

# **Globalization and Global Food Crises: The Role of Official Statistics in African Context**

## **Abstract**

The globalization of world economy is increasing the need for basic statistics on supply and demand for agricultural and fishery commodities (F.A. Vogel). . The rising food prices and food shortage highlights the need for more concreted efforts to harness the potential of the agricultural sector for development since it has remained the dominant sector in most African economies. The existence of official statistical system especially during crisis which is able to feed in and provide information on regular basis should satisfy the needs for immediate of interventions. The current crisis calls for much closer scrutiny and monitoring of the input to agriculture as well as its production processes. This in turn will create enormous new challenges of agriculture statistics (CAESAR, 2001)

Although many African countries have a tradition of collecting agricultural statistics, they have by and large not developed structured national agricultural statistical system with well defined objectives and a strategic direction (ACS, 2008). Regarding the status of agricultural and price statistics, Ethiopia has a long history of conducting probability surveys and censuses under the umbrella of National Integrated Household Survey Program. This program includes mainly annual agriculture and monthly price surveys. Over the last 25 years the Central Statistical Agency (CSA) has conducted its annual agricultural sample survey using the classical method of tape and campus method for field area measurement and crop cutting exercise for yield estimation and publishes major statistical series in its Ethiopian Statistical Abstract.

The discrepancy between the CSA's and Ministry of Agriculture and Rural Development's annual crop production forecast data has been a challenge for the data users in creating confusion. However, an encouraging initiative has been put in place to resolve the mentioned discrepancy by exploiting the strength of each institution through cooperation and collaborative efforts. The CSA has been providing timely and accurate consumer price index data which has reflected the recent price inflation to the policy makers. As a result, the government has exerted its effort in taking several measures to reduce the effect of inflation on the most vulnerable urban poor.

One of the main purposes of Ethiopian NSDS is to provide a framework to integrate agricultural and rural statistics with each other and with that of other sectors. The integration would take into account the complex nature of data needs in understanding how poverty affects rural households and agricultural factors affect their income (Vogel, 2008). Furthermore, the importance of implementing the NSDS in the country would play an effective role in ensuring the standardization of concepts, definitions, classifications and methodologies used by all agencies and thereby it would avoid duplications in undertaking statistical activities that would otherwise confuses data users.

## **Globalization and Global Food Crisis**

Globalization is a powerful and irreversible phenomenon that is offering new opportunities to countries at the upper end of the competitive ladder but is also creating enormous difficulties for many low income countries, because they are unable to face competition in an unequal world ( Sartage Aziz, 2008). The globalization of world economics is increasing the need for basic statistics on supply and demand for agricultural and fishery commodities (F.A. Vogel).

Webster notes that “crisis” comes from the Greek word meaning “decision”\_(Webster’s Ninth Collegiate Dictionary, 1987). In essence, a crisis is a situation where one could be faced with inadequate information, not enough time, and insufficient resources, but in which leaders must make one or many crucial decisions. Crises range in scope and intensity from incidents that directly or indirectly affect a single village to ones that impact the entire country.

Rising global food prices affect countries differently depending on whether they are net exporter or importers of food (Joachim von Braun *et al.* 2008) A complex combination of poor harvest in some major commodity producing countries, increase in the cost of production due to higher fuel and fertilizer prices, diversion of food crops to produce bio-fuels and a blockage in global trade is driving food prices up worldwide (Josef L. Loening *et al* 2008). The recent escalation of food prices and the reports of global food crisis in many African countries threaten economic growth, peace and security. The rising food prices and food shortage highlights the need for more concreted efforts to harness the potential of the agricultural sector for development since it has remained the dominant sector in most African economies.

## **Role of Official Statistics**

The role of official statistics is to help in identifying issues such as poverty, inflation, unemployment, size of population, availability of food ...etc. Official statistical data will enable very effective planning and interventions and optimal utilization of resources. At each level of monitoring, it is expected to establish a process which is looking both backward and forward. As far as the management of statistical activities within the food crisis is concerned, multi purpose surveys such as living conditions, agricultural as well as continuous labor force household survey might be used as an efficient tool to provide statistics on the main indicators of the monitoring system. The existence of official statistical system especially during crisis which is able to feed in and provide information on regular basis should satisfy the needs for immediate of interventions i.e. emergency and humanitarian aid, particularly, for vulnerable groups (e.g. women, children, and poor households). However, the challenge is that during such crisis, statistics do not lie within the priority list of governments and other stakeholders.

## **Agricultural Statistic and Food Security in Africa**

Agriculture remains the dominant sector in most African economies. The sector contributes significantly to GDP, national exports and employment. It also produces the food to feed a country's population, and fulfills other requirements such as the production of fiber, fuel ingredients for manufacturing... etc. Hence, it is a very complex component of the world economy with issues overlapping those from other sectors. The traditional view of agriculture was that one mainly needed to know the amount of wheat, rice... etc. that were produced. However, there are many issues including economic, environmental and social where a policy decision in one area has a rippling effect across the other areas (F. A. Vogel, 2008)

Food security focuses very much on trade policies when it concerns developed countries while for developing countries, taking one African country as an example, it is a matter of securing supply of food for the people. A very important issue related to food security is: "do we have enough food at the right time at the right place?", and "is the food we are eating safe?" The second aspect of food safety has recently got increased attention. The current crisis calls for much closer scrutiny and monitoring of the input to agriculture as well as its production processes. This in turn will create enormous new challenges of agriculture statistics (CAESAR, 2001) Politicians and the public are increasingly requesting for more accurate, detailed and timely statistics not only on output but also on the quality of output based on the improved monitoring of inputs and the production processes. The reality is that the existing data system in agriculture is not capable of providing the information needed to neither understand the issue nor determine the action to take. Lack of quality data on agriculture and related topics remains a major constrain to agricultural development in many African countries.

Although many African countries have a tradition of collecting agricultural statistics, they have by and large not developed structured national agricultural statistical system with well defined objectives and a strategic direction (ACS, 2008). The current systems are fragile, largely uncoordinated and un-integrated in overall national statistical system, insufficiently resourced and essentially unsustainable. Many countries have not taken a census of agriculture in recent past. Similarly, many countries are not undertaking agricultural surveys on a regular basis and as a consequence lack of current agricultural data to measure the performance of policies and programs overtime (ACS 2008).

For example, in Kenya agricultural survey was conducted some 15 years ago in 1987. Even then not all the data from this were processed and analyzed due to shortage of trained personnel. It was planned to resume the survey in 2003/04 covering both small and large scale farms and also planned to provide crop forecast data. Moreover, Kenya has never carried out an agricultural census and it was planned for 2005/06 but could not be materialized as well (CBS 2003).

Lack of reliable agricultural statistics data has shown its impact in Malawi in early 2002. The food crisis in Malawi was a result of a combination of erroneous food production estimates and a lack of transparency over management of the Strategic Grain Reserve that has caught the policy makers unprepared (Christopher Scott, 2005). With regards to data from administrative sources such as agricultural reporting services are often incomplete

and are difficult to link data with socio-economic data from agricultural households. In most African countries, while National Statistical Offices are generally mandated to produce official statistics, it is the ministries of agriculture that generally produce some of the data for agriculture. The result is either data gap or a multiplicity of data sources and conflicting data sets leading to a lack of analysis.

### Status of Food Price Inflation, Agricultural and Price Statistics in Ethiopia

The global food price crisis has led the World Bank president to announce a new deal for global food policy (F. A. Vogel). One of the problems is the paucity of data upon which to base the policies. In light of global commodity price inflation, Ethiopia, is experiencing such a rapid price increases. Inflation growth in Ethiopia has recently coincided with high economic growth rates whereas inflation was traditionally associated with large agricultural supply shocks due to drought. A key finding is that global food prices are strongly linked to Ethiopia's domestic inflation. Higher inflation than in neighboring countries points to domestic factors including demand pressure and expectation. Some supply-side factors may also explain part of the rise in food prices, such as reduced distress selling by farmers (Josef L. Loening et al 2008).

As food accounts for 57 percent of the total household consumption expenditure, inflation used to be driven mainly by the performance of agriculture. Adequate rainfall and good crop harvest are associated with low food and overall inflation. Despite the good weather and good harvest agricultural products in the last four years, food inflation has continued to accelerate. A recent study on Inflation Dynamics and Food Crisis in Agricultural Economy: the Case of Ethiopia showed that inflation in Ethiopia is heavily associated with the dominant role of agriculture and food in the economy. Ethiopia's inflation is synonymous with the price increase (Josef L. Loening et al 2008).

Obviously, food security is an important issue in an agricultural economy like Ethiopia. It has important policy implication and data needs. In addition, the market prices data collection of agricultural commodities is important in a number of statistical domains including developing constant prices for deflating poverty estimates and for making agricultural policy decision for both government and private sectors. It is also very important for individual farmers who must make decisions about which crop to grow, which animal to raise and where to sell commodities.

Regarding the status of agricultural and price statistics, Ethiopia has a long history of conducting probability surveys and censuses under the umbrella of National Integrated Household Survey Program. This program includes mainly annual agriculture and monthly price surveys. Besides a monthly retail price survey that provides consumer price index, a monthly rural agricultural producer's prices survey is conducted in selected sampled areas. Recently agricultural producer price index has been developed in order to

measure changes in price received for agricultural commodities in primary markets without the inclusion of transaction margins.

Over the last 25 years the Central Statistical Agency has conducted its annual agricultural sample survey using the classical method of tape and campus method for field area measurement and crop cutting exercise for yield estimation and publishes major statistical series in its Ethiopian Statistical Abstract. More detailed agricultural statistics are published in its annual Agricultural Sample Survey Reports. The first ever 2001/02 Agricultural Census of Ethiopia has provided data at lower administrated levels which is used as a bench mark.

### **Challenges of Forecasting Food Crisis in Ethiopia**

While forecasting is subject to uncertainty, the lack of timely, accurate and consistent macroeconomic statistics makes such exercise more hazardous than would otherwise be the case. Forecasting is of paramount importance when a country is affected by a crisis such as food crisis. The authorities need to know how quickly it is likely to spread among different parts of the country in order to design appropriate counter measure. Having access to accurate data of food security such as crop production and price data is crucial to obtaining reliable forecast of future prevalence.

Several organizations are active in the field of predicting crop production and monitoring food security situation in Ethiopia. These include foreign and international organizations as well as, the federal Ministry of Agriculture and Rural Development (MoARD), the Central Statistical Agency (CSA), and the National Meteorological Agency (NMA). While the monitoring activities of international agencies are entirely based on remote sensing, MoARD and CSA do yield forecasting relying exclusively on field surveys. NMA produces agro- meteorological bulletins that provide information on current and expected weather and phenology and compares current conditions with last year's and the long-term average. The remote-sensing based approaches provide quick results early in the season, but are not able to generate useable quantitative estimates below the level of administrative regions. CSA generate sampling-based yield forecasts for all important crops down to sub-national administrative levels. Similarly, MoARD has branch offices and agents posted in each administrative unit across the country at all administrative levels. All data are founded on the visual appreciation of conditions by contact farmers and development agents; there is no sampling and statistical evaluation. The disaggregated data at household or contact-farmer levels are not maintained. This is mainly due to the size of the operation itself. At the start of the chain of data flow, varying, subjective perceptions of different contact farmers or development agents may be the cause of discrepancies.

The discrepancy between the CSA's and MoARD's annual crop production forecast data has been a challenge for the data users so far in Ethiopia in creating confusion. However,

an encouraging initiative has been put in place to resolve the mentioned discrepancy by exploiting the strength of each institution through cooperation and collaborative efforts. This momentum is expected to be more effective as the CSA is in the process of developing and implementing the National Strategy for Statistical Development (NSDS).

On the other hand, the CSA has been providing timely and accurate consumer price index data which has reflected the recent price inflation to the policy makers. As a result the government has exerted its effort in taking several measures to reduce the effect of inflation on the most vulnerable urban poor.

## **Way Forward**

It is to be noted that for the preparation of Census Enumeration Map in one of the pastoralist regions ( i.e. Somalie Region), the CSA acquired satellite imagery that would cover the entire country as valuable national assets. Considering the advantage of the multiple uses of satellite imagery, the CSA has undertaken two major activities that improve the sampling efficiency of its agricultural sample surveys by at least 20 percents once a land cover map is created. Land cover is critical for many purposes i.e. sustainable management of natural resources, environmental protection, food security and humanitarian programs as well as core data for monitoring and modeling. The development of area frame is also expected to improve the accuracy of agricultural statistics especially that of area under crop once it is finalized. Hence, the CSA is currently in the process of constructing an area frame on selected pilot areas and developing land cover classification maps of the entire country with the support of EC/FAO project funds. On the other hand, it is planned to make changes using improved technology such as GPS for area measurement and reduce the size of crop cutting plots.

Even though a reliable and comprehensive market price information system is managed by CSA, there exist parallel systems due to the delay in sharing price data and the frequency of data collection and dissemination (i.e. monthly). The large number of commodities which is approximately 400 is monitored in 119 markets. In order to increase the frequency of data collection and dissemination there is a need to improve method of data entering and processing price data. With the financial support of EC/FAO project, currently the CSA has introduced handheld computers on selected markets on a pilot basis. The pilot exercise has proven to be effective in reducing the processing time from weeks to a day or two. Hence, it is planned to cover all markets and improve the timeliness of the price data in a near future.

The report of the United Nation Secretary General (02/04/2003) stated that “three quarters of the world’s poor live in rural areas of developing countries and depend on agriculture and related activities for their livelihood”. As Vogel has also indicated all Millennium Development Goals (MDG) have direct or indirect linkage with agriculture (Vogel, 2008). Since about 85 percent of the MDG’s target groups population of Ethiopia live in rural areas in an agricultural economy, integrating rural statistics with agricultural statistics is paramount important as a strategic plan of the country. Hence, one of the main purposes of Ethiopian NSDS is to provide a framework to integrate agricultural and

rural statistics with each other and with that of other sectors. The integration would take into account the complex nature of data needs in understanding how poverty affects rural households and agricultural factors affect their income (Vogel, 2008). Furthermore, the importance of implementing the NSDS in the country would play an effective role in ensuring the standardization of concepts, definitions, classifications and methodologies used by all agencies and thereby it would avoid duplications in undertaking statistical activities that would otherwise confuses data users.