staple food crops such as rice, wheat, sorghum/millet, cassava, sweet potatoes and Irish potatoes. The quantity demanded of one food crop is affected by demand and availability at the national level of other substitute staple food crops.
6. **Determining Domestic Shortfall/surplus**

This involves aggregating the total cereals and non-cereal cereals from all regions subtracting the established Gross Domestic Requirement. According to the analysis by the National Food Security Division (Crop Monitoring and Early Warning) that carries out a regular final food crop production forecast survey in the months of December 2009 – January, 2010, to ascertain the food crop harvest status for 2008/09 and the corresponding availability for 2009/10, indicated that 10,772,679 tones of food crops would be available from farm production comprised of 5,218,626 tones of cereals and 5,554,053 tones of non-cereals and would meet national food requirements amounting to 10,569,845 tones by 102 percent, implying a 202,833 tones food surplus.

7. **Determination of Closing Stocks**

To determine Forecasted Closing Stocks, end of the year stocks held and declared by various selected stakeholders are taken from monitored monthly reports that are filed by respondents.

8. **Determination of Current Stocks**

Determine Current Stocks is new stocks that adds up stocks current production stock plus carry over stock and new imports.

Below are examples of two Food Balance sheets one from June 2005-May 2006 as of 31 August 2005 and another June-May 2006 and the other is of June 2005-May 2006 as of 30 the November 2005.

9. **Determining Food Available for Consumption**

In determining the food available for consumption (Table 3), the aggregate food commodities harvested during the 2008/09 indicated on Table 1 are used in the computation of the FBS of 2009/10 market year. The underlying assumptions on seed, feed and trade were made purely from literature, as they are not factored in the current FBS.

- **The Key to Table 11:**

1 = Estimated percent of seeds, feeds and losses in columns (A, B, C, and D) from total Production
2 = Estimated percent of exports (informal and formal) from the total production
3 = Whole grain
4 = Paddy converted to rice at 65 percent
5 = Based on dry weight - converted to dry weight = production less (15% waste plus 60% water content)
6 = Includes all varieties of beans
7 = Beans/Peas and all other legumes produced for human consumption

<table>
<thead>
<tr>
<th>Crop</th>
<th>Seed (A)</th>
<th>Feed (B)</th>
<th>Losses (C)</th>
<th>Trade (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11: Calculation used to obtain figures on food available for consumption in 2009/10
### Table 12 Total available food for consumption to be imported into a Food Balance Sheet

<table>
<thead>
<tr>
<th></th>
<th>Gross Domestic Production MT</th>
<th>Seed Use MT</th>
<th>Feed Use MT</th>
<th>Loses MT</th>
<th>Trade MT</th>
<th>Total Non Food Use MT</th>
<th>Total Available for Consumptions MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>3,326,200</td>
<td>43,241</td>
<td>66,524</td>
<td>346,476</td>
<td>332,620</td>
<td>788,861</td>
<td>2,537,339</td>
</tr>
<tr>
<td>Wheat</td>
<td>93,685</td>
<td>2,342</td>
<td>0</td>
<td>2,342</td>
<td>9,369</td>
<td>14,053</td>
<td>79,632</td>
</tr>
<tr>
<td>Rice/Paddy</td>
<td>875,614</td>
<td>21,890</td>
<td>0</td>
<td>21,890</td>
<td>87,561</td>
<td>131,342</td>
<td>744,272</td>
</tr>
<tr>
<td>Millet</td>
<td>202,577</td>
<td>4,682</td>
<td>1,221</td>
<td>15,675</td>
<td>2,850</td>
<td>24,429</td>
<td>179,148</td>
</tr>
<tr>
<td>Sorghum</td>
<td>767,661</td>
<td>3,838</td>
<td>4,606</td>
<td>65,251</td>
<td>18,424</td>
<td>92,119</td>
<td>675,542</td>
</tr>
<tr>
<td>Total Cereals</td>
<td>5,266,737</td>
<td>75,994</td>
<td>72,351</td>
<td>451,635</td>
<td>450,824</td>
<td>1,050,804</td>
<td>4,215,933</td>
</tr>
<tr>
<td>Cassava</td>
<td>1,972,148</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>39,443</td>
<td>39,443</td>
<td>1,932,705</td>
</tr>
<tr>
<td>Potatoes</td>
<td>1,392,443</td>
<td>6,962</td>
<td>0</td>
<td>13,924</td>
<td>41,773</td>
<td>62,660</td>
<td>1,329,783</td>
</tr>
<tr>
<td>Banana</td>
<td>1,073,149</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1,073,149</td>
</tr>
<tr>
<td>Beans/Pulses</td>
<td>1,116,312</td>
<td>27,908</td>
<td>0</td>
<td>22,326</td>
<td>89,305</td>
<td>139,539</td>
<td>976,773</td>
</tr>
<tr>
<td>Total Non Cereals</td>
<td>5,554,052</td>
<td>34,870</td>
<td>0</td>
<td>36,251</td>
<td>170,521</td>
<td>241,642</td>
<td>5,312,410</td>
</tr>
</tbody>
</table>

**Source:** Own calculations based on 2008/09 food production figures

### Determining Food Requirements

Since the Food Balance Sheet is an indicative data to show what is going to be available in the following year, the projections are based on annual national per capital consumption of foods (used in FBS in the basket) that is established to be 650 grams. This takes care of other uses such as seed requirement, trade etc. We can therefore estimate the food requirement for 2009/10 based on 2008/09 production to be 2010.

#### Assumptions for Calculating Food Needs

- **Assumption 1:** National Population in 2010 = 41,879,028
- **Assumption 2:** Production equals food available for consumption after subtracting all other uses including exports
Assumption 3: The caloric needs per person per day is 2,100 KCal plus 79 grams protein and 59 grams fats

Total calories needed per person per day = (KCal 2,100/4) = 525 grams
For 41,879,028 people, the total needs per day = (41,879,028 x (525/1,000,000))
= 21,986 MT

Total proteins needed per person day = (KCal 2,100 x 15% divide by 4) = 79 grams
For 41,879,028 people, the total needs per day = (41,879,028 x (79/1,000,000)) = 3,308 MT

Total fats needed per day = (KCal 2,100 x 25% divide by 9) = 59 grams
For 41,879,028 people, the total needs per day = (41,879,028 x (59/1,000,000)) = 2,471 MT

Total Food needed per day = 27,766 (21,986+3,308+2,471) Therefore Food requirement for 2010 is 10,134,590 MT

<table>
<thead>
<tr>
<th>Year</th>
<th>Growth Rate</th>
<th>Population</th>
<th>Caloric /Day</th>
<th>Mt/Day</th>
<th>Protein/Day</th>
<th>Mt/Day</th>
<th>Fats/Day</th>
<th>Mt/Day</th>
<th>Total/ Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>3%</td>
<td>39,475,000</td>
<td>525/1000000</td>
<td>20.724</td>
<td>79/1000000</td>
<td>3.119</td>
<td>59/1000000</td>
<td>2.329</td>
<td>26,172</td>
</tr>
<tr>
<td>2009</td>
<td>3%</td>
<td>40,659,250</td>
<td>525/1000000</td>
<td>21.346</td>
<td>79/1000001</td>
<td>3.212</td>
<td>59/1000001</td>
<td>2.399</td>
<td>26,957</td>
</tr>
</tbody>
</table>

11 Uses of National Food Balance Sheets

The Food Balance Sheets has many important uses that are include but not limited to the following:

- Annual Food Balance Sheets tabulated regularly over a period of years will show the trends in the overall National Food Supply, disclose changes that may have taken place in the types of food consumed, i.e. the pattern of the diet and reveal the extent to which the food supply of the country as a whole is adequate in relation to nutritional requirements.

- By bringing together the larger part of the food and agricultural data in the country, Food Balance Sheets are useful in making a detailed examination and appraisal of the food and agricultural situation therein. As estimates of national aggregates, they are suitable for determining the overall shortages and surpluses in a country if the data collected and method of collecting are appropriate.

- They are also useful in developing projections of future food supply needs or the future demand for food, in setting targets for agricultural production and trade and for establishing relationships between National food supplies, famine and malnutrition as well as evaluating National food and nutrition policies.
• Food Balance Sheets also provide a sound basis for policy analysis and decision-making needed to ensure food security. For this reason, International Organizations, Governments, planners and researchers find them invaluable in determining whether a nation as a whole is moving towards meeting National dietary recommendations.

• A comparison of the quantities of food available for human consumption with those imported will indicate the extent to which a country depends upon imports (import dependency ratio) to feed itself.

• The amount of food crops used for feeding livestock in relation to total crop production indicates the degree to which primary food resources are used to produce animal feed, which is useful information for analyzing livestock policies or patterns of agriculture.

• Data on per capital food supplies are an important element for projecting food demand, together with such other elements as income elasticity coefficients, projections of private consumption expenditure and population.

• Food Balance Sheets can be extremely useful to Commercial Businesses, (if it is availed constantly, consistently and correctly) because they serve as marketing tool and information guide for import and/or export opportunities.

• Governments can use Food Balance Sheets to develop more realistic and informed trade and agricultural policies instead of adopting adhoc restrictive policies such as export bans.

• Accurate Food Balance Sheets provide, at any given point in time, an eagle’s eye picture of the food situation in individual countries as well as regional blocks such as East Africa and COMESA.

CHAPTER TWO
PUBLIC AND PRIVATE SECTOR VIEWS ON DATA QUALITY IN NATIONAL FOOD BALANCE SHEETS

2.1 Introduction

A total of 12 questionnaires were sent to respondents, including the Prime Minister’s Office – Disaster and Relief Department, Government Ministries, Ministry of Industry, Trade and Marketing, Agriculture, Food Security & Cooperative, Planning, Economy and Empowerment; Government Agencies- the National Food Security Agency, National Bureau of Statistics, National Food and Nutrition Centre;
International Organizations- FAO, World Food Programme and FewsNet. Out of these, 9 respondents returned the questionnaires, while three did not. This chapter documents the findings of the survey.

a) Poor Awareness of National Food Balance Sheet

The majority of the respondents - local traders, importers, exporters, producers, other stakeholders (FAO, National Food Reserve Agency, etc - were not aware of the existence of a National Food Balance Sheet. Others questioned the accuracy of the approach used to construct the NFBS and alleged that the methodology was known only by the Ministry of Agriculture which is responsible for the exercise. Given that there is no involvement of stakeholders, there is no way one can check the accuracy of the figures in the NFBS. It was also alleged that even though the Ministry of Agriculture required traders to supply their end of the month’s stock data for inclusion in the Food Balance Sheet they never received the document once completed.

b) Inaccuracy of Basic Data

In Tanzania, Food Balance Sheets are assembled from a variety of sources, right from the Village level all through to the District, Regional and finally at the National. Their quality Sheets and its coverage vary considerably as some commodities are left out in the construction. Inaccuracies and errors may be introduced at each stage of a Food Balance Sheet's construction. Since the basic data are obtained from different sources, they are not only subject to inaccuracy but their concepts are not likely to be the same as the ruling concepts, since they were not primarily planned for that purpose. The users of these data must in mind their limitations. Ideally, the basic data required for preparation of sheets should be obtained from the same source. To overcome this:

- Tanzania should have a comprehensive statistical system which records all current information relating to each component of the Food Balance Sheet. Its concepts of the information adopted should be the same and bear the same meaning as those of the Food Balance Sheet.

- The information available should be consistent, reliable and accessible at least with respect to measurement units and the time reference period.

c) Inconsistency of Basic Data

Production and trade data are part of the ongoing National official statistics. They are based either on direct enquiries or records, or are estimated by Government agencies. Information on stock changes is available from marketing authorities and factories or from farmer stock surveys. Information on industrial uses is obtained from industrial/manufacturing censuses/surveys. Feed and seeding rates are obtained from the cost of production surveys or are estimated by the Government Agencies concerned. Losses occurring in industrial processing are also obtained
from manufacturing surveys. Since the basic data are obtained from different sources, they are subject to inconsistency and unreliability on account that their concepts are not likely to be the same as the Food Balance Sheet concepts, since they were not primarily planned for that purpose.

d) Differing Time Reference Periods
The time reference period is not consistent throughout, or there may be some time lag between the available data. This is particularly the case respecting the Ministry of Planning, Economy and Empowerment’s Agency - the National Bureau of Statistics which prepares the National Accounts and the Ministry of Agriculture, Food Security and Cooperatives’ Agency - the National Food Security Division/Reserve Agency, that have two different time reference periods. Furthermore, the data are often either incomplete or unreliable. Clearly, directly incorporating such data into the Food Balance Sheet is almost impossible. Adjustments to the basic data and estimation/imputation of the missing data are necessary in order to maintain a certain degree of consistency, completeness and reliability. In some cases, the exercise has to be based also on other external sources for verification.

e) Differing Time Reference Periods in Data Collection
There are also problems related to the time-reference period to be used in preparing Food Balance Sheets. The factor is not consistent throughout, or there may be some time lag between the available data. Several twelve-month periods, such as July/June, October/September, April/March, have been proposed and were indeed also applied. However, none of them satisfactorily and uniformly cover the production of all agricultural commodities, their trade and domestic utilization. It can be assumed that there is no single twelve-month period which is fully suitable for recording supply and utilization for all products. This is particularly the case with the Ministry of Planning, Economy and Empowerment’s Agency - the National Bureau of Statistics which prepares the National Accounts, and the Ministry of Agriculture, Food Security and Cooperative’s Agency - the National Food Security Division/Reserve Agency, that have two different time reference periods.

f) Non-commercial Production Data
Production statistics are mostly confined to commercialized major food crops i.e. cereals and limited non cereals. Non-commercial or subsistence production (i.e. home produce and food from livestock, game, fishing and gathering by households for their own consumption) are usually not included. In Tanzania this is likely to be an appreciable part of the total production.

g) Data on Catering Establishments, Institutions and Households
Manufacturing surveys may cover only a certain size of industrial establishment. Information on commercial stocks may be available from official or marketing authorities, factories, wholesalers and retailers, but inventories of catering establishments, institutions and households may not be available.
h) Data Relating to Waste/Losses During Storage and Transportation

Information on waste in industrial processing may be available, but waste/losses during storage, transportation or quantities intentionally discarded for the purpose of price control or epidemic disease control may not be available. In these cases, even though the basic data are reliable, some adjustments are required to adapt the basic data to Food Balance Sheets.

i) Effects of Crop Pattern and Utilization

The incompleteness and inaccuracy of the basic data tend to be the major problems. Production statistics may not be available for needed commodities. Even where they are available, though, they are not always reliable. This is due to the fact that crop patterns and utilization of some of the crops is sometimes rather complicated, making it difficult to estimate the production. This factor is further complicated for some of the crops because they are continuously harvested at regular or irregular intervals over a long period of time e.g. some cereals and non-cereals grown in three main seasons. Moreover, for certain crops, the produce is not completely harvested; a portion being set aside as emergency supply to be drawn from during the time of food crisis or from left behind like maize for speculation purposes.

j) Narrowness of the Food Basket

Respondents were of the view that the current food basket in the NFBS was not all-inclusive. The current NFBS is a Food Crop Balance Sheet and not a comprehensive. While it provides information on cereals (wheat, maize, rice, sorghum, and millet) and non-cereal crops alike (banana, cassava, potatoes, and pulses) certain kinds of non-cereals like fish, livestock, game meat, are not included because they are not featured in National production statistics. However, in Tanzania, as in many developing countries, meat forms a substantial part of the low consumption level of animal protein. The FBS does not consider food consumption differences among populations of different livelihood systems, like the Maasai (who thrive on meat), Chagga, Haya and Nyakyusa (whose staple food is banana) and socio-economic groups like Indians for whom pulses are a main daily dietary item. To this end, respondents felt there was a need to redefine the term ‘Food’ in the Food Balance Sheet so as to broaden the food basket.

k) Pure Stand versus Mixed Cropping

Major food crops may not be grown in pure stands but mix-planted in fields of incomprehensible complexity. The reliability of official production data may also be questionable. This is because farmers frequently equate production with tax collection and, in some cases, because reliable information on pre-harvest food grain losses caused by pests and diseases are not usually available. Hence, the estimates of yield are likely to be inaccurate. If so, it follows that production statistics derived from the harvested area and the estimated yield may be subject to a biased estimation.
I) Cross-border Trade Data not Accurately Captured
Import and export official data may be said to be accurate but still fails to capture significant amounts of cross-border trade that goes unrecorded. Moreover, import and export transactions may not receive equal attention from the Customs Administration because taxes or quantitative controls are generally concentrated more on import items than export. As a consequence, the reliability of export data may also be questionable.

m) Feed, Seed and Industrial Use Data
The availability of basic data on the feed, seed and industrial/manufacture use components are rather limited. Seeding rates for crops are fairly well established in the country, but when the quantities fed to animals have to be estimated, many aspects must be considered. Feeding practices vary from region to region according to the quantity and quality of pastures, the degree to which rearing is intensive, the prices of feedstuffs, etc. In addition, the quality of grain and other feedstuffs fed to livestock may vary from one year to the next. Cost of production surveys and manufacturing surveys, which are the appropriate sources of such data, have not been conducted regularly in the country. Even where surveys are conducted, their coverage is usually limited (e.g. cost of production surveys cover only a few major crops or do not cover most of the commodities, etc.). Moreover, information on stock changes and losses/waste are often nearly non-existent or, at best, only fractional in its coverage, e.g. commercial stocks of maize may occasionally be available from official sources or marketing authorities.

n) Population Statistics
The estimate of the total population is also a part of the set of ongoing official statistics. The per capita figure of each food commodity is obtained by dividing the figure for food available for human consumption by the total population partaking of it during the reference period, i.e. refers to de facto population. However, for many countries, including Tanzania, this figure may also be subject to either incomplete or unreliable data. The total population estimates may refer to resident population only i.e. refers to de jure population. Thus, non-resident population, such as illegal immigrants, tourists, refugees, and foreign diplomatic personnel and their dependants etc are not included. This omission may constitute a considerable part of the missing data. This, therefore, would understate the total partaker population and therefore.

o) Reliability of Crop Production Data and Carry-over Stocks
The information gathered on production volume is based on sample sizes on specific villages and for stock carry is provided by traders which is more than not credible. For example, production information is usually an estimated figure, both in terms of seeded areas and crop yields. This leads to estimated production acreage and estimated food requirements. It was unanimously confirmed that production data may not always be available and or reliable due to technical and financial constrains as well as difficulties in estimating the reliability of crops production that are continuously harvested at certain intervals over time or those
not harvested at all; held back as reserve stocks, and limitation in estimating informal or unrecorded cross border trade. The Government’s National Food Reserve Agency was the only institution that was providing accurate data on a monthly basis but limitations on holding capacity (180,000 tons) and could hold only two types of cereals – viz maize and sorghum. Private sector information on carry over stocks is limited to few big industrial companies based in Dar es Salaam, leaving out players in other Regions, including Posho Mills which produce 80% of maize flour against 20% produced by the big millers. Obviously the stock, carried by Posho Millers is likely to be substantial, yet it is not captured by the National Food Balance Sheet.

p) Omission of Data on Zanzibar From the Food Balance Sheet
Food data information about Zanzibar is missing. Zanzibar is excluded from the National Food Balance Sheet on account that food is not a Union matter. Important food statistics such as imports and exports are not captured in the NFBS. Zanzibar has its own Food Balance Sheet. Yet, plenty of food is constantly shipped (officially and informally) to Zanzibar, and Zanzibar is a major outlet of food from Tanzania mainland to the Comoro, Mauritius and Madagascar.

q) Food Balance Sheet Availability, Accessibility, and sustainability
The majority of interviewees were not aware of the Food Balance Sheet and those who were said it was not easily accessible. Further, the Ministry of Agriculture has failed to sustain the construction of the FBS – the last time the Food Balance Sheet was constructed was in 2006.

CHAPTER THREE
GAPS IN THE CURRENT NATIONAL FOOD BALANCE SHEET AND SUGGESTED MEASURES

3.0 Introduction
Despite their indisputable usefulness, National Food Balances are not perfect tools. The study undertaken reveals the existence of gaps either in their structure, contents or process by which they are constructed. In this section gaps are interpreted to mean or imply shortcomings, weaknesses or criticisms commonly associated with Food Balance Sheets.

Our survey during the 15 days of data gathering revealed the following major gaps or weaknesses in Tanzania’s current Food Balance Sheet:

3.1 Narrowsness of the Food Basket
The current NFBS is a Food Crop Balance sheet and not a comprehensive one. While it provides information on cereals (wheat, maize, rice, sorghum, and millet)
and non-cereal crops (banana, cassava, potatoes, and pulses) it ignores or leaves out things like livestock, game meat and fish which are also important food items in some areas of Tanzania. The FBS does not consider food consumption differences among populations, of different livelihood systems. For example, the Maasaai tribe thrives on meat, while the staple food of the Chagga, Haya and Nyakyusa tribes is banana, and pulses the main item in the daily diet of Indians. To this end, our recommendation is that, in the way forward given efforts should be made to redefine the term ‘Food’ in the Food Balance Sheet and consideration be to broaden the food basket.

3.2 Failure to Recognize Dietary, Socio-economic, Ecological and Geographical Differences

Conceptually, Food Balance Sheets measure the food supply of the population. In reality, they are often unable to match practice with theory and, as a consequence, the statistics are more often challenged for inconstancy, reliability and accessibility to the data users. Food Balance Sheets measure food consumption from a food supply perspective. They do not give any indication of the differences that may exist in the diet consumed by different population groups, e.g. people of different socio-economic groups, ecological zones or geographical areas within a country. Neither do they provide information on seasonal variations in the total food supply. To obtain a complete picture, food consumption surveys showing the distribution of the national food supply at various times of the year and among different groups of the population should be conducted. In fact, the two sets of data are complementary. There are commodities for which a production estimate could best be based on estimated consumption as obtained from food consumption surveys. On the other hand, there are commodities for which production, trade and utilization statistics could give a better, nationwide consumption estimate than the data derived from food consumption surveys.

Data obtained through household and food consumption surveys are often the preferred source of food consumption estimates for most analysts because they provide more information on food consumption than Food Balance Sheets do. For example, because the surveys collect data from the people who are purchasing and eating the food, they can obtain information on the consumption characteristics of children, elderly people, males, females and on rural as against urban populations. This type of information is not available from Food Balance Sheets. In the absence of a comprehensive International data set from household surveys, however, the Food Balance Sheets represent the only source of standardized data that permit international comparisons over time.

3.3 Poor Institutional Structures for the construction of NFBS

Whereas the basic data for the construction of the National Food Balance Sheet is collected from village sources, district, regional and finally at the national level, there are no institutional structures established for the responsibility of collecting food information at each level. One would expect to find a permanent Food
Balance Sheet Committee from the village level through the higher levels. This way, there would be no need for officials of the Ministry of Agriculture to travel from Dar es Salaam to gather food statistics on availability, utilizations, etc which require money resources to meet travel, per diems and associated allowances. One of the reasons why no Food Balance Sheet has been prepared since 2006 is a lack of funding. With proper and effective institutional structures in place, this problem would not occur.

3.4 Absence of Stakeholder Involvement in the Construction of the NFBS
To construct a credible, accurate and reliable National Food Balance Sheet (NFBS) requires the involvement and participation of all relevant stakeholders – Government departments and agencies, producers, importers, exporters, NGOs, Donor organizations, etc. However, in Tanzania, the NFBS is prepared solely by the Ministry of Agriculture, Food Security and Cooperatives. Our study discovered that stakeholders are not involved during the process of construction nor are they informed about the finished product.

3.5 Absence of an All-inclusive NFBS Forum
There is no Forum that can aid or facilitate consultations, information sharing or exchange relating to the construction of the NFBS. Presently, there exists a 'Food Security Division under the Ministry of Agriculture but this is no more than a group/team of people appointed to assess the food security situation of the country. This fact waters down the quality of the NFBS in terms of its data content, food basket, structure, methodology/approach, and process. What is needed is the establishment of an umbrella organization (national forum) that will bring together all those individuals and organizations that have a stake in the country’s food situation.

3.6 Lack of a Regulatory mechanism to Compel Data Reporting
As stated above, there are no established institutional structures set to deal with the construction of the NFBS such that information gathering and flow from village to the national level is difficult. But even if such were to be established, an enforcement mechanism would be required to compel the various actors to declare, record and transmit information to relevant authorities one way of dealing with this issue would be to enact a law that would require individuals, households, traders, producers and other food dealers to declare and avail the amounts and value of stocks held by them to people responsible for the construction of the NFBS.

3.7 Absence of Effective and Timely Dissemination Methods of the NFBS
The current practice in Tanzania is to produce an annual FBS, although the last one to be constructed was in 2006. However, Food Balance Sheets are useful tools in planning the food security of a country, policy development and analysis as opposed to fire fighting and uninformed adhoc food policies. Further, once NFBS are constructed, they should be disseminated to those who need them to aid their decision-making, in particular business people, disaster management departments, Government agencies, and so on. Our study shows that most stakeholders are not aware of the existence of NFBS let alone having seen one. It would be beneficial if
the way forward would reverse this state of affairs by developing mechanisms that not only involve all stakeholders but which ensure that the Food Balance Sheet is made available to them appropriately and timely.

3.8 Use of Forecast and Estimate Data
Most of the data used to construct the NFBS comprise estimates of supply and demand statistics. What is required is to make more use of supplicated data gathering methodology to obtain actual data or data that is as most accurate as possible.

3.8.1 Absence of Associations for Farmers or Grain Producers
Gathering data and information is a sensitive matter, especially where business people such as commercial farmers, importers and exporters are involved. The tendency is for these people to fear that such information may be rendered for use by the competition or the Tanzania Revenue Authority for tax purposes. Therefore, there is a need to formulate avenues for data collection. One way of doing this is through the formation of Associations for farmers or grain producers. These Associations would then act as focal points for pooling information. A Grain Producers Association would have exclusive rights to purchase all grains in the country. A measure of this kind would serve to centralize crucial information and data for the construction of the NFBS.

CHAPTER FOUR
TOWARDS FORMATION OF ALL-INCLUSIVE STAKEHOLDER FORUM

Throughout this report it has become evident that the National Food Balance Sheets though far from satisfactory in the proper statistical sense, do provide an approximate picture of the overall food situation in a country and can be useful for economic and nutritional studies, for preparing development plans and for formulating related policies.

However, it has also become evident that the construction of NFBS in Tanzania is affected by various factors that constrain its quality, accuracy, reliability and usefulness. For example, the process suffers from inaccurate and unreliable basic data. Further, the data gathering process itself is questionable for lack of established institutional structures.

There are also issues of differing reference time periods that raise a dilemma as to when data should be collected. This problem needs to be resolved in order to achieve some kind of consistency and accuracy in data reporting.

The narrowness of the food basket in the NFBS is another issue being questioned by the users of the Balance Sheet.
Most of these questions and many others cannot be resolved through isolated efforts and initiatives. What is needed is the formation of a National Food Balance Sheet Forum that would bring together relevant stakeholders and create a platform for discussions, dialogue, cross breeding as well as information exchange and sharing.

In the case of Tanzania, the lessons learned and/or drawn from the study from the following major categories of stakeholders who are being recommended to form part of the National Food Balance Sheet forum:

- Relevant Government Ministries – Prime Ministers Office, (Food security and Disaster Management Department), Ministry of Agriculture, Ministry of Health.
- Government Agencies – The National Food Reserve Agency, Tanzania Food Nutrition Centre, Board of Internal Trade, Board of External Trade, including Zanzibar etc
- Other Public Organizations
- International/United Nations Organizations – Food and Agriculture Organisation (FAO), World Food Programme (WFP), etc
- The private sector business community – local traders, big importers and exporters, big producers and farmers, Chambers of Agriculture, Industry and .Commerce, Associations of Grain Producers, Farmers, etc

With the near conclusion of the East African Common Market Protocol, the ultimate aim is to go beyond and form a Regional Food Balance Sheet Forum.

CHAPTER FIVE
CONCLUSIONS, RECOMMENDATIONS AND AREAS FOR FURTHER RESEARCH

This study was commissioned by the USAID/Compete based in Nairobi. It was guided by clear terms of reference that sought to accomplish the following activities:

i. Assessment of the current practice of constructing Food Balance Sheets, at the national level, the use into which it is put, institutional structure and views of the private sector on the quality of data/information that is assembled into therein.

ii. Identify gaps in the Food Balance Sheets that are currently being pooled at the national level and recommend measures to take care of them.

iii. Facilitate formation of an all inclusive National Food Balance sheet Consultative Forum. Where a Committee already exists, the task will be to expand it in order to include any institution that the stakeholders may perceive as necessary in building credibility of the Food Balance Sheet.
iv. Facilitate construction of an all stakeholder Food Balance Sheet through the National Forum using the attached template of the item.

v. Submit the National Food Balance Sheet, after its validation, to the regional focal point. EAGC is such. The National Food Balance Sheet will be posted to the RATIN, which will also be linked to COMESA and EAC websites.

vi. Facilitate Regional Food Balance Sheet Consultative forum to consider the Regional Food Balance Sheet that will have been aggregated from the National Food Balance Sheets.

vii. Post Regional Food Balance Sheet in the RATIN.

The study suffered limitations resulting from resource, time, and mandate/authority constraints. However, it was successful in gathering and documenting information relating to the practices of constructing the National Food Balance Sheet in Tanzania, the public and private sector views on data quality in the NFBS as well as identification of gaps within it.

The main conclusions of this study include the following:

- The National Food Balance Sheet, while often far from satisfactory in the proper statistical sense, does provide an approximate picture of the overall food situation in a country and can be useful for economic and nutritional studies, for preparing development plans and formulating related policies.

- The current practices of constructing the National Food Balance sheet (NFBS) lack involvement and/or participation of key stakeholders, a fact that waters down its information, structural, procedure and content quality. Further, because of the absence of involvement, the majority of players both in the public and the private sectors are not aware of its existence.

- The public and private sector views on data quality of the NFBS are scant on account that most have never seen one. However, those who had were of the feeling that NFBS information was inaccurate, unreliable, non-inclusive, and above all did not represent a true picture of the food situation. They argued, for example, that statistics relating to carry-over stock of thousands of small traders in the country, cross-border trade as well as ‘Posho millers’ activities were not captured by the Balance Sheet.

- Various gaps were identified, including the narrowness of the food basket in the NFBS, lack of FBS institutional structures, absence of stakeholder involvement, absence of Association of Food Operators and NFBS Forum, absence of regulatory mechanisms to compel data declaration, poor dissemination of NFBS to stakeholders, and extensive use of forecast and estimate data as opposed to actual data.
Recommendations

In light of the foregoing, this study makes the following recommendations:

1) Tanzania should take deliberate measures to improve the quality of data in its NFBS – through stakeholder involvement and application of more reliable scientific processes and methods of data collection.

2) Since many stakeholders in both the public and private sectors in the country (including Government Departments and Agencies) are not aware of the existence of NFBS, measures should be taken to create this awareness through effective dissemination of the document to all those who should and/or ought to have it.

3) Since the current practices of constructing the NFBS render this important tool of decision-making and policy analysis amenable to significant structural, content, and process gaps, that emanate from isolated non-all inclusive efforts and initiatives of the Ministry of Agriculture, it is recommended that Tanzania should consider embarking on the formation of a NFBS Forum, which in light of the upcoming East African Common Market will provide a springboard and/or platform for a Regional Food Balance Sheet Forum. The latter should lead to creation of a Regional Food Balance Sheet.

REFERENCES FOR EAST AFRICA


