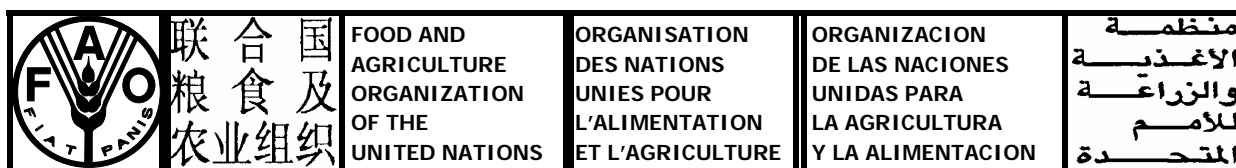


September 2005

**Agenda Item 6**

<b>AFRICAN COMMISSION ON AGRICULTURAL STATISTICS</b>
<b>Nineteenth Session</b>
<b>MAPUTO, MOZAMBIQUE, 24 - 27 OCTOBER 2005</b>
<b>“Report on International Classifications Used for Agricultural Statistics and Their Application in FAOSTAT2 Framework”</b>

**Summary**

Classifications used for agricultural statistics are not fully compatible with classifications used in other areas of statistics. At the same time, international classification systems, especially CPC, due to their lack of needed details in the areas of agriculture, forestry, and fisheries, are hardly applicable and thus have not been used in agricultural statistics. Through FAO's major new project, FAOSTAT2, and active cooperation and collaboration with UNSD, UN Expert Group (EG)/Technical Subgroup (TSG) on International Classifications, efforts have been made to establish linkage between agricultural classifications with the international ones. The ongoing review and update of international classification systems, including CPC, ISIC, SITC, and ISCO, provide a rare opportunity for such efforts to be fruitful. In FAO Proposal for CPC v. 2.0 submitted to TSG, 500 items (against total 3,500 items in CPC v. 2.0) were suggested to add, modify, or replace the 160 items in CPC v.1.1 for agriculture, forestry, and fisheries. Since half of these items would require a split of HS subheadings, there was a concern on the links between CPC 2.0 and HS, and the overall balance of CPC. A follow-up study shows that among those 260 items with split HS codes, 120 of them have statistics that have been collected and utilized for the last 40 years at the international level, notably by the world biggest agricultural database FAOSTAT. If 500 items are considered a bit too many, for CPC to be relevant to agricultural statistics, at least the 360 items of significance should be included in the new CPC v.2.0.

**INTRODUCTION**

This is a brief report on the progress in review and update of agricultural classifications and efforts in building up a linkage of agricultural classifications with the international ones. The term “agricultural” is used here in a broad sense to cover agriculture, forestry, and fisheries. There are *five* sections in this report. The first section provides background of the situation in the very recent past: problems with the classifications used in the old FAOSTAT and with the international classifications. The two of them are incompatible. The second section introduces activities that have been carried out to tackle the problems, including work undertaken within FAO and cooperation with other UN agencies and member countries through the UN Expert Group/Technical Subgroup on International Classifications. The third section outlines the results and the current status: new classifications established and used in FAOSTAT2 and the framework of World Programme for Agricultural Census 2010; and improvements in the areas of agriculture, forestry, and fisheries within the international classifications (e.g. ISIC, CPC, and ISCO). It is noted that FAO Proposal for CPC has been incorporated into the

draft CPC v. 2.0. but with some reservations. The fourth section invites the Commission to review a modified proposal as a result of a follow-up study. By effectively reducing items that require splits of HS codes, hopefully, it has properly responded to the concerns, namely to maintain the link between CPC and HS, and to keep the total items in CPC in a good balance. Points for advice by the Commission can be found in paragraph 10 of the fifth section.

**BACKGROUND**

1. Problems with the classifications used in the old FAOSTAT

- Based on outdated classification: The classification (a commodity list) used in the old FAOSTAT is originally based on SITC (Standard International Trade Classification); SITC is closely linked to HS (Harmonized System) but remained static and not updated with recent technological advances and changes of HS; as a result, it is an outdated classification in respect of the comparability with HS and with CPC (Central Product Classification).
- Incompatibility with HS and CPC
  - Some FAOSTAT codes without correspondence in HS and CPC.
  - Some FAOSTAT codes with correspondence in HS and CPC but without clear definitions of the contents or the definitions are different.
  - Some definitions in FAOSTAT are not completely consisting with those in HS thus many of the links between FAOSTAT and HS are just partial.
  - From the FAO definitions alone, sometimes, it is hard to tell which products are included and which are not.
- Correspondences with HS
  - 1:1 → 1 FAOSTAT item corresponds to one HS item (theoretically the FAOSTAT item could be only one part of the HS item, if the other part is considered not relevant for FAO purposes; applies also for 1:n);
  - 1:n → 1 FAOSTAT item corresponds to n HS items. FAOSTAT item is less detailed than HS;
  - m:1 → m FAOSTAT items correspond to 1 HS item. FAOSTAT is more detailed than HS;
  - m:n → m FAOSTAT items correspond to n HS items; this occurs when different concepts are used and can lead to relatively large blocks if single splits build bridges between otherwise cleaner concepts.

<u>Distribution</u>		
LinkType	LinkCount	%
1:1	155	13.9
1:n	205	18.4
m:1	152	13.6
m:n	605	54.2
Total	1117	100

2. Problems with the international classifications in the areas of agriculture, forestry, and fisheries

- CPC (Central Product Classification)
  - CPC is based on HS, and contains only a few conceptual deviations from it. While HS serves trade statistic purposes, CPC is designed to accommodate various statistical purposes and therefore has a different view on aggregates of individual products. In other areas of statistics, it is considered that

HS contains sufficient detail to aggregate HS classes to meaningful CPC classes without requiring splits of existing HS classes.

- However, it has come to realize by UN EG and TSG that the structure and detail of HS may not be directly suitable for the purpose of agricultural statistics. For example, while raw agricultural products are important to be measured in terms of domestic production, they are not always internationally traded in large amounts. If such a category would be too small for the HS, they are typically combined with the further processed forms of these products. For purposes of CPC it may therefore be necessary to split this HS code to obtain CPC subclasses meaningful enough in the context of domestic production. In addition, there are products that may be of interest to statisticians and analysts, but are not separately identifiable in the HS for other reasons. Again, showing these products separately in the CPC requires a split of HS subheadings. In a word, there is a long-standing request for the CPC structure to be more responsive to the needs of agricultural statistics, requiring more detail in this area.
- Historically, FAO Statistics Division had not been fully involved in international classifications in the past. As a result, the details of agricultural production are almost absent in CPC; likewise, those of agricultural activities almost absent from the ISIC. FAOSTAT and CPC and ISIC were increasingly isolated to each others. CPC, especially, has not been used for agricultural statistics. As a result, there is a lack of comparison and integration of agricultural statistics with other statistics.
- ISIC (International Standard Industrial Classification of All Economic Activities)  
According to countries' responses to the questionnaire distributed by the UNSD for ISIC:
  - The majority support new structural changes made in Section A of ISIC compared with its previous version, where Section A is for "Agriculture, forestry and fishing."
  - There is a request by many countries to have more detailed breakdown for the production of crops.
  - Request to recognize the importance of production of seeds and seedlings plants and to clarify the content of "seed processing" and related production of seeds for flowers, fruit and vegetables.
  - Request to split Class 0142 into two classes: (i) farming of sheep and goats and (ii) farming of horses, asses, mules and hinnies.

## ACTIVITIES

### 3. Work undertaken by FAO with agricultural classifications

- Institutional Aspects
  - An internal Task Force on Classifications was established at the FAO Statistics Division in mid-2004 to review international classifications including ISIC, CPC, SITC, and HS, classifications of time use, censuses, occupation/work, and resources, and geographical and country classification systems, especially in the area of agriculture, forestry, and fisheries, as well as the list of commodities used by FAOSTAT within FAO.
  - The FAO Expert Group Meeting on Classifications (CPC and ISIC) in Agriculture, held at FAO headquarters in August 2004, attended by approximately 30 internal/external experts, discussed the needs, uses and resulting requirements for agricultural classifications with a view to formulating proposals for changes in CPC and ISIC in order to make them more adequate for agricultural statistics.
  - At the Technical Review Meeting on World Programme for the Census of Agriculture 2010 held in Rome Italy on 9-10 March 2005 (a group of about 20 participants from various countries, international and regional agencies), the participating experts fully endorsed the initiative of FAO to apply CPC and ISIC as the base and starting point for constructing classifications used for the world agricultural census program 2010. There was broad consensus that the classifications to be used for the agricultural census, particularly for crops, livestock and machinery, need to be

harmonized with standard international classifications like ISIC and CPC, and with the System of National Accounts.

- Technical Aspects

- As part of the development of FAOSTAT2, a new list of agricultural products was created with about 600 primary and transformed commodities mainly derived from about 2,020 commodities in HS. In addition, a list of 200 aggregated primary food items was identified for the purpose of compiling Food Balance Sheets and Supply Utilization Accounts (SUAs). These items were defined according to the same definitions, contents, and titles used in HS. They were selected based on the importance in terms of their nutritional contents, quantities, and prices.
- Accordingly, two types of factors are used in the process for the conversion of the old FAOSTAT commodities into commodities that conform to international classifications:
  - Physical conversion factors based on the quantities. These factors are currently used in the FAOSTAT system for the standardization process, which is the label given to the aggregation procedure that enables the production of Food Balance Sheets from Supply Utilization Accounts.
  - Calorie conversion factors based on the calorie content of the products. These factors are used in special cases for a few products only. Technically speaking, they represent a combination of physical and adjustment factors.
- Following up the FAO Expert Group Meeting on Classifications, an interdepartmental cooperation and collaboration undertaken by FAO Statistics Division with other FAO technical Departments to thoroughly review both CPC and ISIC in the areas of agriculture, forestry, and fisheries. As a group effort, detailed FAO Proposal for CPC v. 2.0 and FAO Proposal for ISIC rev. 4.0 were compiled and presented to the UN Expert Group/Technical Subgroup on International Economic and Social Classifications for incorporating into the new versions of CPC and ISIC.
- In the design of the World Programme for Agricultural Census 2010, for the first time in its history, a new crop list is constructed based on the principles and structures of both CPC and ISIC.

#### 4. Contributions made by FAO to the international classification systems

- At its thirtieth session in 1999, the Statistical Commission agreed that the ISIC and the CPC should be revised every five years, thereby keeping the classifications relevant while avoiding major disruptions in time series. According to this revision cycle, the currently undergoing revisions for ISIC and the CPC are to prepare for the new versions of 2007. The purpose and rationale for these revisions are to repair weaknesses in the classifications, to reflect changes in technology or economic organization, to respond to new and permanent demands for data and to achieve greater comparability or convergence among different classifications.
- Announcing its start of a revision of agricultural classifications at the meeting of the Expert Group on International Economic and Social Classifications, New York, 8-10 December 2003, FAO received support from the Expert Group on its work plan and was requested to take the lead in a follow-up review of the ISIC and CPC structure and detail in consultation with the Expert Group and Technical Subgroup.
- The thirty-fifth session of the Statistical Commission, New York, 2-5 March 2004 endorsed the efforts of FAO to take the lead in the work on classifications of agricultural activities and products and its close cooperation and consultation with the UN Expert Group and its Technical Subgroup.
- At the following series of Expert Group (EG) and Technical Subgroup (TSG) Meetings, FAO Proposals for ISIC Rev. 4, and CPC v. 2.0, were presented and discussed: TSG meeting in New York, October 2004; TSG meeting in New York, February 2005; TSG meeting in Luxemburg, March 2005; and EG meeting in New York, June 2005.

#### CURRENT STATUS

## 5. Classifications used in FAOSTAT2

- FAOSTAT, the statistical database of FAO, is the world's largest online agricultural information system, with nearly 4 million time series consisting of over 150 million observations. Its data sources include trade data collected from customs offices for almost all countries: some 580 agricultural (primary and transformed) plus 120 fishery commodities, mostly are based on HS (80% +) and some on SITC (20% -); production data for primary, not transformed, commodities for all countries (193 commodities), while vegetable oils and sugar production data are obtained mainly from specialized commodity organizations (e.g. Oilworld, ISO, etc.).
- The output of FAOSTAT includes online version database, two issues of Yearbook every year: one presenting indicators by topic for all countries ("topical tables") and another presenting indicators by country ("country profiles") for all topics. Both are provided also in the form of CD-ROMs. Within these outputs, one of the important products of the FAO Statistics Division is to compile Supply Utilization Accounts and Food Balance Sheets.
- To handle the problem of heterogeneous and various definitions used by different countries, and to publish data from different domains and sources together and in an analytical structure, as a specialized agency of the United Nations, FAO Statistics Division has the mandate to coordinate all agriculture-related classification issues for the UN system. The new FAO list of commodities has the following features:
  - All the FAOSTAT codes are matched with a one-to-one correspondence with the HS 2002 extended six-digit codes. The chapter headings related to the HS headers are retained.
  - One new code is attributed to each association HS 2002 six-digit code with the following form: XXXXXXaa. While XXXXXX is the six-digit HS 2002 code of the association, the two additional letters, aa, are used when more than one FAOSTAT code corresponds to the same HS code. These new codes have been grouped by family of primary products, including derived products. For this purpose, oils, alcoholic beverages and sugar have been kept separate and considered as primary products.

## 6. Agricultural classification within the International Standard Industrial Classification of All Economic Activities (ISIC), Rev. 4.0

- After several rounds of consultations with countries, reviewed and revised by the TSG, the final revised ISIC Rev. 4.0 draft was released in August 2005. In this draft, the main structure and contents of FAO Proposal for ISIC Rev. 4.0 have been adopted and incorporated. The draft will be submitted to the United Nations Statistical Commission for approval. The draft ISIC Rev. 4.0 can be found at UNSD website <<http://unstats.un.org/unsd/cr/registry/isic-4.asp>>.
- In response to the requests made by countries through their replies to the UNSD's questionnaires for the revision and update of ISIC, that more details were needed, FAO, with its specialty and field experiences, contributed proposals as options for countries to consider. The FAO Proposal for ISIC contributed to clarify several unclear and confused areas with optional solutions. Through examples of published data and methodology from agricultural surveys and censuses in selected countries, FAO presentation helped to illustrate the application and usefulness of detailed ISIC in agricultural data collection, compilation, dissemination, and analysis.

## 7. Agricultural classification within the Central Product Classification (CPC), V. 2.0

- The 2005 questionnaire for the CPC revision, including the full draft structure and explanatory notes, has been released. The questionnaire and background papers are currently being distributed to countries for review. After receiving feedback from countries by the end of September 2005, the UN Technical Subgroup is scheduled to review and discuss the comments from countries on 24-28 October 2005. The draft CPC v. 2.0 can be found at UNSD website <<http://unstats.un.org/unsd/cr/registry/cpc-2.asp>>.
- The full detail of the FAO Proposal has been reflected in the CPC draft for countries to review. So far, about 500 items (against total 3,500 items in CPC v. 2.0) were suggested to add, modify, or replace the

current 160 items in CPC v.1.1 in the areas of agriculture, forestry, and fisheries. However, because about half of these items would require a split of HS subheadings, there was a concern on the links between CPC 2.0 and the HS, and the overall balance of CPC.

#### 8. Agricultural classification within the International Standard Classification of Occupations (ISCO-88)

- In principle, the main structure and fundamental principles of ISCO would be retained in order to preserve the continuity of statistics. Thus, suggestions of splitting or merging rather than changing, moving, and creating new items would be welcome. An ISCO web forum would be created for further and broader discussions, methodological questionnaires would be sent to countries, and a Technical Subgroup on ISCO (TSG/ISCO) would be formed to advise the International Labor Organization (ILO) in the drafting of proposals for updating ISCO.
- Early this year, FAO Statistics Division in collaboration with other technical Departments of FAO submitted FAO Proposal for ISCO to the ILO Bureau of Statistics suggesting explicit improvements to be made on occupations in agriculture, forestry, and fisheries in ISCO.
- During the Expert Group Meeting in New York, June 2005, the following additional suggestions were made:
  - To properly classify “agricultural holders” as defined in the agricultural census within the context of the review of the classifications of “corporate managers,” “generalized and specialized managers,” and “supervisors.”
  - Concurring the proposal of splitting the related minor group into two: “architects” and “engineers” with a need to insert items such as “agricultural engineers” under the minor group “engineers and related professionals.”
  - To include “forestry” in the major group 6: “skilled agricultural and fishery workers.”
- The Expert Group Meeting requested that the issues raised related to agricultural occupations among others such as IT occupations, health related occupations, salespersons, and trade occupations to be carried over by the TSG/ISCO to further discussion for inclusion in the ISCO revision.

#### FUTURE WORK

#### 9. Follow-up with CPC

- Proposal: In response to the reservation and concerns on FAO Proposal for CPC, an internal review and exercise have been conducted to examine the items in the FAO Proposal for CPC v. 2.0. The results of this study shows that:
  - Among the 513 items in the FAO Proposal for CPC v. 2.0, 262 items would require a split of HS code at its six digit level. The rest 251 items are HS-compatible with unique HS codes thus are of no problems.
  - Among the “problematic” 262 items, 123 items have data that have been collected and compiled by FAOSTAT for the past 40 years. To make CPC relevant to agricultural statistics, these are the items that we consider should be reflected in the new CPC v. 2.0 even with necessary splits of HS codes (see Annex I).
  - For the rest 139 items, although they may be important for the future data collection and dissemination, given the concerns mentioned above, may be compromised at this stage and reverted back to their titles in the previous CPC v. 1.1. (See Annex II).
  - As a result, total items in the areas of agriculture, forestry, and fisheries in CPC will be 374, which is about 11% of the total number of 3,340 items in CPC v. 2.0.

- Justifications: it is important to add adequate agricultural details into CPC so as to make CPC more relevant and usefulness in terms of being the basic tool for compilation of national accounts and for the monitoring of Millennium Development Goals (MDGs).
  - First, in agricultural statistics, one of the main problems is the difficulty to get good data on non-commercial/subsistence agricultural production, especially for many of the developing countries. Because of the insignificance of the trade in non-commercial/subsistence agricultural products, they are not well presented in HS. Still they can form a large part of the total production in many developing countries. If CPC is to be used for production as well as for trade, it is necessary to include a reasonably detailed list of both outputs and inputs of agricultural production. By doing so, we will be strengthening the role of CPC in the compilation of national accounts from both production and income perspective.
  - Second, the data required for the analysis of food consumption go beyond the guiding principles used in HS. Two similar products in HS can be very different in terms of their nutrient contents. The nutritional breakdown of food related data provides extremely useful information for understanding the dimensions of malnutrition and hunger in the world. A large portion of the details in FAO Proposal for CPC is derived from the items presented in the Food Balance Sheets. Including them in CPC will facilitate the analysis of food consumption in relation to food production, food trade, and other economic and social statistics. As we know, the related statistics and indicators are used in the monitoring of the progress of the MDGs.
  - The level of details in CPC has actually already been well controlled by the existing structure of CPC. In keeping with the CPC five-digit coding system and nine items in its sections, divisions, groups, classes, and subclasses, FAO has made its efforts to propose the most important details.

#### POINTS FOR ADVICE BY THE COMMISSION

10. The Commission may wish to

- Review and endorse the conclusions and recommendations of the follow-up study conducted by FAO in terms of the revised number of items to be included in the new CPC v. 2.0 for agricultural statistics (see Annexes I and II);
- Consider and advise the future work in the area of strengthening classifications for agricultural statistics.