منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Organización de las Naciones Unidas para la Agricultura y la Alimentación

WORKING GROUP OF EXPERTS ON THE FAO AQUACULTURE QUESTIONNAIRE, FISHSTAT *AQ*

26 – 28 January 2004, FAO, Rome, Italy

DISCUSSION NOTES

1. FAO recognizes that many of the problems with aquaculture statistics are a reflection of the recent development of the sector as a recorded activity, its diversity and the complexity of developing approaches. The data supplied to FAO are first and foremost national data and, as such, their quality is a national responsibility. FAO can assist by building capacity, evaluating and improving national systems, and providing tools to facilitate collection, processing, analysis and dissemination of data.

2. In reviewing FISHSTAT *AQ*, the main challenge is perhaps the identification of a core set of internationally harmonized variables that are practical to collect and report on a questionnaire on a *routine basis*.

CONTENT AND SCOPE OF FISHSTAT *AQ*

3. The Working Group (WG) should seek to review the questionnaire in a systematic way, by considering:

- *Content*: What should be measured (e.g. production; value; location; etc.)
- *Scope/Coverage*: The extent of reporting of items identified under content (e.g. for production: by species, by system, by type of facility; by environment, etc.)
- *Level of Data Aggregation*: (e.g. by species; or by species groups—finfish crustaceans, etc)
- *Frequency/periodicity*: How often each data product is required (e.g. routinely/annually, periodically/quinquenially, decennially).

Identifying a Core Set of Data

4. A wide range of information is needed to develop policy, manage natural resources and the environment, and assess production efficiency, socio-economic impact and the impact

of policies and plans. The WG should suggest criteria to prioritize data needs at the global level. Which routine long-term data are *essential* for monitoring and strategic analysis of the aquaculture sector at the global level*?* The WG should seek to identify a *core set of essential data* and suggest modifications to the questionnaire on that basis as necessary.

5. The WG should clarify what is to be monitored, why (purpose) and how it is to be monitored (e.g. periodicity, surveys, transect studies). If possible it is useful to identify *core data which is of prime importance for a wide range of management decisions and of priority at the national level*. In doing so, the WG should refer to document WG:ASQ/2004/2 and relevant sections of the Consultation documents EC:STA/2004/4 (e.g. paragraph 47 – 56) and EC:STA/2004/Info.3.

Socio-economics, Resource Use, Sustainability and Assessment of Policies & Plans

6. Demands for more ambitious analysis of the sector (to meet emerging needs of policy and management) will suggest the need for more complex data acquisition and a range of derived indicators. Under circumstances of limited resources, collection of additional data may have to be done at the expense of reliability and accuracy of existing data.

7. Various meetings/consultations have recommended additional routine collection of data (e.g. Employment – household and hired labor; cost-benefit of production systems; domestic consumption of cultured products; contribution of aquaculture to rural livelihoods) to allow socio-economic assessment, and performance indicators to assess environmental sustainability, resource use and efficiency, and the impact of policies and plans. New data to meet some of these needs has been suggested in FAO's *Guidelines for the collection of structural aquaculture statistics.* The WG should take these into consideration in debating this matter.

Production Sites

8. The COFI Sub-Committee on Aquaculture suggested incorporation of data on "production sites" (e.g. lake, lagoon, tidal area, excavated ponds, reservoir).

New Production Systems

9. The following have been suggested by Asian countries as additional production systems for incorporation into FISHSTAT *AQ*: Ornamental fish, hatcheries/nurseries, broodstock production and farmed edible aquatic plants (e.g. water chestnuts, lotus).

Hatcher/nursery Production

10. Current reporting of seed production does not include seed and broodstock collection from the wild, which is of increasing concern to capture fisheries and environmentalists.

Essential Performance Indicators

11. Indictors for global monitoring and reporting of aquaculture development are yet to be identified and agreed by Member States. The Working Group should try to identify a minimum number of essential indicators that can be derived from data collected via the questionnaire or alternate data sources.

Use of Production Inputs

12. Monitoring of inputs (manpower, feed, seed, fertilizer, capital, etc.) besides land and water has been suggested to allow analysis of production efficiencies and comparisons with alternative uses of these resources. This is of importance to policy makers at the national level. Are they required at the global level? Should these inputs be added to the questionnaire to complement land and water use? What are possible problems in the acquisition of such information? What is the desired level of aggregation (e.g. by species groups: finfish, shrimp, etc. instead of by species) and periodicity?

Production by Fishing Area

13. FAO has proposed (1999) the addition of a column for the fishing area (sheet 2) as defined by FAO to permit compilation of total marine production (capture fisheries and aquaculture) by fishing area.

CURRENT ISSUES WITH FISHSTAT *AQ*[1]

Harmonization of Classifications, Terms and Variables

The definition of aquaculture

14. Differences in the interpretation of the FAO definition by Member States (e.g. regarding ownership, separation of culture from enhancement and capture fisheries, etc.) create unreliable data. Is the current definition and accompanying suggested classification table adequate, particularly in differentiating between aquaculture and enhanced and stocked fisheries? If not, how can it be improved?

Environments

15. Data on production by environment is unreliable in many cases because of difficulties in reporting on brackishwater production due to national differences in its definition and methods of reporting (e.g. Inland and Coastal Production instead of Inland, Brackishwater and Marine). The WG should review the adequacy of the current FAO definitions in the FISHSTST AQ instruction sheet and FAO's *Guidelines for the collection of structural aquaculture statistic*, and suggest changes as necessary. Where harmonization is difficult, how can this problem be resolved? Is the preparation of guidelines for the dis-aggregarion and re-aggregation of national data to accommodate FAO needs practicable?

Land and water data

16. This structural data is deemed important to monitor use of natural resources. Data submitted to FAO has not been published due to quality problems and incompleteness. Questions have been raised about how to report land area (total vs. net productive area), while routine collection of data on water use has been deemed difficult if not impracticable.

[1] The WG should refer to documents WG:ASQ/2004/3; EC:STA/2004/Info.3

Hatchery/nursery output

17. The data submitted to FAO is not published due to quality problems stemming from differing definitions of various life stages. In addition, it has been suggested that the need for this data at the global level should be reviewed. The utility of seed supply for measuring production inputs by production facility/system and for calculating productivity, and for reporting seed collected from the wild (sustainability issue) and stocking to the wild (where trans-boundary movement of released organisms is possible) is acknowledged. Amendments of the questionnaire to this end have been proposed.

Method of production

18. The WG is invited to review the reorganization of production structures as provided in the *Guidelines for the collection of structural aquaculture statistics*. The section below on "Production systems" deals with a related topic and should be considered by the WG at the same time.

Production Systems

19. Though FISHSTAT *AQ* collects information on "Methods of Culture", this is restricted to production structures. An agreed classification of productions systems does not exist even at the regional level. Is a classification of production systems essential at the global level and should it be developed, and, if so, why and how?

The FISHSTAT *AQ* Instruction Sheet

20. Review the adequacy of the instructions and suggest improvements (refer also to instructions in the FAO's *Guidelines for the collection of structural aquaculture statistics* and to WG:ASQ/2004/3) and suggest improvements, if any. Is there need for an interactive electronic guide similar to the HELP facility in standard software? Is there need for an electronic version of the questionnaire to improve timeliness of inputs? Other suggestions to improve usefulness and user-friendliness?

ALTERNATE SOURCES AND APPROACHES TO THE ACQUISITION OF ESSENTIAL DATA

21. FISHSTAT *AQ* may not be the appropriate vehicle for the collection of some essential data (e.g. cost/benefit of main aquaculture systems; contribution to rural livelihoods, consumption, various indicators, etc.). What alternate sources of information can be utilized, and/or what other mechanisms can be used to collect/compile information under these circumstances in a cost-effective manner (most fishery administrations tend to concentrate on data for which they have responsibility while other data, for which responsibility is either shared or lies with other institutions, is given lower priority).

22. Possible approaches to consider include greater inter-sectoral collaboration between and integration of agencies with responsibility for collection of national statistics and data, rapid assessment methodologies, use of agricultural household surveys, etc. What data (relevant to aquaculture) is available from other sectors?

IMPLICATIONS FOR HISTORIC DATA SETS

23. The Working Group should consider the potential implications of any recommended modification to the FISHSTAT *AQ* questionnaire on historic data sets at the national, regional and global level and suggest possible practical means to deal with foreseen problems. What should be FAO's role in addressing such problems?