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COMMITTEE FOR INLAND FISHERIES OF AFRICA

Thirteenth Session

Entebbe, Uganda: 27 – 30 October 2004

STRATEGIES/MECHANISMS FOR IMPROVED REPORTING ON INLAND CAPTURE FISHERIES AND INLAND AQUACULTURE

FAO Fisheries data collation and dissemination

The FAO Fishery Information, Data and Statistics Unit (FIDI) collates annual global statistics on capture and aquaculture production, aquaculture value, trade, apparent consumption, fishing vessels and fishers. Generally these statistics are provided by national correspondents in the appropriate ministry (usually fisheries, aquaculture, or sometimes agriculture). All questionnaires are available electronically[1] and, in addition, paper copies are mailed to designated contact people in the country. Data reported by countries are carefully checked and validated and, when questionable data are submitted, the national correspondent is consulted for clarification. Ultimately, however, the quality of the FAO statistics is dependent upon the accuracy and reliability of the statistics collected nationally and provided to FAO. In the absence of reporting, FAO attempts to find other, auxiliary sources of information from which estimates can be made. The FAO Fisheries statistical databases are downloadable[2], together with the FISHSTAT Plus software to consult them, or they can be requested from FAO as a CD.

Summary of statistics for inland capture fisheries and aquaculture

Capture and aquaculture production in African inland waters for the last three years for which data are available (2000-2002) are presented by country in Table 1 and Table 2. Reported capture fisheries production from African inland waters has shown a small, but steady, growth since 1980, averaging a 2.3% annual increase for the period 1980-2002 (Figure 1). For the 2000-2002 period, a

[1] To download electronic questionnaires: ftp://ftp.fao.org/fi/STAT/e-questionnaires/

To return electronic questionnaires: FIDI-e-Forms@fao.org

[2] To download the FISHSTAT Plus software and databases: http://www.fao.org/fi/statist/fisoft/FISHPLUS.asp

To request the CD: FIDI-Inquiries@fao.org or write to: *The Senior Fishery Statistician, Fisheries Department - FIDI, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.*

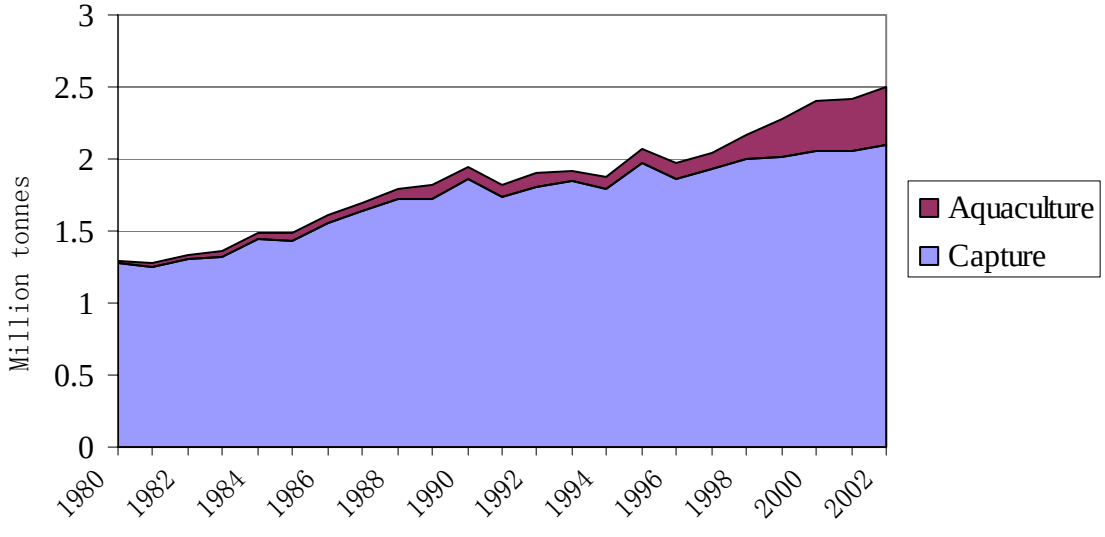
smaller annual growth (1.0%) was observed. In fact there was a small decline in harvest from 2000 to 2001, followed by an increase of 2.0% from 2001 to 2002 (Table 1).

Egypt reported the highest catch from inland waters with 292 645 tonnes, followed by Tanzania (273 850 tonnes) Uganda (221 898 tonnes), and Democratic Republic of Congo (215 000). Also reporting catches over 100 000 tonnes were Nigeria (187 233 tonnes) and Kenya (137 792 tonnes). These six countries account for over 63% of the total inland capture fishery production of the continent.

Almost 30% of the capture production by species item had to be estimated by FAO in 2002 (Table 3) as several countries did not provide information through the FAO statistical inquiry or other means. Unfortunately, most inland capture fisheries production is not reported to the species-level. In fact, the individual item with the highest reported catch for 2002 was "Freshwater fishes nei[3]" at 941 557 tonnes, or 45% of the total. The percentage of total production not reported to the species level exceeded 70% in 2002. This represents an increase from the previous two years, although an improvement can be noted with respect to the data reported in 1980 and 1990 (Table 4). Obviously, the high quantity of unidentified fish makes it difficult to conduct species-level analyses of inland fisheries harvests for Africa. Nile perch (*Lates niloticus*) had the next highest reported harvest at 257 272 tonnes (12% of total), followed by "Tilapias nei" and Nile tilapia (*Oreochromis niloticus*) with 213 412 and 207 572 tonnes, respectively (combined 20% of total).

Production from inland aquaculture in Africa, while still well below capture fisheries harvest, has been increasing more rapidly in recent years. From 1980-2002, reported production has risen from 25 652 tonnes to 405 410 tonnes, an average annual increase of 13.4%. From 2000 to 2002, production increased at a 7.7% annual rate. The share from aquaculture of inland fisheries production has increased from 2% in 1980 to 16% in 2002 (Figure 1).

Figure 1. Inland capture fisheries and aquaculture in Africa, 1980-2002



(Source: FAO FishStat Plus v. 2.30; Capture fisheries and aquaculture production: 1950-2002)

[3] "nei" stands for "not elsewhere included" indicating no further species details were reported.

Currently, inland aquaculture production in Africa is dominated by Egypt, which in 2002 accounted for 340 556 tonnes, or 84% of the total. Aquaculture production from Nigeria was 30 663 tonnes, followed by Ghana (6 000), Uganda (4 915) and Zambia (4 200). Nearly half (193 225 tonnes) of aquaculture production is tilapias – primarily Nile tilapia (178 762 tonnes). Carps and other cichlids accounted for 96 523 tonnes (24%) and production of the flathead grey mullet was 80 675 tonnes (20%).

Most aquaculture production is reported by the countries and only a small percentage is estimated by FAO (Table 5). Note that in 1980 essentially all inland aquaculture production was estimated, whereas the figure has been less than 5% for 2000-2002. However, there are also many countries where no production is reported or estimated, so these figures may underestimate the true production.

Importance of reliable fisheries statistics

Complete, accurate, and reliable statistics on inland capture fisheries and aquaculture production are crucial for the proper planning and management of the sector. Both fisheries sectors can play an important role in several of the mandates central to FAO and to national governments, including improving food security, encouraging economic development, and alleviating poverty. The collection and interpretation of statistical information can help assure that the sector is planned and implemented in an economically and environmentally sustainable manner. A commitment should be made to the development of suitable statistical systems for monitoring capture fisheries and aquaculture, concurrent with the development of the sector.

Some of the uses of information on the status and trends of fisheries at the national and regional levels are to:

- facilitate preparation of fishery management and conservation plans in pursuit of sustainable fisheries, food security and improved social and economic benefits;
- facilitate monitoring of implementation of the Code of Conduct for Responsible Fisheries;
- affirm government and regional commitment to responsible fisheries;
- improve knowledge of the contribution and status of different components of the fisheries sector, including small scale and subsistence fisheries;
- support policy-making and management with a wider scope of fishery information, including environmental and socio-economic information; and
- improve monitoring of shared stocks.

ARTFISH use and further development

Improving the methodological aspects of fishery statistical programmes is a primary normative function of FAO. FIDI, the unit responsible for fishery statistical development in the FAO Fisheries Department, has continued its effort in providing data producers with practical guides and manuals relating to sampling techniques and methods. The most recent of these concern operating instructions for standard computer procedures, a practical handbook on sampling and survey design, and a methodological paper providing the theoretical background in designing cost-effective and sustainable fishery surveys.

In parallel to the development of statistical methodology for sample-based fishery surveys, FAO/FIDI has also placed particular emphasis in promoting the use of standardized computer software for large-scale fishery statistical programmes, known to its users as ARTFISH ("Approaches, Rules and Techniques for Fisheries Statistical Monitoring"). ARTFISH is an integrated set of standardized statistical approaches and computer modules aiming at facilitating the design and implementation of shore-based fishery surveys on fish production and values. First introduced in 1994 as an early prototype, since then it has been implemented in about 20 countries world-wide. The rationale of using standard statistical procedures and software in medium/large-scale data collection systems is:

(a) Most data collection systems have many common characteristics, irrespective of their environment and individual methodological and operational aspects;

(b) A customized data collection system takes about three years to develop and implement. Development costs are drastically reduced through the use of error-free and standard approaches and software;

Several nations around the world, and in Africa, have implemented the ARTFISH software for capture fisheries under projects funded by the Technical Cooperation Programme (TCP). An expansion of the ARTFISH system will soon be available for the collection of aquaculture statistics as well. The module includes data collection methodologies best suited to each aquaculture typology (rural vs. commercial, small-scale vs. large scale) so as to present a system for data processing, and raising sample data to totals of known reliability that countries can use to improve aquaculture statistics. In addition, under the FIGIS web page, a site for ARTFISH (http://www.fao.org/fi/artfish.htm) is now available that allows users to download, install, and use the programs without the need for formal implementation projects.

Status of regional efforts to improve fisheries statistics

FAO has mechanisms available to provide assistance for member nations wishing to develop or to improve their statistical systems. Projects (such as ARTFISH implementation) have been proposed or implemented under the Technical Cooperation Programme to help members to improve these systems. For small countries, a project solely devoted to inland capture fisheries and/or aquaculture statistics may not provide an efficient use of resources. However, regional projects and cooperation, or coordination with other fisheries data improvements or agricultural data improvements could make such a proposal more valuable. In particular, regional approaches to statistical monitoring of fisheries for shared resources could be considered – for example, Lake Tanganyika or Lake Malawi among others.

Another consideration in project formulation that has recently become of concern is the harmonization of fishery statistics with other types of agricultural statistics. At some stage statistical programmes for fisheries should be logically linked to other production systems of food and agriculture statistics, so as to provide a more complete picture of the proportion of animal protein in the food consumption and, in general, of the overall contribution of fisheries in the national economy.

World Census of Agriculture program

The Statistics Division (ESS) of FAO is currently developing the program for the World Census of Aquaculture 2010 – to be conducted beginning in 2006. The program is built around a "core" questionnaire and optional "modules" conducted using the agricultural holding" as the basis for surveying. It is anticipated that the core questionnaire would only contain very limited questions relating to fishing and aquaculture. For example, there may be a question asking about the presence of

aquaculture activities and a question concerning related fishing activities. It is envisaged that these limited questions will provide the basis for related follow-up modules and sampling surveys.

FIDI has been developing the module for aquaculture in collaboration with ESS and it is anticipated that a module for inland fisheries activities will also be developed. Countries conducting the agricultural census will have the option of including the modules most relevant to the activities conducted there. Obviously there will be cost considerations that will determine how extensive a census can be conducted. However, even if countries opt not to conduct a particular module, the questions in the core are designed to provide the basis for future sampling-based surveys. For example, all agricultural holdings that report the presence of aquaculture activities could be sampled later to ask more detailed questions about the nature of these activities.

Strategy for Improving Information on Status and Trends of Capture Fisheries

The 2003 FAO Strategy for Improving Information on Status and Trends of Capture Fisheries (Strategy–STF) was adopted by consensus at the Twenty-fifth Session of COFI (February 2003) and endorsed by the Hundred and Twenty-fourth Session of the FAO Council (June 2003). UNGA Resolution A/58/L.18 adopted in December 2003 on sustainable fisheries invited States to support the implementation of the FAO Strategy-STF at national and regional levels, giving particular attention to capacity-building in developing countries.

The Strategy–STF is a voluntary instrument that applies to all States and entities. Its overall objective is to provide a framework, strategy and plan for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy-making and management for the conservation and sustainable use of fishery resources within ecosystems. It does not deal with data gathering in isolation but rather addresses the whole process chain from data collection, through data processing, validation, and analysis to the preparation of policy and management advice so as to ensure that the right data are collected and used effectively at the national and regional levels.

The Strategy–STF is a key to sound policy making and responsible fisheries management; it has been elaborated within the framework of the Code of Conduct for Responsible Fisheries; it is global in scope and is designed to cover all capture fisheries in inland and marine waters, including all industrial, commercial, subsistence and recreational fisheries, but does not apply to aquaculture (for which a similar dedicated strategy is being considered); and the Strategy–STF is founded on sound principles.

In its deliberations in 2003 on the proposed Strategy–STF, COFI reaffirmed that improved data and information are of fundamental importance for effective policy-making and fisheries management, essential for implementation of the Code of Conduct and central to the mandate of FAO. COFI also stressed that high priority should be given to capacity-building and the provision of technical assistance to developing countries, as emphasised in the Strategy–STF. The particular requirements for the small-scale fisheries sector were emphasised because of its importance to food security and poverty reduction.

COFI recognized the need for additional funding requirements for implementation of the Strategy and endorsed the proposal to seek extra-budgetary funds from donors for projects implementing the Strategy under FAO's FishCode Programme. FAO has developed a proposal for a project within the FishCode Programme (called the FishCode STF Project) to support implementation of the Strategy–STF. The project proposal has been made available to prospective donors for them to consider for support funding. Three Members have so far committed funds in support of the project and a project document is being developed in consultation with donors. It is expected that the project will become operational during 2004. Further donor support is being sought for additional components of the project.

The overall FishCode STF Project is designed to execute these actions through two main components, as follows:

1. Component 1: "Development of inventories, methodologies and operational guidelines."
2. Component 2: "Field training and implementation."

The first component covers the creation of methodological descriptions of fishery statistical and data collection systems used by all countries and regional fisheries bodies. At the same time it should provide an overview of fish stocks and/or fisheries management units, whether monitored or not, by country and/or region. The aim of this exercise, to be executed mainly by correspondence and through questionnaires, is to obtain a complete picture of all systems in use and all stocks or management units monitored, so as to identify gaps in monitoring and above all to assess the quality of the systems used. The main inventory will cover data systems on all aspects of fisheries, including data on resources, fleets, employment, processing, consumption, trade and sociological and economic aspects. This will also facilitate an evaluation of data collection and handling practices by country, the flows of data from national to regional (including CECAF) and global levels and hence of the data as published by regional fisheries bodies and FAO. Finally, it will form the basis for improvements and identification of training needs in developing countries to be addressed under Component 2.

The aim of Component 2 is to improve substantially the quality of collection and processing of fisheries statistics and other data and information on capture fisheries in selected developing countries with important inland or marine fisheries. This would lead to better data for fisheries management at national level and, in cases of stocks shared between neighbouring countries, at regional level as well. Improvements in reporting to FAO and other agencies would be an important additional benefit. Component 2 covers capacity building at all levels, and implementation of improved or new statistical and other data collection and processing systems in selected countries. There is also a need for improved interaction between fishery statisticians, fisheries analysts, socio-economists and fish stock assessment experts. The Project should facilitate this interaction.

Parallel process for Improving Information on Status and Trends of Aquaculture

Following the model used for capture fisheries, an Expert Consultation and Working Group were recently convened[4] to provide advice to FAO on how to improve reporting of status and trends for aquaculture and how to improve the FAO data collections forms. The final report from these meetings is currently being finalized and should be available on the FAO webpage (www.fao.org) soon. A result of the meetings will be the development of a Strategy for Improving Information on Status and Trends of Aquaculture to be submitted to the COFI Subcommittee on Aquaculture.

Many recommendations emerged from the meetings including advice on:

- necessary data elements for collection,
- improvement of socio-economic data collection, and employment data, in particular,
- increased collaboration among FAO, national offices and regional fisheries organizations,
- guidance from FAO to countries on standard data collection methodologies, and
- simplification of data collection forms and improved instructions.

It is anticipated that the process of implementation of these suggestions will be started with the 2004 data inquiry.

Conclusions

Timely and accurate reporting of fisheries statistics to FAO by member nations enhances the usefulness of the FAO data for assessing regional trends and the importance of fisheries to the member

[4] The documents produced for the Expert Consultation can be found at: http://www.fao.org/fi/NEMS/events/detail_event.asp?event_id=14402 and those for the Working Group can be found at: http://www.fao.org/fi/NEMS/events/detail_event.asp?event_id=14403 .

countries, as well as their situation relative to the rest of the world. Possible mechanisms to aid in the improvement of data collections systems have been outlined.

This meeting highlights another valuable tool for improving statistics and that is regional cooperation and coordination. International forums such as this one can provide valuable opportunities for networking and collaboration among member nations. It would be expected that the nations here would encounter similar circumstances and difficulties in their attempts to collect reliable statistics on the inland capture fisheries and aquaculture sectors.

The Committee is invited to comment on, among other related issues:

- the situation in their country concerning inland capture fisheries and aquaculture data;
- national and regional data shortcomings as perceived by potential users of the data;
- mechanisms discussed for regional cooperation and improvement of statistical systems;
- priority attached at the national level to inland capture fisheries and aquaculture data and the existence of national plans for data improvement, if any;
- the Strategy for Improving Information on Status and Trends of Capture Fisheries and the related process for aquaculture and how they see this affecting countries as the national and regional levels.

Table 1. FAO capture fishery statistics (2000-2002) for Africa – Inland waters

Country	2000	% of 2000 total	2001	% of 2001 total	2002	% of 2002 total
Algeria	0	0.0%	0	0.0%	0	0.0%
Angola	6 000 F	0.3%	6 000 F	0.3%	6 000 F	0.3%
Benin	26 400	1.3%	30 000	1.5%	29 993	1.4%
Botswana	166	0.0%	118	0.0%	139	0.0%
Burkina Faso	8 500	0.4%	8 500 F	0.4%	8 500 F	0.4%
Burundi	17 315	0.8%	8 964	0.4%	9 000 F	0.4%
Cameroon	55 000	2.7%	52 500 F	2.6%	65 000	3.1%
Cape Verde	0	0.0%	0	0.0%	0	0.0%
Cent Afr Rep	15 000 F	0.7%	15 000 F	0.7%	15 000 F	0.7%
Chad	84 000 F	4.1%	84 000 F	4.1%	84 000 F	4.0%
Comoros	0	0.0%	0	0.0%	0	0.0%
Congo Dem R	205 000 F	10.0%	210 000 F	10.2%	215 000 F	10.3%
Congo Rep	20 204 F	1.0%	20 200 F	1.0%	20 500 F	1.0%
Côte d'Ivoire	10 502	0.5%	10 630	0.5%	23 843	1.1%
Djibouti	0	0.0%	0	0.0%	0	0.0%
Egypt	253 470	12.3%	295 422	14.4%	292 645	14.0%
Eq Guinea	1 076	0.1%	1 000 F	0.0%	1 000 F	0.0%
Eritrea	0	0.0%	0	0.0%	0	0.0%
Ethiopia	15 681	0.8%	15 390	0.8%	12 300	0.6%
Gabon	10 417	0.5%	9 850	0.5%	9 400	0.4%
Gambia	2 500 F	0.1%	2 500 F	0.1%	2 500 F	0.1%
Ghana	74 500	3.6%	74 500	3.6%	74 500	3.6%
Guinea	4 000	0.2%	4 000	0.2%	4 000 F	0.2%
GuineaBissau	200 F	0.0%	200 F	0.0%	200 F	0.0%
Kenya	210 343	10.2%	156 763	7.6%	137 792	6.6%
Lesotho	32 F	0.0%	24	0.0%	24 F	0.0%
Liberia	4 000	0.2%	4 000	0.2%	4 000 F	0.2%
Libya	0	0.0%	0	0.0%	0	0.0%
Madagascar	30 000	1.5%	30 000	1.5%	30 000	1.4%
Malawi	43 000 F	2.1%	40 619	2.0%	41 329	2.0%
Mali	109 870	5.4%	100 000 F	4.9%	100 000 F	4.8%
Mauritania	5 000 F	0.2%	5 000 F	0.2%	5 000 F	0.2%
Mauritius	0	0.0%	0	0.0%	0	0.0%
Morocco	1 608	0.1%	1 660	0.1%	2 112	0.1%
Mozambique	11 813	0.6%	5 284	0.3%	12 156	0.6%
Namibia	1 500	0.1%	1 500	0.1%	1 500	0.1%
Niger	16 250	0.8%	20 800	1.0%	23 520	1.1%
Nigeria	132 315	6.4%	154 175	7.5%	187 233	8.9%
Réunion	0	0.0%	0	0.0%	0	0.0%
Rwanda	6 726	0.3%	6 828	0.3%	7 000 F	0.3%
Sao Tome Prn	0	0.0%	0	0.0%	0	0.0%
Senegal	22 450	1.1%	20 000 F	1.0%	20 000 F	1.0%
Seychelles	0	0.0%	0	0.0%	0	0.0%
Sierra Leone	14 000	0.7%	14 000	0.7%	14 000	0.7%
Somalia	200 F	0.0%	200 F	0.0%	150 F	0.0%
South Africa	900 F	0.0%	900 F	0.0%	900 F	0.0%

Sudan	48 000	F	2.3%	53 000	2.6%	53 000	2.5%
Swaziland	70	F	0.0%	70	F 0.0%	70	F 0.0%
Tanzania	280 000		13.6%	283 000	13.8%	273 850	13.1%
Togo	5 000		0.2%	5 000	0.2%	5 000	0.2%
Tunisia	832		0.0%	860	0.0%	870	0.0%
Uganda	219 356		10.7%	220 726	10.8%	221 898	10.6%
Zambia	66 671		3.2%	65 000	F 3.2%	65 000	F 3.1%
Zimbabwe	13 114		0.6%	13 000	F 0.6%	13 000	F 0.6%
TOTAL	**2 052 981**			**2 051 183**		**2 092 924**	

Note: "F" indicates that the total production was not reported by the country and was estimated by FAO

Table 2. FAO aquaculture production statistics (2000-2002) for Africa – Inland waters

Country	2000 (tonnes)	% of 2000 total	2001 (tonnes)	% of 2001 total	2002 (tonnes)	% of 2002 total
Algeria	304	0.1%	390	0.1%	411	0.1%
Benin	0	0.0%	0	0.0%	7	0.0%
Burkina Faso	5	0.0%	5 F	0.0%	5 F	0.0%
Burundi	100	0.0%	100 F	0.0%	100 F	0.0%
Cameroon	50	0.0%	150 F	0.0%	330	0.1%
Cent Afr Rep	120 F	0.0%	125 F	0.0%	0	0.0%
Congo Dem R	2 076	0.6%	2 744	0.7%	2 965	0.7%
Congo Rep	200 F	0.1%	200 F	0.1%	0	0.0%
Côte d'Ivoire	1 197	0.3%	1 025	0.3%	806	0.2%
Egypt	297 935	85.2%	312 879	85.3%	340 556	84.0%
Ethiopia	0	0.0%	0	0.0%	0	0.0%
Gabon	558	0.2%	102	0.0%	83	0.0%
Gambia	0	0.0%	0	0.0%	0	0.0%
Ghana	5 000	1.4%	6 000	1.6%	6 000 F	1.5%
Guinea	0	0.0%	0	0.0%	0	0.0%
Kenya	512	0.1%	1 009	0.3%	798	0.2%
Lesotho	8	0.0%	8	0.0%	8 F	0.0%
Liberia	22	0.0%	14	0.0%	14 F	0.0%
Libya	100 F	0.0%	100 F	0.0%	0	0.0%
Madagascar	2 480 F	0.7%	2 350	0.6%	2 400	0.6%
Malawi	530 F	0.2%	568	0.2%	642	0.2%
Mali	30	0.0%	500 F	0.1%	1 098	0.3%
Mauritius	83	0.0%	53	0.0%	49	0.0%
Morocco	1 005	0.3%	672	0.2%	623	0.2%
Mozambique	0	0.0%	0	0.0%	77	0.0%
Namibia	10 F	0.0%	10 F	0.0%	15	0.0%
Niger	15	0.0%	21	0.0%	40	0.0%
Nigeria	25 718	7.4%	24 398	6.7%	30 663	7.6%
Réunion	127	0.0%	102	0.0%	97	0.0%
Rwanda	270	0.1%	435	0.1%	612 F	0.2%
Senegal	9	0.0%	10	0.0%	22	0.0%
Sierra Leone	30 F	0.0%	30 F	0.0%	0	0.0%
South Africa	1 751	0.5%	1 537	0.4%	1 537 F	0.4%
Sudan	1 000	0.3%	1 000	0.3%	1 600	0.4%
Swaziland	69 F	0.0%	72 F	0.0%	0	0.0%
Tanzania	210	0.1%	300	0.1%	630	0.2%
Togo	102	0.0%	120	0.0%	1 025	0.3%
Tunisia	834	0.2%	913	0.2%	869	0.2%
Uganda	820	0.2%	2 360	0.6%	4 915	1.2%
Zambia	4 240 F	1.2%	4 200 F	1.1%	4 200 F	1.0%
Zimbabwe	2 151	0.6%	2 285	0.6%	2 213	0.5%
TOTAL	**349 671**		**366 787**		**405 410**	

Note: "F" indicates that the total production was not reported by the country and was estimated by FAO

Table 3. Percentage of estimated capture production of the total for selected years

	1980 t	1990 t	2000 t	2001 t	2002 t
Total Fishing Area 01	1,271,389	1,860,551	2,052,981	2,051,183	2,092,924
Capture production reported by countries	1,141,471	1,620,550	1,596,475	1,416,983	1,482,087
Capture production estimated by FAO	129,918	240,001	456,506	634,200	610,837
Percentage of estimated production on the total	10.2%	12.9%	22.2%	30.9%	29.2%

Table 4. Percentage of capture production not reported at the species level

	1980 t	1990 t	2000 t	2001 t	2002 t
Total Fishing Area 01	1,271,389	1,860551	2,052,981	2,051,183	2,092,924
Capture production reported as "Freshwater fishes nei"	675,859	884,464	858,402	843,494	941,557
Capture production reported at other taxonomic levels above species	427,921	467,054	541,607	561,457	533,398
Capture production reported at the species level	167,609	509,033	652,972	646,232	617,969
Percentage of production reported as "Freshwater fishes nei"	53.2%	47.5%	41.8%	41.1%	45.0%
Total percentage of production not reported at the species level	86.8%	72.6%	68.2%	68.5%	70.5%

Table 5. Percentage of estimated aquaculture production of the total for selected years

	1980 t	1990 t	2000 t	2001 t	2002 t
Total Fishing Area 01	25,652	77,289	349,671	366,787	405,410
Aquaculture production reported by countries	116	73,520	341,892	361,792	392,934
Aquaculture production estimated by FAO	25,536	3,769	7,779	4,995	12,476
Percentage of estimated production on the total	99.5%	4.9%	2.2%	1.4%	3.1%