Towards a System of Environmental-Economic Accounting for Agriculture: SEEA-Agri

FAO Statistics Division

AFCAS meeting 4-7 December, 2013
System of Environmental Economic Accounting for Agriculture

• Specific relationships between the agricultural sector and the environment;

• **Broad definition of agriculture**: crops, livestock, forestry and fisheries with primary and intensive use of environmental goods and services;

• Different to the SEEA-CF focus, SEEA-AGRI focus on a group of activities.
The need for Accounting frameworks for Agriculture and the Environment

- **SNA** fails to reflect the full costs and benefits to society of economic activities;

- The **impact of the environment on the economy** and the effects of the latter on natural capital have not been readily identifiable within the economic accounts generated;

- The SEEA Central Framework - allows for an **evaluation of the environmental sustainability of economic activity**.

- Need to **explore the relationships between agriculture and the environment**;
Applying the SEEA Central Framework to Agriculture

• Applying SEEA CF help **improve the conceptual basis** and analytical capability of agriculture;

• Adopting a macroeconomic accounts approach for developing a statistical framework has the advantage of applying a set of SNA-based standard classifications upon which consistent and **comprehensive sets of data series can be compiled**;

• Having a multipurpose information system that can be **used to combine and harmonize data** from various surveys and censuses together into an integrated database that supports policy making and analysis.

• The resulting accounts can provide a **complete set of variables for identifying and designing a core and minimum set of agricultural indicators**;
A comprehensive and standard satellite account for the integration of agricultural and environmental data based upon internationally agreed concepts, definitions, classifications and inter-related tables and accounts that are universally valid, regardless of the stage of economic development reached by the country.
SEEA-AGRI aims to translate policy issues into data needs

- Enhancing the use of existing agricultural statistics and related common frameworks;
- Providing a consistent, comprehensive, and coordinating framework to link data collected;
- Providing a sound basis for the measurement of a set of economic, social, and environmental indicator;
- Providing a framework to expand the analytical capabilities of the original FAO SEAFAn etc;
- Providing a framework that links to other SEEA subsystems being articulated by other agencies.
SNA, SEEA-CF, SEEA-AGRI and FAO datasets

SEEA-AGRI accounts:
- Crops and Livestock SUA
- Fish SUA
- Forestry SUA
- Energy SUA
- Farm input SUA
- Water SUA
- GHG emissions
- Forest assets
- Fish assets
- Land cover
- Land use
- Water assets

FAO agriculture and food datasets:
- Crops and Livestock
- Fisheries
- Forestry
- Energy
- Land
- SUA/Food balance sheets
- Farm inputs
Development of the SEEA-AGRI Accounts

Physical flow supply use tables:
  Crops and Livestock, Fish;
  Forestry, Water, Energy
  Fertilizer, Pesticides.

Monetary supply use tables:
  SNA based production,
  imports, flows of income and
  final demand

Environmental Asset Accounts:
  Forests, Fish, Water, etc

Land use and Land cover Accounts:
  Allocation of land and changes
  in use for Aquaculture Crops,
  Livestock and Forestry
SEEA-AGRI provides a combined presentation of information.

Analysis of relationships such as the production of wheat and:

- Inputs of water, fertilizer, pesticides, energy, etc;
- Labour inputs;
- Changes in land area and soil quality;
- Generation of residuals – emissions, crop residues;
- Use of assets – sowing and harvesting equipment;
- Cost of production, value added and incomes
SEEA and SEEA-AGRI and the information pyramid

- **Basic Statistics (FDES)**
  - Agriculture
  - Environmental
  - Socio-demographic

- **Accounts**
  - (SEEA, SEEA-AGRI)

- **AGRI-ENV Indicators**
SEEA-AGRI in development

FAO starting with data currently in FAO datasets (country sourced);

Issues currently faced include: data in different dimensions, different databases, structures, etc

A great deal of data will be required for a full SEEA-AGRI;

Need to review data quality, completeness, etc
Contacts

robert.mayo@fao.org

seea-agri@fao.org