Contribution to: Data Collection and Analysis Tools for Food Security and Nutrition
HLPE e-consultation on the Report’s Scope (To be presented at the 50th plenary session of the CFS in October 2022)

Contribution by Kenya National Farmers’ Federation (KENAFF), member of the World Farmers’ Organisation (WFO)

Share your comments on the objectives and content of this report as outlined above
Kenya National Farmers’ Federation (KENAFF, member of the World Farmers’ Organisation, WFO) fully supports the initiative as it addresses the gap in quality data which is also essential to monitor progress and understand where the world stands in achieving its shared goals - the SDGs, especially since increasing availability and quality of Food Security and Nutrition data is key in achieving SDG2. The objective provided is relevant. However, it should also be aimed at designing, planning, and implementing strategic management where opinion of smallholder and largescale farmers and other food producers can be sought in matters pertaining to collection of more accurate data on food security and nutrition.
The content should include additional sections of sub-activities and the proposed outreach and communication strategy.

Share good practices and successful experiences on how to:

1. Improve quantitative and qualitative data collection and analysis;
Some of the good practices to improve quantitative and qualitative data collection and analysis to be considered include:

- Involving community participants, including farmers, in many quantitative and qualitative phases of research to bring about change. The multiple phases all address a common objective of assessing and refining the overall objective.
• Developing survey instruments to support the development of appropriate quantitative instruments that provide accurate measures within a FSN context. This involves first collecting qualitative exploratory data, analyzing the information, and using the findings to develop a psychometric instrument well adapted to the sample under study. This is then, in turn, administered to a sample of a population. For example, a FSN study could begin with a qualitative exploration through interviews with households to assess what constructs should be measured to best understand improved FSN.

• Comparing findings from qualitative and quantitative data sources through collecting both types of data at roughly the same time; assessing information using parallel constructs for both types of data; separately analyzing both types of data; and comparing results through procedures such as a side-by-side comparison in a discussion, transforming the qualitative data set into quantitative scores, or jointly displaying both forms of data.

• Harmonising the procedure of data collection and documenting to avoid any bias, mistake, and misunderstanding by the persons that will be in charge of collecting the data. It is of outmost important for qualitative data that could be subject to

• Ongoing monitoring and review regarding the amount of data collected, their values to identify potential deviation of the data collection process or bias, the methodology used by the ones in charge of the collection.

• Complying with regulations of data collection methodology, particularly in terms of protection of privacy.

Reliable and adequately detailed information about FSN of a nation’s population is important for the development of policies and programmes to increase food security and reduce food insecurity and hunger. Some of the successful experiences in using qualitative methods for measuring food security include:

• Some projects have developed and implemented survey-based methods to help provide information for households in their countries especially United States, and research conducted to explore the feasibility of adapting these methods for use in other countries.
2. Address capacity gaps of local institutions, farmers’, producers’ and workers’ organizations in generating, sharing and analyzing good quality data, as well as in using data to inform decision-making in food systems;

Generating, sharing and analyzing data at a local level can be tough for different reasons:

- To ensure the representativeness of the data collected, it is necessary to know the population from which the data is drawn: e.g. number of small producers in a region, volume of production, percentage of food-insecure people in a given area. It means to have strong and relevant databases that provide accurate information, and the relevant network to collect data. If it is quite achieved in developed countries, it is more difficult in developing countries.

- Some data collection may require devices, infrastructures or technologies that are not present locally, which means that it is necessary either to equip the area with the lacking device/infrastructure/methodology or to outsource the data collection.

- A way to save costs in data collection is to use data that were collected on a different purpose. This may create bias that will jeopardize the accuracy of the data. That is why it is important to understand why these data were collected and how.

- Language barrier. For example, in Kenya, there are many local languages mainly used by small stakeholders and rural communities. Good quality data means a mutual good understanding that may be jeopardized by language issues. That is why it is important to ensure a proper translation.

3. Address capacity gaps at country level to generate and use data in policy-making processes, monitoring and reporting related to SDG2; including with respect to financial resources, human resources, data management, legislation and the enabling environment and FSN governance.

At County level, services or departments often gather statistics provided by departmental/local level to estimate their own statistics and define their policy. The problem is the more you use statistics or summarized data, the more you lose in terms of accuracy. In particular, the variability of the data collected is likely to be underestimated in the process and local specificities may not appear in the summarized data.
Share the most recent references that should be considered in this report.

Global report on food crises 2020 Joint analysis for better decisions

The report indicates that at the close of 2019, 135 million people across 55 countries and territories experienced acute food insecurity. Additionally, in the 55 food-crisis countries covered by the report, 75 million children were stunted and 17 million suffered from wasting in 2019.

Inter-Agency Social Protection Assessment (ISPA) tool on Food Security and Nutrition

This tool provides a framework of analysis to assess how social assistance and programmes can achieve a greater positive impact on food security and nutrition (FSN) at country level.

Provide feedback on the following questions, to guide the development of the report:

1. What data do countries need for more effective decision-making for food security and nutrition and to inform policies for the transformation of food systems?

   Countries need the following nutrition data for more effective decision-making for food security and nutrition and to inform policies for the transformation of food systems:
   
   ▪ Knowledge framing data to: increase awareness of multiple issues among the stakeholders; generate awareness among civil society and bringing positive changes in nutrition; influence policies when it is aligned with the underlying values, believes and motivation of the decision-makers; and build strong political commitment and maintain strategic communication between different nutrition partners.
   
   ▪ Multidimensional data to: enhance understanding of nutrition problems and provide an empirical basis for evidence-based nutrition policymaking.
   
   Data on the health and nutritional status of adults and children collected in national surveys can also serve as the basis for national nutrition monitoring and developing dietary guidelines.
   
   ▪ Finance data i.e. the detailed understanding of the funding process, estimating cost, budget allocation, etc. to: improve predictability, transparency, and accountability of donor funds. Evidence demonstrating the efficacy and cost-effectiveness of nutrition
interventions help support effective advocacy and policies when they are clearly communicated with the decision-makers.

2. What are the gaps and barriers in national and international data production and use with respect to FSN? What type of data will be most useful in measuring food security dimensions such as “agency” and “sustainability”?

- **Inadequacies in Data**
  Data and knowledge gaps create a true scenario where, the lack of data and knowledge about food safety hazards creates misconceptions about what constitutes adequate food safety systems, and then ultimately inadequate food safety systems are unable to provide sufficient data and knowledge about food safety hazards.
  This variability, without context, could lead to misinformed decision-making, and ultimately end in inaccurate conclusions or inferences.
  The lack of data can also lead to confusion or misconceptions regarding foodborne hazards, resulting in inadequate or misguided control measures. While this is an important measure, it is rarely coupled with controls for biological foodborne hazards that do not commonly elicit a visual response in livestock.

- **Countries’ Low Capacity**
  A key challenge is the low capacity of countries to produce quality FSN statistics and to respond to new data demands. Despite an overall improvement in the capacity to produce official data, National Statistical Systems (NSSs) still struggle to address both traditional and emerging data demands driven by the new international, regional and national reporting requirements. In many cases, NSSs cannot keep up with the capacity development efforts required by the adoption of new data sources or of innovative methodological frameworks.
  The use of traditional survey tools and sampling methods impose limitations on the production of statistics at the level of disaggregation required for effective decision-making. In this regard, national data collections are usually not georeferenced, hampering the possibility of generating detailed territorial statistics and integrating the information collected with new data
sources. As a result, FSN data are usually outdated and thus unable to provide actionable intelligence for governments and the international community to take effective measures for addressing complex sustainable development challenges in a timely manner.

3. **What are the current national and international processes for the collection, processing, analysis, and use of reliable and accurate agricultural and food security and nutrition statistics? What are the main gaps, challenges and inequalities in existing processes?**

At national level, in Kenya for example, data collection activities occur at the County level. County visits are deemed important to provide insights into the capacity constraints and challenges prevalent at the administrative level where data collection activities occur. The team’s approach to the county visits uses the Checklist for Agricultural Statistical Capacity Assessment as a guide for the questions to be asked during meetings with the county staff of the Kenya National Bureau of Statistics (KNBS) and Minister of Agriculture Livestock and Fisheries (MoALF). Based on the consultations with stakeholders during the inception phase, the checklist covers four capacity elements: the institutional infrastructure (prerequisites), resources (input), statistical methods and practices (throughput), and availability of statistical information (output).

At International level, FAO for example, collects and disseminates timely and reliable food and agricultural statistics globally. They develop statistical methodologies and standards, and support member countries develop statistical systems through technical assistance and capacity development activities. They disseminate statistics through their dissemination platforms (FAOSTAT and RuLIS) and produce publications, working papers and statistical yearbooks that cover food security and nutrition, crop and livestock, economic, social and environmental statistics. As an inter-governmental organization, FAO collects data mainly through questionnaires submitted to countries members on a regular basis. From its inception, the organization has strived to maintain the best possible capacity to collect, process, validate, harmonize and analyze incoming data and generate accurate and timely information. Improving the quality, transparency, and access to FAO’s statistical data is an important priority.
The main gaps, challenges and inequalities relating to existing processes include:

- Resources i.e. financial, human (staff and training);
- Physical infrastructure (equipment etc.);
- Stakeholder engagement (including farmers) and dissemination activities.

4. What are the policies that countries need to strengthen their capacity to collect, process, analyze and use quality qualitative and quantitative data to achieve the 2030 Agenda goals? What policy areas should countries prioritize to strengthen their data and information systems (education, technology, finance, participation, etc.)?

On data collection, new mode of data collection such as computer-based or smartphone-based, that can even be self-administered remotely, can dramatically reduce the overall cost, while providing near real-time information to policy-makers and farmers alike. Likewise, new and alternative data sources such as geospatial, Big data, or administrative data, have a massive untapped potential to supplement traditional survey-based data, for instance by helping establish the sampling frame, supporting data disaggregation, and even measuring certain indicators directly.

On data use, Countries need to take measures to promote open data policies and make possible the dissemination of microdata from agricultural census and surveys. The existing information on agriculture that is already collected through ongoing censuses and survey, with all its limitations in terms of quality, frequency, and not well capturing sustainability aspects, is not openly available to researchers, because countries are still reluctant to publish microdata. While there are legitimate concerns about privacy and anonymization, practical solutions have already existed for many years.

Some of the policy areas that countries should prioritize to strengthen their data and information systems can be as follows:

- Education: to inform planning and policy decisions by governments and have a general understanding of the ideas and notions related to data science and agriculture
- Technology: to enable a fast and reliable data collection and make it possible to reduce the cost of data, which is a constraint in deprived communities.
5. What are the financing needs and the financial mechanisms and tools that should be established to allow all countries to collect, analyse and use FSN data?

A country’s financial obligation is significant in ensuring systematic collection, analysis and use of FSN data and obliging to progressively take full possession in financing FSN data is a pre-requisite to sustainably shape and uphold the essential capacity of national statistical systems to produce, analyse and disseminate relevant data and for users to take decisions that are evidence-based. For countries that do not have regular FSN data production programme and/or have low data literacy level among its users, the initial investment to address these issues might be quite significant. Development agencies and resource partners can play a vital role in supporting the development of countries’ basic statistical capacity and statistical programme.

Some of the mechanisms and tools that can help measure the financing needs, gaps and allocations for statistics and FSN data include:

- **SDG indicator 17.18.3**
  Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding measures the overall commitments of countries and resource partners towards investments in statistics

- **National Statistical Development Plan or Strategic Plans of agricultural and rural statistics**:
  These national statistical plans usually have associated budget that reflects overall financing needs. Someone interested in estimating investments needed for FSN data could use this framework as a starting point to disaggregate national budget needs.

6. What are the most promising new developments with respect to innovation and information and communication technology, including artificial intelligence, in data collection, analysis and sharing that could be applied to food security and nutrition?

Many applications are currently designed for linking producers and end-users. These applications generate a lot of data that could be used. This means that the wording used by these applications has to be clearly understood by the data collection system, which can be
difficult if the system has to interact with different applications using different languages/coding.

7. **How can agricultural census, rural and household surveys, earth observation and other big data be used to improve food security and nutrition policies and outcomes? How integrated and coordinated are these to provide needed reliable and timely data for food security and nutrition policies and interventions?**

A census of agriculture is a statistical operation for collecting, processing and disseminating data on the structure of agriculture, covering the whole or a significant part of the country. Typical structural data collected in a census of agriculture are size of holding, land tenure, land use, crop area harvested, irrigation, livestock numbers, labour and other agricultural inputs.

It can improve food security and nutrition policies and outcomes since data is collected directly from agricultural holdings (but some community-level data may also be collected) and it normally involves collecting key structural data by complete enumeration of all agricultural holdings, in combination with more detailed structural data using sampling methods.

Better integration of agricultural statistical system activities provides certain types of data as part of an integrated set of data on food and agriculture, needed for decision-making in food, agriculture and rural development for food security and nutrition policies and interventions as follows:

- It can plan and develop a comprehensive statistical programme, without duplication of statistical activities or the release of conflicting statistics, while ensuring the efficient and balanced use of available statistical resources
- Concepts, definitions and classifications used in the different statistical activities can be made compatible, making it easier to interpret and analyse related data from different sources
- Any one statistical collection, such as the census of agriculture, can be restricted to a coherent and manageable set of items, in the knowledge that other related data are available in a comparable form from other sources
8. What are some of the risks inherent in data-driven technologies for FSN? How can these risks be mitigated? What are some of the issues related to data privacy, access and control that should be carefully considered?

Some of the risks in data-driven technologies are:

- They are usually not sufficient to predict in a reliable way of food security and nutrition outcomes.
- They use biased data if the objectives of data creation and collection are different.
- They rely on the capacity of people to connect and to upload their data, which may be tricky in disadvantaged communities.
- They lack Privacy.
- (Farmers’) data ownership

The risks can be mitigated as follows:

- When promoting certain data driven technologies, the coverage of the target population should be ensured to guarantee that FSN statistics are reliable and accurate.
- While, conducting timely analysis is essential in order to propose timely policy interventions, an approach based on quantitative modelling alone, often does not work well for in-depth food security analysis.
- Data driven technologies can be used together with other qualitative and quantitative data, to improve food security analysis.
- Ensure that farmers have ownership on their data and get a fair return for them.
- Make sure that farmers have access to tailored tools and applications and can access trainings to improve their skills and make the best use of such technologies.
9. What are the actual capacities of countries in monitoring the achievement of the SDGs, what are the capacity development needs, especially with respect to data for SDG2? What capacity development is necessary to ensure collection, analysis, monitoring and reporting of data on food security and nutrition at national and regional levels? How to ensure data harmonization at all levels?

Capacities of countries in monitoring the achievement of the SDGs are generally quite low, even in the developed world. This can be seen primarily from the low overall reporting rate of countries on the 21 SDG indicators under FAO custodianship (46% in 2020, though up from 32% in 2017). Behind this overall average, of course, there are variations across the indicators. As a general rule, long-standing indicators that preceded the SDG framework naturally have a higher country reporting rate, whereas new indicators that were specifically developed for the SDGs have a low or, in some cases, even nil reporting rate. In addition, since the MDG framework was focused more heavily on the social and economic dimensions of sustainable development, it is usually the case that these types of indicators have better country coverage, whereas many newer indicators belong to the broad environmental category and therefore have lower reporting rates.

10. What are the gaps with respect to data collection and analysis tools for FSN vis-à-vis existing initiatives and programmes?

National investment in the routine collection of individual-level dietary data is rare, particularly in low- to middle-income countries. Also, the approach for measuring malnutrition around the world is not comprehensive enough. Also, farmers should be more engaged in this process and Farmers’ Organisations would be the right “tool” for policy makers and statisticians to reach farmers on the ground, get access to real data and ensure to engage farmers in the analysis as well in design and implementation of FSN initiatives and programmes.
11. How can the international community together with governments ensure data and information systems governance for FSN? Which mechanism or organization should ensure good governance of data and information systems? How to regulate and mitigate potential conflicts between public and private ownership of data?

The international community should review all the initiatives implemented in the countries. Sharing some initiatives of interest as examples for other countries could be time and money saving.

The good governance of data and information systems relies on:

- Their independence: these systems should be funded in a manner that ensures their independence towards organizations that could pay the consequences of FSN driven policies.
- A strong network between each stakeholder based on infrastructures, equipment and staff capabilities.
- A perfect mutual understanding between all stakeholders at national and international levels. International norms and standards should support the whole organization.