SEEA AFF Assessment Template

Introduction

This paper aims to provide a structure for discussion and evaluation of national capability of compiling information compliant with the SEEA-AGRI for the purpose of assessing the environmental sustainability of agriculture, forestry and fisheries.

The template starts with a number of questions about the collection and the organization of agriculture, forestry and fishing data and the relevant istitutions and their priorities. Then, for each of the nine major data domains of the SEEA Agri, the template records a number of questions. These should allow an overview of the capability to compile the SEEA-Agri accounts. The questions on each domain should be considered in conjunction with the draft tables as designed by FAO staff. Questions are designed to find answers for those data that are available within a country. There is no expectation that each cell in each table is relevant to a single country or that a single agency or department could contain all the data in the scope of SEEA-Agri. Therefore, the answers to the questions require discussion and participation of agencies and experts to determine data relevance and availability.

The last set of questions is about the drawing general conclusions on the assessment process and highlight the right priorities.

The assessment template is not intended to be a substitute of a more detailed assessment of the required institutional arrangements and other factors, such as the consistency and quality of data, which should be assessed in order to determine the resources needed to implement a program of work in this area at national level.

This evaluation template and the subsequent discussion aim to carry out within the broad implementation advice provided in the Implementation SEEA Guidelines that drafted the Statistics Division of the United Nations in 2013. This document provides a broad overview of SEEA implementation and of the general principles and steps that should be considered.

General questions

1. What organizations and agencies play a major role in the collection of data on agriculture, forestry and fisheries?

1.1. Agriculture and fisheries:

- Ministry of Agriculture, Livestock and Food (MAGA) / *Ministerio de Agricultura, Ganadería y Alimentación (MAGA)*.
- Dirección de normatividad de la pesca y acuicultura (MAGA).

1.2. Forestry:

- Forestry National Institute (INAB)
- Protected Areas National Council (CONAP)

2. Are there publications that include data on the agriculture, forestry and fisheries? Is there a national standard or regular sets of key indicators covering environmental, forest and and fishery issues?

- National Agricultural Survey, improved with support from FAO Guatemala.
- "Agriculture in figures 2013" (MAGA) - http://web.maga.gob.gt/download/El-agro-en-cifras-small.pdf
- National Forest Inventory
- Map of forest cover dynamics
- Administrative records
- Logging licenses
- Forest products exports
- Fishing licenses
- Agricultural prices- http://web.maga.gob.gt/precios-agricolas/
- There is no national law on statistical computing

3. What organizations and agencies play a major role in analyzing data on agricultural production and development policies?

- Ministry of Agriculture, Livestock and Food (MAGA)
- Ministry of Planning and Programming (SEGEPLANT)
- Secretariat for Food Security and Nutrition (SESAN)

4 .What are the main current policy frameworks relevant for the consideration of agricultural, forestry and fisheries production and the environmental sustainability of this production?

- Ley Forestal (Forestry law)
- Política forestal de Guatemala (Guatemala Forest Policy)

- Ley General de la Pesca y Acuicultura (Decreto 80-2002 y su Reglamento Acuerdo Gubernativo No. 223-2005)Dirección de Normatividad de la Pesca y Acuicultura (General law on Fishing and Aquaculture)
- Reglamento de la Ley General de Pesca y Acuicultura (Regulations of the General Law on Fisheries and Aquaculture)
- Política Marco de Gestión Ambiental (Policy Framework for Environmental Management)

5. Are there established research projects in order to consider the environmental sustainability of agricultural production, forestry and fisheries? In particular, are there work programs on environmental-economic accounting / natural capital?

- Although the National Fund for Science and Technology (Fondo Nacional de Ciencia y Tecnología , FONACYT) promotes agricultural research, the country does not have a research agenda that considers the environmental sustainability of agricultural production, forestry and fisheries.
- Research in these three areas is developed by the public sector, private sector, and some universities and NGOs. However research is carried out without collaboration among the different institutes.
- Information on R & D for agriculture can be found at: http://www.asti.cgiar.org/guatemala
- The private sector conducts researches mainly on two instances:
- The Guatemalan Center for Sugarcane Research and Training (CENGICAÑA) was created by the Sugar Association of Guatemala (ASAZGUA) in 1992 to support the technological advancement of the sugar industry, and with the aim of improving production and productivity of sugar cane and its derivatives cultivation. The Sugarcane Center for Research and Training is funded by the mills that make the sugar industry of Guatemala. Contributions to the budget of the Centre are offered in proportional way to the sugar output.

- The Private Research Institute on Climate Change (ICC) mission is to develop and promote actions and processes that facilitate mitigation and adaptation to climate change in the region basing on technical and scientific guidelines."
- Even if with diminished capacity, research from the public sector is carried out by the Agricultural Science and Technology Institute (ICTA)
- The National Institute of Forests (INAB) carries out a research program which is administered by the Department of Forest Research
- Universities:
    - Faculty of Agronomy of the University of San Carlos of Guatemala, mainly through students' thesis.
    - Institute of Agriculture, Natural Resources and Environment (IARNA) of Rafael Landivar University (URL, that has led the work on the System of Environmental and Economic Accounts (SEEA).
- This system has been formalized and it is being used to take into account information on natural resources in making economic decisions. This effort is led by the Ministry of

Planning and Programming of the Presidency (SEGEPLAN) in collaboration with the Bank of Guatemala (BANGUAT)), the Ministry of Finance (MINFIN) and the National Institute of Statistics (INE). The IARNA provides all technical support to this effort. This activity is part of the initiative Wealth Accounting and the Valuation of Ecosystem Services (WAVES).

Key data domains

No. 1. Agricultural Products Supply and Use Table (See table SEEA Agri N.° 1.1 - 1.4)

a. Does your country collect data on production quantity, imports and exports of the following?

- Food crops
- Non-food Crops
- Meat products
- Non-Meat Livestock products
- Exports and Imports, environmental and non-environmental inputs for production, value of production, associated taxes.

b. Are available data for detailed types of products? If so, what classifications are used? What are the most important products of analytical interest?

- There is not detailed data, and there are no specific classifications.

c. Does your country collect data on the number of livestock by livestock type?

- Yes.

d. Does your country collect data on the number of products used for intermediate consumption, household final consumption or in terms of changes in inventory?

- Yes.

e. Is there availability of data on agricultural production at the subnational level? If so, at what level of aggregate demand?

- Municipal level.

No. 2. Forest products (see table SEEA Agri N.° 2.1 - 2.2)

a. Does your country collect data on the quantity of production, imports and exports for wood products?

- Yes.

b. Does your country collect data on the amount of wood products used for intermediate consumption, household final consumption or in terms of changes in inventory?

- Yes.

c. Does your country collect data on the number of hectares of forest by forest type? What definitions and classifications are used?

- FAO.

d. Does your country collect data on the cubic meters of timber resources by forest type or species?

- By type of forest.

e. Is there availability of data on timber production at the subnational level? If so, what level of spatial aggregate demand?

- Municipal.

f. Does your country maintains data on the production of non-timber forest products? * Partial (for exports).

g. Does your country collect data on logging residues as a result of forestry?
- Partially.

No. 3. Fisheries (see table SEAA Agri N.° 3.1)

a. Does your country collect data on the quantity of production, imports and exports for fish products, including capture and aquaculture? Is there included subsistence / traditional fishing in these measures? Are data on capture collected by Guatemala vessels as well as foreign flags?

- Partially. Fishing activities information is updated through arisanal fisheries surveys.

b. Does your country collect data on the quantity of fishery products used for intermediate consumption, household final consumption or in terms of changes in inventory?

- Partially.

c. Does your country collect data about the size fish stocks and / or changes in the size of fish stocksand sustainability of fish stocks? (Note: SEEA Agri table has not yet been developed)

- No.

d. Does your country collect data on the number and size of aquaculture facilities? (Note: Agri SCAE table has not yet been developed)

- Yes.

e. Is there availability of data on fish production at the subnational level? If so, at what level of spatial aggregate demand? Are data distinguished between the coastal and the oceanic regions?

*Yes, data for coastal and oceanic regions can be found at Inventory of Continental Water Bodies.

f. Does your country collect data on fishing discarded catch?

- No.

No. 4. Water resources and water use (see tables SEEA Agri N.° 4.1-4.4)

** a. Does your country collect hydrological data to provide estimates of precipitation, evaporation, inflows and drains and other areas related streams? Are these data available at national level; by watershed / basin area?**

- Yes.

b. Does your country collect data about the existence / volume of water in lakes and reservoirs, both natural and artificial?

- Yes at Inventory of Continental Water Bodies.

c. Does your country have desalination plants and collect data on the volume of water produced?

- No.

d. Does your country collect data on the volume of water abstracted or removed by economic units, including households? Is the volume of water extracted included in water used by economic unit (e.g: Groundwater captured and used by farmers)?

- Yes, information is collected by economic unit but is incomplete and can be found on the Underwater Potential.

e. Does your country collect data on the volume of water used in agricultural industries including forestry and fishing? The total use may include water used for irrigation and water reused from other economic units?

- Yes.

f. Are there estimates available for water use by specific crop types (eg rice)?

- Yes.

** g. Are there estimates available about the use of water in agricultural activities at subnational level? If so what level of aggregate demand is available?**

- Basin.

h. Does your country collect data on flows of wastewater and reused water; in particular in relation with irrigated farming?

- No.

i. Does your country calculates any stocks and flows associated with ground water?

- No.

No. 5. Energy Use and GHG emissions (see SEEA-Agri tables N.° 5.1-5.2)

a. Does your country collect data on energy use in agricultural activities?

- Yes.

b. Are these data available by energy product, e.g: electricity, fuel oil, wood, etc?

- Yes.

c. Does your country collect data on GHG emission by energy products used in agriculture?

- Yes they can be estimated from energy data.

d. Does your country collect data on GHG emisión from agricultural activities?

- Yes.

No. 6 Fertilizers and pesticides supply and use (see table SEEA Agri N.° 6.1-6.2)

a. Does your country collect data on fertilizers and pesticides production, imports and exports? Are these data collected by active ingredient (e.g: N, P, K) or by product weight?

- Both.

b. Does your country collect data on fertilizers and pesticides data on agriculture?

- Yes.

c. Are there available estimates on fertilizers and pesticides use by crop?

- Partially, but can be estimated.

d. Are there available estimates on fertilizers and pesticides use at subnational level? If so, at what sub-national level?

- Department.

No. 7. Land Use and Land Cover (see table SEEA Agri N.° 7.1-7.2)

a. Does your country collect data on land use? If so, what classification is used?

- YES, data is collected using national classification.

b. Does your country collect data on hectares of land used by crop? Are there available data for aquaculture?

- Yes, data is available trought the National Agricultural Survey.

c. Does your country collect data by land cover? If so, which classification system is used?

- Yes, data are collected using a national classification.

d. Are there produced maps on land cover/land use? If so, which techniques are used (remote sensing, Geographic Information System GIS) to elaborate these maps?

- Yes, both at Ministry of Agriculture, Livestock, and Food (MAGA). Scale: 1:50,000.

No. 8. Soil resources (SEEA tables under development)

a) Does your country collect data (in hectares) by soil type? If so, what definitions and classifications are used for soil? Do you produce maps by soil type?

- Yes at http://web.maga.gob.gt/sigmaga/suelos-1-250.
- The legend used to describe the resulting map was based on the sistema of classification adapted by Schaal (1983), which provides 7 major categories, subdivided into 4 levels and assigning a decimal numeric code to identify each of them.

b) Does your country collect data on soil volumes (cubic meters) and soil loss, particularly in the areas of agriculture?

- There is a proposed taxonomy of soils.
- Soil losses have been estimated.

c) Does your country collect data on soil characteristics, e.g. soil carbón, balances of N, P, K, cation exchange capacity (CEC)?

- There is a proposed taxonomy of soils and some studies at the regional level.

No. 9. Economic data (SEEA table under development)

a) Does your country collect information from national accounts for agricultural activities (including forestry and fisheries)? At what detail level?; for example, at the level of the industry, a broad level of products (eg crops),or at a specific type of crop (eg rice)?

- Yes, SEEA-FOREST and SEEA-FISHERIES AND AQUACULTURE.

b) What variables are calculated? For example, production, intermediate consumption, compensation of employees, value added, gross fixed capital formation, change in inventory, imports and exports, other? Do forecasts include subsistence farming, forestry and fishing?

• The SEEA (FOREST AND FISHERIES AND AQUACULTURE) shows physical and monetary information, as well as macro-economic indicators.

c) What techniques and sources of information are used for estimates? For example, estimates of production are based on multiplying the quantities produced by the relevant prices of production? To what extent the agricultural census data are used?

• The agricultural census and agricultural surveys are used as a base, supplemented with administrative records to compile monetary Supply and Use tables at the Bank of Guatemala.

d) Does your country collect input-output tables and supplies and uses tables that provide detailed information on agricultural products and inputs?

• Both, mainly inputs.

e) Does your country collect employment measures for agricultural activities (including forestry and fisheries)? Is it a distinction made for self-employed workers and family-workers?

• Yes.

f) Does your country collect information on stocks of agricultural equipment (eg, tractors), and investment in machinery and equipment?

• Yes.

Summary

Conclusions

a. What are the main areas of current policy focus in relation to sustainable agriculture, forestry and fisheries production?

• The Ministry of Agriculture, Livestock and Food (MAGA) has prioritized six strategic objectives that can justify the SEEA-Agri.
• Generate, process and disseminate geographic, cartographic, food safety and risk management information for the development of contingency plans, prevention and mitigation of damage caused by natural disasters as well as the registration and control of the Territorial State Reserve Areas.
• Implement the Policy on Food and Nutrition Security, coordinating programs and projects that help to mitigate the effects of recurrent natural disasters and socio

economic crisis by providing food; and promote required production for the applicant and served population.

- To promote community capacity and organization by fostering the production, processing and marketing through productive projects, reactivating rural economy and increasing productivity to achieve rural economic development.
- Strengthen agricultural and rural financial system, through the creation of mechanisms that encourage strategic investments in rural areas.
- Give clear and stable rules for the sustainable use of agricultural productive assets, natural resources and unprocessed food safety.
- Build capacity to strengthen the institutions in the field of agriculture, strengthening the organization, expanding the extension coverage and by training, technical assistance and training of human resources and technological innovation, with methodological and instrumental tools to adapt, according areas and conditions of production units.

b. What are the main areas in which data are available to fill the SEEA- Agri accounts?

- Base line and first update for the seea-guatemala have been compiled by iarna and officialized by the ine. Specific information has been supplied on: forest, fish and aquiculture, water, and soil and ecosystems.

c. What gaps need to be filled to meet the data basic requirements for the main areas of policy focus?

- Unify information systems and administrative records of the country.
- Check the quality of the data produced.
- Plan and direct the statistical towards the SEEA-Agri and relevant indicators for the national agricultural policy.

Opportunities, obstacles and next steps

a. What are progress opportunities for the development of these data? Consider both national and international initiatives and political and analytical statistics.

- There is a growing interest for international cooperation and national statistical systems strengthening food security and nutrition. Especially for disaggregated production at household level.
- Operationally, statistical development can be improved by two main tools:
- Surveys of the Zero Hunger Program (Programa Hambre Cero) that takes place in 166 of the 338 municipalities.
- With support from IARNA funding from USAID, INE has formed the "Industrial Statistics Coordinating Office for Food Security and Nutrition (OCSE-SAN)", which is formed by over 20 public agencies producing data at the national level.

b. What are the main obstacles to data expansion and coverage? This could include capacity / statistics skills, institutional arrangements, funding and computing environments, etc.

- The National Institute of Statistics (INE) needs to be reonforced technically, as well as financially, in order to ensure constant quality data production.

c. What are the next steps that could be taken to work in SEEA Agri and for the general improvement of agricultural statistics?

- Suggest to current authorities to boost INE satellite accounts.

- As part of a donation of USAID to INE, the implementation of a satellite account of food and nutrition security (or agricultural, depending on the technical discussions that have not yet been completed).

- Boost the SEEA AFF initiative with the institutions (SEGEPLAN, BANGUAT, INE) supported by IARNA. There is a team of officials and technical high level that could establish the "institutional agricultural-environmental audit committee".

- Support INE in becoming part of the Global Agricultural and Rural Development Statistical Initiative.