

## Summary and Conclusion

of

Workshop on Methodology for the Compilation of SUA/FBS: Challenges and Proposals  
for Improvement

Lebanon room (D209), Tuesday, 13 July 2010, FAO Statistics Division

13 July 2010

### ISSUES AND CHALLENGES

1. The SUA/FBS is conceived as an integrated system (includes prices, input/output matrices, etc) for the whole agricultural sector (crops, livestock, fish, forestry). There are basically three types of variables in the SUAs:
  - Variables for data that are collected (production, imports and exports)
  - Variables that are estimated (feed, seed, waste, processed food, other utilizations), and
  - Variables that are derived as residuals (food available for consumption, stock variation).
2. Constraints/limitations of the present system include the following:
  - Quality of national data sources
  - Problems in data collection (regional workshops sought to address these issues)
  - Poor response rate by countries to the production questionnaire (less than 50% of countries return the questionnaire and many are incomplete)
  - Problem in obtaining/updating parameters for estimation
  - Too many commodities, especially processed food
  - Too many unknown variables
  - Validation and revision of data done manually, not automated
  - Need for greater efficiency of resource utilization
3. The fishery SUA/FBS was fully integrated in old FAOSTAT system until the end of 2006 and is currently handled separately due to the severe limitations and constraints over its practical application of the FAOSTAT2 system, which did not work properly for the FI component. Many of the data quality issues identified above also apply to Fisheries. The separation rather than integration of the two systems has been one of the sources for so-called negative processing during the compilation of SUA/FBS process.
4. Better and more detailed HS classification in 2012 is considered to be a positive factor that will contribute to the improvement of the fishery SUA/FBS quality. For other future enhancements, proposals are being considered to split “freshwater and diadromous fish” into two separate groups; to split “pelagic fish” into “large pelagic” and “small pelagic”; to introduce accounts for aquatic plants and to revise nutritive factors.

### USER’S PERSPECTIVE

5. The SUA/FBS has been widely used for the analyses and production of major or flagship publications. These include: SOFI, Agriculture Towards 20XX, SOFA; Crop Prospects and Food Situation – Country Briefs – GIEWS, Food Outlook, OECD-FAO Agriculture Outlook, State of Commodity Markets, Commodity Market Review, Market monitors

(Rice, oilcrops, oils and meals), irregular analyses and studies on agricultural commodities; in-depth analyses of nutrients available or consumed such as proteins, fats, or different sources of food, e.g. animal, vegetable products.

6. The SUA/FBS data are considered to be very useful and provide good scope and time coverage, i.e. data from 1961. Thus, there is a high expectation for SUA/FBS in terms of meeting the users' requirements, due especially to the fact that the existing system provides a unique independent data source, detailed items, large coverage (countries, products), time consistency, agriculture and food security, and user-friendly access through the new website.
7. Issues and problems identified include cases of inconsistencies, implausible year-to-year changes, or large divergences from other data sources. Users also would like to have more detailed information, for example, all energy-yielding components, some micronutrients, waste – household vs. edible portion, data by species or by production system, more frequent data (back to the old two-year cycle?). While FBS/FAOSTAT refers to calendar year, some analyses by EST need data according to the marketing year.
8. Non-observable data issues include outdated or homogeneous conversion factors/extraction rates and data resulting from estimations and *ad hoc* computations. Suggestions for improving these problems include more periodic updates of coefficients/conversion factors/extraction rates, through ad hoc studies and standardized estimation/interpolation procedures and criteria.
9. It is suggested to introduce automatic consistency checks where possible or to cross-check SUA/FBS data with those from household surveys. More data disaggregated by sex are required. If data from SUA/FBS are different from data from other sources, it is recommended to review the two data sources with national authorities with the view of adopting mutually agreed to figures considering the sensitive nature of statistics for certain countries.

## METHODOLOGIES AND PROCEDURES

### *Mr. Mernies' Proposal*

10. To (re-)introduce new elements to the SUA equation system and to enhance adequate automatic procedures. Suggested to maintain the conceptual design and main structure of the original SUA system and not to reduce the list of commodities. The system efficiency and output quality can be improved through:
  - Adequate and documented solving equation structures and procedures
  - Replacing manual imputing procedures with automatic ones
  - Obtaining the best available production data for the primary and key derived products (such as flours, oils, beverages, fuel from agricultural inputs)
  - Improving processing and consistency checking of trade tapes
11. Preliminary testing conducted by ESS staff shows that the proposed prototype would:
  - Insert automatically many conversion factors for SUA-elements (feed, seed, waste etc.)

- Impute missing production to cover traded product when exports are greater than imports otherwise imports contribute directly to supply
- Create multiple process/input sub-elements to trace the flow of processing and estimate proportion of utilization

*Mr. Narain's Proposal*

12. The advantages of the Satellite Accounts for Food Balances (SAFB) include:

- Their concepts, definitions, classifications, and accounting methodologies are consistent with the main international statistical systems and standards, such as ISIC, CPC, COICOP, and the SNA.
- It thus can benefit from the resources put in by the UNSD and national statistical systems and offices.
- It links between consumption expenditure in monetary terms, consumption expressed in quantity terms, and with the nutritional value of the food consumed. Its data on nutrient content energy, protein and fat in various items of food as being used by the FAO in compiling the FBS.
- Based on establishment approach in comparison to FBS data which are based on individual items of food products, it can be directly compared with the data on consumption expenditure of households.
- Data are more realistic as the system uses current inter-industry coefficients instead of fixed format of commodity trees as used by FBS.
- SAFB compile the same indicator, i.e. per capita food consumption, using more current data at the country level. It is possible to get approximate estimates for SAFB if comprehensive data are not available.

13. While data requirements for compiling SAFB are high, a consistency check is needed to be carried out on the data from various sources to achieve the required convergence.

*Mr. Elward's Proposal*

14. This alternative method (AM-FBS) would use a straight-forward food balance sheet that displays stocks along with key supply and utilization variables. The total supplies would be derived by summing beginning stocks along with flows in. Meanwhile, to calculate food available for consumption, known flows out and ending stocks would be removed from the total utilisation to residually derive this important variable. Nutrient factors would then be applied to food available per person per day to derive nutrients available per person per day. The AM-FBS relies on a selected number of food commodities that would allow the calculation of key nutrients, such as calories and proteins, at the country level. A series of recommendations include:

- Keeping the program (public data, annual, all countries, trade, agriculture)
- Limiting commodities to those that are intended for public release and that make important contributions to relevant nutrients, such as calories
- Keeping the number of commodities manageable by working with foods at a high level, often the first level of processing
- The SUA/FBS will primarily rely on production and trade data, although other data may be included
- Cutting the majority of processed products

- Displaying stocks
- Limiting imputations while accepting some less relevant data gaps
- Focusing analysis on food availability and calories

15. Preliminary testing results show:

- Suggested option works well
- Production and trade drive the program and all else is less relevant
- Results align with current FAO data
- 20 to 35 commodities account for 95% of calories at the country level

## COMMENTS AND DISCUSSIONS FROM THE FLOOR

16. Problems with data quality and availability: Low response to FAO statistical questionnaire; lack of reliability with many provided data; and inconsistency found in both between different sources within the same country and within different databases in different Divisions/Departments at FAO. More collaboration between ESS and other Divisions/Departments is suggested including, e.g. supporting the training for colleagues working in statistics on food composition related subjects.
17. The number of commodities to be included in SUA/FBS: From data producer's point of view, the commodity list is too detailed. Given the difficulties we face in collecting data from countries, there is a need to find an optimal number of commodity items. From data user's point of view, in general, it is more preferable to have more disaggregated and more detailed data. To reduce the number of commodities would imply a potential loss of important information, e.g. energy is only one of many nutrient factors that should be considered. Commodities for non-food use may also need to be considered in order to get a full picture. Some suggested selecting commodities by particular countries instead of reducing the global number; setting the priority according to the available resources.
18. The role of commodity trees: some consider them to be inevitable in the current SUA/FBS working system and thus there is a need to update the commodity trees, just like the Input-Output table, which needs to be updated at least once in every five years.
19. The relationship between the three proposed approaches: Some consider SAFB as completely different from the current system and it is technically difficult given the current human and financial resources. Others consider that originally SUA/FBS were conceived as part of the economic account system.
20. Household Survey Data (HHS): Some suggest applying HHS directly instead of indirectly estimating food consumption. The number of countries conducting HH surveys has increased dramatically in the past 10 years. The SNA approach may be applied to guide on how to reconcile the two data sets of HHS and SUA/FBS. Many agreed that the HHS and FBS are complementary and should be used to cross-check but it is difficult to directly insert the HHS into the SUA/FBS. A lack of staff and technical resources has hampered larger cross-checking and validation of data using HHS.
21. Follow-up and move forward: The current environment is very favorable with the Capex project and the Statistics Coordination Working Group (SCWG) to financially and technically help and support us in developing this methodology. To move forward, before

finally deciding which and what approaches to take, it probably is important to carry out some testing of various methods and approaches proposed. Other recommendations include:

- To have reliability indexes in order to assess the quality of the estimations.
- To strengthen statistical capacity building at national levels, reinforce the cooperation and partnerships with countries, and ensure a continuous follow-up in the effort of capacity building.
- Collaboration across different Divisions/Departments.
- To integrate the SUA/FBS at ESS and FIPS, currently standing in parallel.

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