

Report of the  
WORKSHOP ON THE PROMOTION OF SUSTAINABLE COMMERCIAL AQUACULTURE  
IN ZAMBIA AND MALAWI

Lusaka, Zambia, 2–4 October 2002

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## **PREPARATION OF THIS DOCUMENT**

This is the report of the Workshop on the Promotion of Sustainable Commercial Aquaculture in Zambia and Malawi held in Lusaka, Zambia, from 2 to 4 October 2002.

### **Distribution:**

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### **ABSTRACT**

A Workshop on the Promotion of Sustainable Commercial Aquaculture in Zambia and Zimbabwe was organized in Lusaka, Zambia, from 2 to 4 October 2002 in recognition of the potential role of commercial aquaculture to achieve poverty alleviation and food security through economic growth and employment creation in the region. At present, the full potential of commercial aquaculture is unrealized in Zambia and Zimbabwe because of constraints related to production (lack of modern technology, feed and fingerlings), policy and institutional support (lack of policy direction regarding commercial aquaculture development, priority given to small-scale fish farming, donor and government supported initiatives, lack of credit and credibility given to commercial aquaculture operations), low domestic fish prices, trade barriers to exports and generally weak economies. However, the promotion of a policy framework, with policies tackling both micro and macro-economic environments could levy these constraints.

The main recommendations from the workshop to the Governments of both countries included the need for preparing clear national policies for commercial aquaculture development, promoting start-up aquaculture and allied industries, defining clear models for economic and financial viability assessments to be applied by funding institutions, facilitating borrowing for commercial operations, disseminating research findings to farmers and information sharing at all levels of aquaculture development, as well as awareness-raising among customers on aquaculture products to increase demand for fish. The role and support of FAO in facilitating the development of commercial aquaculture was solicited for assisting the Governments of Zambia and Zimbabwe in strengthening national fish farmers' associations and regional networks, increasing awareness on the potential of aquaculture for economic growth, establishing national training and information resource centres and identifying the necessary attributes for Zambia and Zimbabwe to export aquaculture products to the European Union (EU). FAO was also requested to urgently document funding sources and mechanisms in place throughout sub-Saharan Africa and monitor commercial aquaculture development to contribute to the dissemination of information and lessons learned from all commercial aquaculture initiatives.

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## **INTRODUCTION**

1. On more than one occasion, aquaculture was highlighted by policy-makers and development agents as an important sector for Africa's economic development. Several FAO fora including the Fourth Session of the Committee for Inland Fisheries of Africa, CIFA, which was held in Blantyre, Malawi, about two decades ago; the 1999 Africa Regional Aquaculture Review in Accra, Ghana; the Eleventh Session of CIFA held in 2000 in Abuja, Nigeria; the Twenty-fourth Session of the Committee on Fisheries (COFI) which was held in Rome in February 2001; and the Technical Consultation on Legal Frameworks and Economic Policy Instruments for Sustainable Commercial Aquaculture in Africa South of the Sahara which took place in Arusha, Tanzania, in December 2001, emphasized the need to develop sustainable commercial aquaculture in sub-Saharan Africa and to optimize the benefits from this form of aquaculture. FAO was also urged, in the course of promoting aquaculture, not to overlook those countries that historically did not practice aquaculture but which had suitable conditions for its development.

2. Recognizing the potential of commercial aquaculture in Zambia and Malawi as well as the catalytic role of commercial aquaculture in food security, hunger reduction and poverty alleviation through economic growth and employment generation in these two countries, and in order to partially respond to the needs of these two Member countries in the development of sustainable commercial aquaculture, FAO, the Government of the Republic of Zambia and the Government of the Republic of Malawi convened a Workshop on the Promotion of Sustainable Commercial Aquaculture in Zambia and Malawi in Lusaka, Zambia, from 2 to 4 October 2002.

3. The Workshop was attended by 11 delegates from Malawi, 21 from Zambia and three from FAO. The delegates included representatives from the aquaculture farming and allied (hatchery, feed, processing) industries, the banking sector, the public sector (policy-makers in fisheries and aquaculture), as well as intergovernmental organizations. The list of participants is provided in Appendix B. The documents which were distributed before the Consultation are listed in Appendix C.

## **OPENING OF THE WORKSHOP, ADOPTION OF THE AGENDA AND ARRANGEMENTS FOR THE WORKSHOP**

4. The participants were welcomed by Mr Charles T. Maguswi, Director of Fisheries (Zambia). He informed the participants that efforts to develop commercial aquaculture in Zambia and Malawi are under way, but so far they are very limited in spite of the large potential for its development. The Workshop would, therefore, provide an opportunity to examine issues related to commercial aquaculture, identify the causes of the slow development and propose possible strategies to ensure its successful expansion.

5. Mr Richard W. Fuller, FAO Representative in Zambia, speaking on behalf of Dr Jacques Diouf, the Director-General of FAO, thanked the Government of the Zambia for hosting this Workshop and underscored the importance of commercial aquaculture in food security and poverty alleviation, especially for impoverished communities in rural areas. The text of his inaugural address is reproduced in Appendix D.

6. In his opening address, His Excellency Mr Mundia F. Sikatana (MP), Minister for Agriculture and Cooperatives (Zambia), thanked FAO for bringing the two countries together while pointing out the clear indication of the commitment of FAO towards the development of sustainable commercial aquaculture as a tool to achieve food security, reducing poverty, increasing incomes and opening up employment opportunities. He also underlined the need of involving the private sector (which includes the banks and insurance companies) and non-governmental organizations and the vital importance of lending to farmers as well as safeguarding the farmers' production through insurance if aquaculture development is to occur. The text of the speech is reproduced in Appendix E.

7. The Workshop adopted the Agenda and arrangements for the Workshop as shown in Appendix A.

8. Mr Charles T. Maguswi (Zambia) was elected Chairperson of the Workshop, and Mr Shaibu A. Mapila was elected Vice-Chairperson.

### **SUSTAINABLE COMMERCIAL AQUACULTURE: CONCEPT, BENEFITS, PITFALLS, CONDITIONS FOR DEVELOPMENT AND MAJOR CONSTRAINTS IN SUB-SAHARAN AFRICA**

9. The Secretariat presented the document on "Sustainable commercial aquaculture: concept, benefits, pitfalls, conditions for development and major constraints in sub-Saharan Africa" by demonstrating that commercial aquaculture is one which seeks to maximize profit.

10. It was emphasized that: commercial aquaculture can contribute to food security, directly by producing fish for food and indirectly by generating employment income for the purchase of food; access to institutional loans is easier with commercial aquaculture; it will pay taxes, thereby contributing to government revenues; it can also be a source of foreign currencies through exports; even if consumed domestically, the output from commercial aquaculture may replace imported fish and thus save foreign exchange. Commercial aquaculture can pressure for improved infrastructure, promote the development of small communities and discourage youth from migrating to cities; commercial aquaculture will use family and hired labour on farms and in secondary industries. Labour productivity is higher in commercial aquaculture, which drives living standards up and ultimately alleviates poverty. Commercial aquaculture can stimulate research and technological development, some of it funded by the industry itself. Commercial aquaculture and rural aquaculture can be complementary and mutually supportive as rural aquaculture farms can be guaranteed an income by providing seed inputs to commercial farms. The diffusion of knowledge from commercial farms to rural aquaculture farmers through on-site training, technology transfer meetings and formal training sessions by commercial farms is possible. Commercial farms can also provide the latter with feed and seed loans and offer them market guarantees.

11. Major pitfalls were identified as being potential environmental damage (pollution and mangrove destruction, soil eutrophication) and social conflicts.

12. The paper also outlined conditions for commercial aquaculture to take off or develop. Specifically, it discussed the theory that for commercial aquaculture to flourish, technological conditions must be right; there must also be demonstrated economic viability and good returns on investment; necessary infrastructure must be in place, and farmers must have access to financial resources but above all, sound government policies are critical. Whether by



providing the legal, political and fiscal framework for entrepreneurs to feel secure with their investments or by actively intervening to promote the sector, policy-makers have a critical role in successful commercial aquaculture; they can encourage or discourage private investment. Governments are also necessary to ensure long-term sustainability, by enacting environmental regulations, and encouraging environmental assessments.

13. The Workshop noted:

- the yet unrealized great potential for commercial aquaculture in Zambia and Malawi;
- the need to tackle the issues of feed, seeds and access to capital in order for aquaculture to develop in Zambia and Malawi;
- the need to remind most farmers in Zambia and Malawi to conduct aquaculture as a private business activity where the role of the public sector needs to be clarified and kept at the very minimum;
- the need to educate farmers on their responsibility vis-à-vis lending institutions when borrowing for aquaculture development;
- the need for collaboration between the public and private sector involved in commercial aquaculture in identifying positive and negative experiences in commercial aquaculture;
- that it is important to have policies to allow non-commercial (small-scale) and commercial aquaculture to co-exist.

## **STATUS AND POTENTIAL OF COMMERCIAL AQUACULTURE IN ZAMBIA**

14. The Secretariat reported that:

- commercial farms in Zambia are less and less dependent on Government for information and extension services as most are able to use internet for technical information or search for markets, or subscribe to newspapers;
- the number of commercial fish farms has dropped due to owners' age (younger generations reluctant to take up farm ownership when parents retire), co-management problems after privatization, discontinuation of government/donor financial support, restructuring of companies leading to closure and lack of good quality fingerlings in desired quantity;
- annual production has also been dropping.

15. Participants noted the following main constraints to sustainable commercial aquaculture in Zambia:

- a serious shortage of good quality fingerlings;
- lack of aquaculture investment policy (it falls within the Agricultural investment policy);
- lack of specific credit facilities for aquaculture enterprises;
- very high interest rates (35–40 percent);

- lack of reliable information relating to land acquisition and markets and trends in aquaculture;
- lack of incentives given to farmers;
- the extension and research agents are in most cases not conversant with complex fish production systems often imported by commercial fish farmers thereby providing little or no help to these farmers;
- nearly all the aquaculture development projects implemented so far, have targeted small-scale and emergent fish farmers leaving out commercial fish farmers;
- the price of the locally produced high protein formula fish feed (pellets) is very high and therefore prohibitive;
- the current national economy is weak and the people have very weak buying power; the costs of production are higher for cultured fish than for fish from capture fisheries;
- commercial fish farmers lack an official forum for e.g. exchanging information and sharing experiences and the lack of national database on aquaculture, which makes planning in Aquaculture difficult.

16. The Workshop:

- identified the need to have legislation indicating clearly where the country stands on the issue of introduction of exotic species;
- noted that the problem of high cost of good quality feed renders the industry particularly uncompetitive and needs to be addressed urgently;
- pointed out that some methods such as “generic advertising” could be used to increase the price of farmed fish, thereby increasing the competitiveness of aquaculture vis-à-vis capture fisheries.

## **STATUS AND POTENTIAL OF COMMERCIAL AQUACULTURE IN MALAWI**

17. Workshop participants were informed that fish farming in Malawi started in the 1940s and has been subjected to both government and donor intensive intervention through projects.

18. It was noted, however, that results have not always been satisfactory. The current total production from aquaculture in Malawi is estimated at 800 metric tonnes, of which 93 percent is tilapia, five percent catfish and two percent exotic species such as common carp, black bass and trout.

19. Currently, it is difficult to distinguish between commercial and non-commercial farming in Malawi. The potential exists both at small-scale and at commercial levels. It is estimated that more than 11 650 km<sup>2</sup> of land in Malawi, about 15 percent of the land available has potential for aquaculture.

20. Major constraints to development have been identified as: species choice; availability and cost of fish feed; low price of fish; limited modern technology; inadequate collaboration among donors supporting aquaculture; inadequate policy direction on specific issues and lack of appreciation by policy-makers of the ability of aquaculture to contribute significantly to the country's economy.

## **MARKETS AND TRADE OF COMMERCIALY FARMED FISH AND SHRIMP IN SUB-SAHARAN AFRICA**

21. In presenting the paper on marketing and trade of aquaculture products, the Secretariat focused on the current export of aquaculture products and on the trends in fish consumption in the European Union (EU).

22. It was shown that exports of freshwater aquaculture products such as tilapia and catfish to the EU are limited. However, EU retailers increasingly prefer aquaculture products over capture fisheries products. The Workshop also noted large variations in fish consumption among European countries as well as a slow increase in consumption in EU countries (Appendix F).

23. The Secretariat presented other relevant information for potential exporters to the EU. This information includes: producing a species that has an established demand in the EU; keeping records of all inputs and outputs of the production process; collecting trade information from internet and other sources; preparing business plans including clear marketing plans; contacting possible trade partners (domestic and in the EU); keeping up-to-date information on prices, markets and regulations, and preparing written contractual agreements.

24. The Secretariat discussed trade policies and agreements relevant to trade of aquaculture products between countries in sub-Saharan Africa and the EU, and provided the background on the main agreements such as the Lomé Agreement (1975) and the Cotonou Agreement (2000).

25. The Workshop noted that the EU standards set for export of aquaculture and fishery products (Appendix G) are a major handicap to export of fish from Zambia and Malawi into EU; Zambia and Malawi are not yet listed as the so called “harmonized countries”; harmonized countries are the only ones permitted to export their aquaculture products to the EU. Fish marketing information sources were also made available to Workshop participants. They are presented in Appendix H.

26. In view of the present impossibility for Zambia and Malawi to export aquaculture products to the EU, Workshop participants suggested that paths and approaches taken by other sub-Saharan African countries such as Uganda and Tanzania in order to obtain the lift of the ban of export of fish and fishery products to EU should be followed by Zambia and Malawi. It was also suggested to seek EU’s assistance in monitoring and controlling the quality of fishery products and in helping processing and exporting firms to comply with quality and safety regulations as well as requirements set forth by the EU.

## **GENERAL POLICY FRAMEWORK FOR THE PROMOTION OF SUSTAINABLE COMMERCIAL AQUACULTURE**

27. The Secretariat introduced this agenda item by recalling one of the possible definitions of a policy as being a statement (perhaps formalized) of belief (or position) and direction on a given issue (or problem) that is developed for the purpose of guiding present and future actions which aim at addressing the issue (problem). As such, a policy sets a framework and provides direction for decision making in solving or alleviating an identified or perceived

social, economic, political or technical issue/problem. There is no wrong or right policy, but bad and good policies.

28. Policy variables were also defined as being conditions that can be influenced by government decisions. The rationale of discussing a policy framework for the promotion of sustainable commercial aquaculture was established by demonstrating that most prerequisites and main constraints to commercial aquaculture development in Malawi and Zambia are policy variables, which therefore can be influenced by government decisions.

29. The Workshop noted that enabling policies can be general in scope, or oriented specifically to the aquaculture sector. General policies include improved governance, measures to ensure political and policy stability, secure property rights, reduced corruption, among others. Sectoral policies can be defined at the overall level or at the level of the farm. Overall sectoral policies include appropriate legal and regulatory and administrative frameworks, marketing strategies and encouraging pioneer associations. At the level of the farm, policies to promote commercial aquaculture could be attracting foreign investment in aquaculture, influencing input availability and prices, or providing start-up funding.

30. Workshop participants further noted that sound enabling government policies, whether sector specific or not, are critical factors for commercial aquaculture to take off and/or develop in Malawi and Zambia. They made the following suggestions with respect to the assistance that FAO could provide in promoting commercial aquaculture in Malawi and Zambia:

- capacity building;
- training in aquaculture management;
- transfer of technology through demonstration projects;
- institutional strengthening;
- defining aquaculture development zones; not just “spot” zoning techniques for aquaculture and the management of such aquaculture zones;
- develop clear investment policies including investment incentives;
- establish EEZs in areas like Lake Kariba between Malawi and Zambia;
- develop master and investment plans for aquaculture;
- tackle the problem of high interest rates, perhaps through policies which would allow for preferential rates in aquaculture.

## **LEGAL FRAMEWORK FOR THE PROMOTION OF COMMERCIAL AQUACULTURE**

31. This agenda item identified the elements of good aquaculture legislation. It was noted that there is no single model of ideal legislation that will encourage the emergence of a sustainable commercial aquaculture industry. However, experience in both developing and developed countries indicates that successful aquaculture legislation must deal with a list of issues and adopt solutions from a limited range of possibilities. The aquaculture law of an individual country must provide the operator with a secure right to conduct aquaculture operations, to the property on which the fish farm will be located, to water of the necessary quality and to the produce. It must also establish control over the industry through a permit or licence system which will provide the basis for ensuring the environmental sustainability of aquaculture by examining the suitability of the proposed location of fish farms and the potential environmental effects of their operations. The legislation should subject proposals

to an environmental impact assessment when the operation threatens to have the potential for serious environmental harm. Environmental supervision must extend to controls over the use of exotic species, products from modern technology including genetically modified organisms and to any water quality concerns created by the proposed project.

32. The Workshop further noted that difficulties lay often in how to establish a legal framework conducive to sustainable commercial aquaculture. Such difficulties may be reduced or overcome when a legal framework is prepared with the involvement of stakeholders from the private sector, including financial institutions, communities, fish farmers and allied industries.

33. In order to encourage the development of a commercial industry, the system should ensure that environmental goals are met without imposing unnecessary costs on applicants. For this, it was recommended that Malawi and Zambia adopt a single window approach for the numerous approvals usually required for an aquaculture operation and screen initial applications so that only those that present a significant risk of environmental harm are subjected to a full environmental impact assessment. In addition, the two countries could consider the creation of a single agency to promote aquaculture and to monitor the progress of applications through other government departments.

#### **MITIGATING STRATEGIES TO MAJOR CONSTRAINTS TO SUSTAINABLE COMMERCIAL AQUACULTURE IN SUB-SAHARAN AFRICA**

34. In introducing this agenda item, the Secretariat focused on one of the major impediments to the development of sustainable commercial aquaculture in sub-Saharan Africa, namely the difficulty of entrepreneurs gaining access to capital. Like in the rest of sub-Saharan Africa, the problem in Malawi and Zambia appears to arise, in part, from a lack of adequate collateral, prohibitively high interest rates being charged for loans, bankers' perceptions that commercial aquaculture carries a particularly high risk of failure and a lack of knowledge, on the part of farmers, of the modalities of approaching financial institutions for a loan. The limited knowledge, on the part of lenders, of commercially successful aquaculture enterprises in the two countries has exacerbated the problem.

35. Participants unanimously agreed that the lack of capital is one of the important constraints to commercial aquaculture development in Malawi and Zambia. A number of participants shared experiences on how economic policies, aimed at facilitating aquaculture development, have boosted investment in the sector by increasing loan availability for this activity in other countries. These policies consisted of the creation of special funds for aquaculture research and development, the provision of tax exemptions and tax holidays, management of aquaculture ventures and the creation of free trade zones or export processing zones. They recommended to explore the possibilities of extending the use of these policies in Malawi and Zambia.

36. Stressing the importance of capital in starting-up and running an aquaculture facility, the Workshop noted that, for several reasons, national financial institutions are reluctant to provide loans for aquaculture. Thus, the Workshop emphasized the need for a continued education of funding institutions, donors and potential investors which aims at creating awareness of successful aquaculture experiences in Africa, thereby increasing and/or restoring trust among financial institutions and donors. Building farmers' capacity in accessing loans and other funds for commercial aquaculture development was also stressed. Borrowers need

to be able to formulate and present their business proposals in a precise and concise manner that effectively offers the lender a comprehensive picture of the proposed business, communicates how they expect to profit from the proposed enterprises and generate the funds for the repayment of the loans sought. Participants identified the urgent need for FAO to organize studies in Malawi and Zambia with the aim of identifying all sources of funds and funding mechanisms for commercial aquaculture.

### **BORROWING AND LENDING FOR COMMERCIAL AQUACULTURE IN ZAMBIA: THE BARCLAYS BANK OF ZAMBIA'S EXPERIENCE**

37. The aim of the Barclays Bank of Zambia is to help customers realize their ambitions. It will provide credit support provided risk levels are acceptable, customers have the ability to repay, have a fall back position and are willing to establish a long-term relationship with the bank.

38. In its credit assessment process, the Barclays Bank of Zambia follows a structured approach based on the proposal's business, financial and lending analyses. The business analysis comprises an assessment of internal factors related to the enterprise such as available resources (physical, financial and human), products, business status, management and succession. An assessment of external factors and industry trends is also carried out. The latter includes an assessment of the legal, economic, political, environmental, social and technological (LEPEST) factors influencing suppliers, competitors and markets (buyers), as well as an evaluation of environmental risks.

39. The financial analysis is characterized by an evaluation of financial statements, capital structure, operating performance, level of liquidity and debt service, in particular operating cash flow.

40. The lending analysis is based on a number of factors, the most important of which being operating cash flows and margins (profit does not equal cash). Terms of trade, ability to recover interest and on-going debt obligations (cash coverage rather than profit coverage) as well as trends are also taken in lending decisions. Once the decision to lend is made, structure of facilities, security, terms and conditions and account conduct are agreed. Structure of facilities relates to decisions over a short-term loan/overdraft (managed on a day-to-day basis), a medium-term loan (linked to cash flow), a long-term loan (specialist transaction), letters of credit or leasing (both to ease cash flow), or bonds/guarantees (depending on terms of trade).

41. In conclusion, the bank is very concerned with the *viability* of the business proposition and does not make lending decisions based only on the strength of security. The bank will listen to and understand new and progressive business ideas and give them individual recognition. It will provide timely and accessible expertise to make pro-active, prompt and reliable decisions. Strong historical performance places the customer in a good position to borrow. Positive cash generation is essential to satisfactory assessments and good business management is vital. Consequently, to be a strong candidate for credit, the bank recommends to its customers to:

- keep the bank regularly informed of the evolution of the business, regardless of whether money is borrowed, in a timely fashion and/or as requested;
- keep up with global economic trends and technological changes;

- delegate roles to managers, i.e. a separate finance manager, with a good mix of skills;
- exercise strong discipline, in particular with regard to cash and cost control.

## **BORROWING AND LENDING FOR COMMERCIAL AQUACULTURE IN ZAMBIA: THE ZAMBIA NATIONAL COMMERCIAL BANK'S EXPERIENCE**

42. The Zambia National Commercial Bank has a long experience of loan provision to the agricultural sector but unfavourable environmental, economic and climatic conditions have affected its agricultural credit performance. The bank has supported commercial crocodile farming activities (skins and meat) for export markets. Performance in this sector has been satisfactory and the Bank is currently considering applications for the construction of fish ponds and purchase of fingerlings, offering a new line of credit for smallholders and disadvantaged groups, under the Zambia Agricultural Marketing, Processing and Infrastructure Project of the Agricultural Sector Investment Program. Under this project, fish farming and aquaculture are eligible activities for credit, entrepreneurs from the Eastern Province will be targeted for short to medium term loans. Adequate training and support will be provided and group borrowing will be encouraged.

43. To be considered for credit, it is a requirement that all credit applications are channelled through Branches where prospective borrowers maintain active business accounts. Documents required for submission of credit applications include:

- a formal letter of application or project proposal;
- projected cash flow statement supported by acceptable assumptions;
- latest audited books of accounts or management accounts;
- details of security pledged including certificate of titles and valuation reports;
- insurance of property pledged as security;
- articles of Association;
- a board resolution authorizing the borrowing.

44. Credit assessment to determine risks and identify the repayment capacity involves using reliable up-to-date general business and financial information with verification of:

- the amount and purpose for which the loan is required;
- the honesty and integrity of applicants and their borrowing track-record. Customers' experience in this line of business will also be taken into consideration;
- the Bank's protection in terms of realizable value of security (collateral) held or offered (tangible security such as landed property (residential) is considered ideal by the Bank; the accepted form of security will be considered as a secondary source of repayment);
- the repayment and tenure of credit facilities, which range from twelve to thirty six months.

45. The Bank is willing to consider credit facilities to support the development of commercial aquaculture provided that business proposals meet the Bank's lending criteria. It is suggested that the government introduce incentives such as favourable interest rates to stimulate borrowing for aquaculture activities and establish, in partnership with other agencies such as the Ministry of Agriculture and Co-operatives, the World Bank and the African

Development Bank, lines of credit specific to the aquaculture sector easily accessible by borrowers country-wide through participating financial institutions and commercial banks.

### **OVERCOMING THE FEED CONSTRAINT: THE EXPERIENCE OF TIGER FEEDS**

46. Tiger Animal Feeds are the largest specialized animal feed producer of Zambia. While poultry, pig and dairy feeds constitute the bulk of its production, the company is also involved in formulating and making fish and crocodile feeds. The company benefits from highly qualified staff, feedmill equipment and agreements with a European company for fish feed. Production levels vary with demand, with poultry feeds topping the list. The company has focused on developing formulas for various feeds to ensure constant product quality and consistency. All feeds are formulated with 95 percent of high quality and laboratory-checked local raw ingredients (wheat flour, maize meal, cooking oil).

47. Fish feed is formulated and presented to match the needs of all stages of fish development: mash or fine form for fry and fingerlings, crumbled pellets for young fish, pellets for fish in last growth stages and floating pellets suited to cage and pond feeding. Supply fish feed in several bag sizes to farmers through door-to-door deliveries or outlets across the country. Tiger Animal Feeds are currently looking into increasing their export volume to other African countries. Feed price is largely determined by cost of raw materials and production methods, hatchery feed being more expensive than other feeds. Prices can be negotiated with the purchase of large volumes and the company provides credit facilities to its customers.

48. Tiger Animal Feeds have reported a steady demand for its fish feed and acknowledge that the promotion of commercial aquaculture has helped increase awareness of commercial feeds and their advantages. While market opportunities for the company are mainly local and demand-driven, a strategy of cost-benefit analysis is being developed to convert farmers to switch from traditional unprocessed feed to the company's products. The steady supply of high quality feed and provision of credit facilities has contributed to the economic success and positive image of the enterprise. In addition, negative environmental impacts linked to the use of formulated pellets have been minimized with the use of natural ingredients. Tiger Animal Feeds have benefited from the existence of a niche market for fish feed products and from other factors such as availability of skilled and educated people, high fish consumption, political and economic stability and abundant water resources in Zambia.

49. Prospects for future development exist and are linked to the possibility to expand the company's production capacity and explore new markets for fish feed in Africa and beyond. Potential to diversify feed production to target new species also exists. The need to produce affordable feeds is paramount and should be supported by government subsidies to feedmills to reduce the cost of raw materials, and economic incentives (e.g. tax exemptions) as well as a regulatory framework. Working with fish farmers will allow them to benefit directly from the company's activities. However, some challenges remain: currency and exchange rate fluctuations, ever-changing cost of raw materials and non-substitutability of some ingredients and high cost of credit. Efficiency improvements and reduction of costs of production need to be achieved, along with reaching farmers, increasing awareness about benefits of commercial fish feeds and gaining governmental support.



## THE WAY FORWARD

50. The review of the main subjects covered under the different agenda items and the identification of the following major conclusions and recommendations made by the Workshop point the way forward in the development of sustainable commercial aquaculture in Zambia and Malawi.

## MAIN CONCLUSIONS

### The Workshop recognized that:

51. There is still much unrealized potential for economically viable and sustainable commercial aquaculture in Zambia and Malawi. However, commercial aquaculture is developing at a very slow pace in these two countries. Nonetheless, there is still growing interest that needs support.

52. There is a need in Zambia and Malawi to speed up the development of policies, strategies, strategic plans, legal, regulatory and institutional frameworks in order to regulate, facilitate and enable commercial aquaculture to take off and expand.

53. The major constraints to commercial aquaculture development in Zambia and Malawi remain:

#### *1. The quasi-complete inaccessibility to funding and to loans.*

Inaccessibility to funding and loans arises from:

- the lack of information on the part of potential investors in commercial aquaculture, on the funding mechanisms;
- the lack of knowledge on the part of the potential borrowers on how to prepare convincing business plans when seeking loans;
- the perception by lending institutions that aquaculture ventures bear a high risk of failure;
- the lack of experience by local lending institutions on aquaculture and allied industries as economically and financially viable activities;
- the lack of government policies encouraging funding and financial institutions to support infant industries such as aquaculture and allied industries just as they do in some other agricultural subsectors;
- the prohibitively exorbitant interest rates charged to potential borrowers. In addition to macro-economic factors, these high interest rates are especially a result of the lack of adequate collateral and equity by loan applicants.

#### *2. The lack of clear enabling policies, strategies, plans and legal, regulatory and institutional frameworks for aquaculture development in general.*

### ***3. A shortage of skilled manpower.***

54. Donor and government focus in aquaculture has traditionally been in small holder sector. Consequently, commercial aquaculture has felt left out and is equally in need of support.

## **RECOMMENDATIONS**

55. The Workshop recommends:

### **(a) To the Governments of Zambia and Malawi:**

- to speed up the preparation of clear national policies, strategies, plans and legal, regulatory and institutional frameworks for commercial aquaculture development and, while preparing aquaculture subsector development policies and strategies, to give due attention to defining financial incentives and promotional instruments to use in order to encourage investment, especially by the private sector, in commercial aquaculture and to ensure full participation of all stakeholders including those from allied industries (feed manufacturing, hatcheries, processing and marketing, etc.) in the process;
- to support start-up aquaculture and allied industries such as private hatcheries and feed mills in their pilot stage with clear and simple regulations as well as fiscal incentives such as tax exemptions, tax holidays, exemptions of import duty on machinery and other necessary inputs like basic feed ingredients;
- to define deliberate clear policies to guide financing institutions on the borrowing and lending for start-up industries such as commercial aquaculture;
- to facilitate the establishment of models of economic and financial feasibility of commercial aquaculture ventures and allied industries. These models would allow financial institutions to objectively evaluate investment proposals in aquaculture and allied industries;
- to facilitate borrowers for commercial operations to access loans by looking into the possibilities of using loan guaranties and special interest rates;
- to promote and support research and preservation of indigenous species, and to strengthen the research-extension farmer linkages in order to ensure a proper and effective dissemination of research findings;
- to consistently look for means of organizing study tours and attending international meetings and conferences by government officers, extensionists and the private sector in commercial aquaculture and allied industries, to other countries in the region with the aim of exchanging experiences and allowing them to better serve the aquaculture sector development;
- to create awareness and appreciation of aquaculture products in order to increase consumer demand at local and national levels;

- to designate ADZs (Aquaculture Development Zones) and EPZs (Economic Preferential Zones) with fast track mechanisms in place for investors.

**(b) To FAO:**

- to urgently document the sources of financing and existing funding mechanisms for commercial aquaculture in the region, create awareness among farmers of their existence and opportunities they provide, and to disseminate this information widely including through banks and national or subregional workshops;
- to assist the Governments of Zambia and Malawi in the establishment or strengthening of national-level commercial fish farmers' associations and the strengthening of their lobby force and linkages of existing regional networks of commercial fish farmers. This assistance would be provided within the framework of the "Technical Cooperation Programmes" (TCP). Requests would come from countries;
- to assist the Governments of Zambia and Malawi to create awareness among NGOs, possible donor agencies, funding institutions and investors on the role of commercial aquaculture in supporting economic growth with the aim of seeking the extension and increase of their assistance and support to the subsector;
- with the contribution from other development agencies, to assist the Government of Zambia and Malawi in the establishment of national aquaculture technical information resource centres that, in time, will provide fee-for-service extension/technical support and information;
- to continue to regularly monitor, review and analyse what has been done in terms of commercial aquaculture development in Africa and elsewhere with the aim of extracting and disseminating success stories of aquaculture investment including policy development and implementation, and financial and economic successes and failures;
- to assist the Governments of Zambia and Malawi to work on the necessary attributes for Zambia and Malawi to be able to export aquaculture products to the European Union.

**ANY OTHER MATTERS**

56. There was no other matter discussed in the Workshop.

**ADOPTION OF THE MAIN CONCLUSIONS AND RECOMMENDATIONS OF THE WORKSHOP**

57. The Workshop unanimously adopted the main conclusions and recommendations as discussed above.

## Agenda

1. Opening of the Session
2. Election of Officers
3. Adoption of the Agenda and Arrangements for the Workshop
4. Sessions

*Background Review of Commercial Aquaculture*

*Enabling Factors of the Promotion of Sustainable Commercial Aquaculture in sub-Saharan Africa*

*Country Experiences and Brainstorming on Mitigating Strategies to Major Constraints*

*The Way Forward*

5. Adoption of the Main Conclusions and Recommendations

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**List of documents**

FI :7 52/2002/RVA1	World aquaculture supply of catfish and tilapia
FI: 7 52/2002/RVA2	Fish consumption and markets for catfish and tilapia in the European Union
FI: 7 52/2002/RVA3	European Union trade and marketing requirements for fishery products
FI: 7 52/2002/RVA4	Fish marketing information sources



**APPENDIX D****Statement by Mr R. Fuller  
FAO Representative, Zambia**

Honourable Minister, Mr Chairperson, Mr Director, Ladies and Gentlemen.

First, I want all of you to know that I appreciate this opportunity to come over here and be with you as you begin this Workshop.

To begin, Honourable Minister, I want to thank the Government of Zambia, on behalf of FAO and the Workshop participants, for its kind invitation to hold this Workshop in Lusaka. I am sure that the warm friendliness of the Zambian people is already working its magic on our colleagues from Malawi and Rome.

Now let me try to expand your horizons a bit. You are here to discuss the promotion of aquaculture. But the bottom line is that you will be discussing development, poverty reduction and food security.

When I contemplate on how to deal with these fundamental issues, I invariably find myself first asking: what is working? And then: how can we build on that? I also know that new opportunities must be seized and for Zambia and Malawi the rapid and sustainable development of aquaculture is an opportunity. Are there any countries in Southern Africa that are better endowed for aquaculture?

The importance of commercial aquaculture in food security and poverty alleviation, especially for impoverished rural communities is obvious. It can contribute directly to food security by producing fish for food and indirectly by generating employment and income. Its commercial side will broaden the tax revenue base and it can earn foreign exchange.

But for commercial aquaculture to take off, there are prerequisites. Technical conditions must be suitable; there must be economic stability and opportunity; necessary infrastructure must be in place and financial and other services must be available. And, Honourable Minister, government policy must be right before those things can happen.

By providing the legal and regulatory framework, by defining the role of the public sector and sticking with that through consistent implementation, the other players will feel secure to do their part and invest. And let me emphasize that the public sector is not just the Ministry or the Department of Fisheries. They have to provide the leadership, yes. But the public sector includes those other sectors (roads, water, land, trade, environment, health, education) that must also do their part so that aquaculture can work.

While some of the prerequisites for commercial aquaculture development are in place in Malawi and Zambia, obviously many are not. In this Workshop you will have the opportunity to examine the major impediments to aquaculture development in your countries and explore ways to tackle them. In the course of these few days, FAO will share with you the preliminary findings on the status and potential of commercial aquaculture, markets and trade

in farmed fish and shrimp in sub-Saharan Africa as well as the general policy framework used in many countries, both developed and developing, to promote commercial aquaculture. You will also be discussing a suggested Legal, Regulatory and Institutional Framework for the promotion of sustainable aquaculture in Malawi and Zambia.

As you know, FAO organized a Technical Consultation on Legal Frameworks and Economic Policy Instruments for Sustainable Commercial Aquaculture in Africa South of the Sahara. This took place in Arusha, Tanzania, last December. Delegates to that gathering reaffirmed the need for and agreed on recommendations for the promotion of sustainable commercial aquaculture. Sharing these recommendations is one of the aims of this Workshop.

Your tasks, over the next few days, are to identify actions that need to be taken to develop sustainable commercial aquaculture in Malawi and Zambia, identify additional information required on commercial aquaculture for the elaboration of your national strategies and suggest the next steps to follow for the promotion of commercial aquaculture – something that Zambia is already engaged in. You will also have the opportunity to consider how FAO can help you to seize the opportunity.

And your final task? Use what you learn and accomplish here when you return to your offices.

Thank you.

**Statement by His Excellency Mundia F. Sikatana (MP)**  
**Minister of Agriculture and Cooperatives**

The FAO Representative in Zambia, the Resident Representative, JICA, the Resident Representative, UNDP, Delegation Leader, Malawi, Distinguished Invited Guests, Ladies and Gentlemen.

It gives me much pleasure and gratitude to be accorded this opportunity to officiate at this very important meeting of aquaculture development in Zambia and Malawi.

On behalf of the Government of the Republic of Zambia and indeed on my own behalf, I wish to extend a warm welcome to you all and in particular to our colleagues from Malawi and to the Food and Agriculture Organization (FAO). I hope you will enjoy your stay in the country.

Chairperson,

Let me take this opportunity to thank FAO for bringing together Zambian and Malawian technocrats to discuss this important subject of aquaculture development and indeed poverty reduction. We are all aware that aquaculture as an industry is a relatively young sub-sector of fisheries. I am reliably informed that despite its infancy, globally it has grown at a very fast rate. We know that our traditional sources of fish have reached a peak and demand has continued to grow, especially in the developed world where there has been a marked shift away from red meats products.

Chairperson,

Zambia just like Malawi is richly endowed with natural resources ideally suited to aquaculture production. However, capture fisheries have continued to provide much of the domestic fish requirements in these countries. This situation has continued to exist but is being threatened by reduced catches per fishery due to most natural fisheries having reached their maximum sustainable limits.

Chairperson,

You may also wish to know that currently, the Zambian aquaculture sub-sector produces about 10 000 metric tonnes of fish per annum. Of this, 75 percent comes from subsistence and small-scale aquaculture and 25 percent from commercial farms. Lately, the Zambian case has experienced a situation where the involvement of small-scale farmers is on the increase as compared to the commercial farmers' involvement which has declined. It is therefore important that resources are channelled to this sector to bring this number of small-scale farmers to a level where they can attain commercialization.

Chairperson,

If ever we have to achieve anything in the field of fisheries development, the involvement of the private sector (which includes the banks and insurance companies) and non-governmental

organizations is of vital importance. It is my hope therefore that, as you discuss the role of commercial aquaculture in achieving food security, you will also take time to dwell on aspects of lending to the farmer as well as safeguarding of the farmers' production through insurance. I have no doubt that the broad representation at this Workshop will generate many ideas from which the two countries can draw worthwhile conclusions.

May I, once again, thank FAO for bringing the two countries together. This is what regional cooperation is all about and this should be encouraged.

I look forward to receiving the conclusions of your Workshop and the implementation plan so that we can urgently promote the growth of the aquaculture sub-sector and thereby contribute to poverty reduction amongst our populations.

With these few remarks, I now declare this Workshop officially open.

I thank you.

## World aquaculture supply of catfish and tilapia

### I. INTRODUCTION

In 2000 the total world supply (aquaculture plus capture) of catfish and tilapia was estimated at about 567 844 and 1 883 197 metric tonnes respectively. The supply has increased between 1995 and 2000 with respectively 14 percent and 51 percent. Much of this growth can be attributed to aquaculture (Table 1).

**Table 1.** Total world production of catfish and tilapia in metric tonnes (MT) in the year 2000.

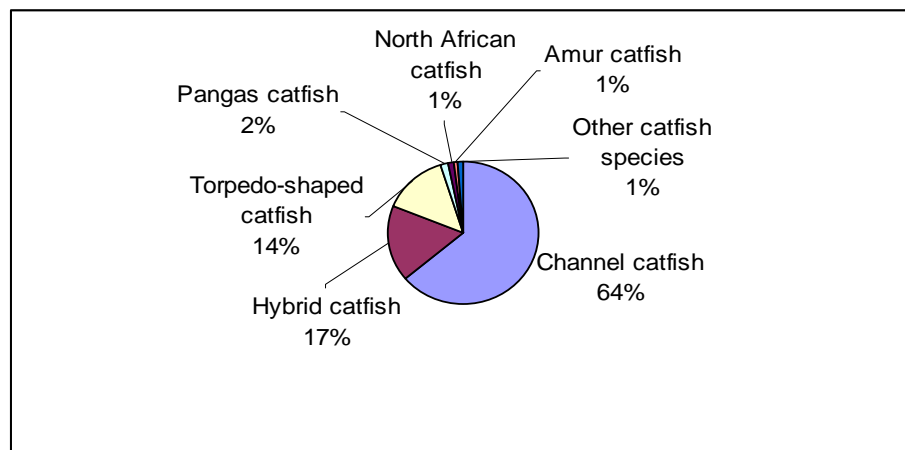
	Catfish		Tilapia	
	MT	%	MT	%
Aquaculture	414 962	73	1 265 609	67
Capture fisheries	152 882	27	617 588	33
Total	567 844	100	1 883 197	100

(Source: FAO Fishbase, 2001)

### II. CATFISH

As indicated in Figure 1, the world supply of catfish is dominated by three species, Channel catfish (*Ictalurus* spp.), Hybrid catfishes (*Clarias* spp.) and Torpedo shaped (*Clarias* spp.) catfishes. These three groups of species together accounted for 95 percent of the world aquaculture output of catfish in 2000. The USA is the main producer of Channel catfish, while Hybrid catfish is mainly produced in Thailand and Torpedo shaped catfishes in India, Indonesia and Nigeria. Although not recorded in the official statistics the production of especially *Pangasius* spp. catfish is increasing rapidly in Vietnam, while in other South East Asian countries Hybrid catfish production has been booming in recent years.

**Figure 1.** World aquaculture production of catfish by species in 2000.



(Source: FAO Fishbase, 2001)

With a catfish aquaculture supply of just over 5 000 MT in 2000, sub-Saharan Africa accounted not more than 1.2 percent of the total world supply of this species. Nigeria has been the main catfish producing country in sub-Saharan Africa for the last decade, although its production fluctuated heavily. Ninety percent of the catfish supply in sub-Saharan Africa in 2000 occurred in Nigeria (Table 2). Other countries in the region hardly produced any catfish. Torpedo shaped catfishes and Upside-down catfishes (*Synodontis* spp.) were the main cultivated species. They respectively account for 83 and 9 percent of the total volume produced in the region in the year 2000 (Table 3).

**Table 2.** Catfish aquaculture supply in sub-Saharan Africa (MT).

Country	1995	1996	1997	1998	1999	2000
Nigeria	6 200	6 837	7 962	4 929	2 652	4 518
Côte d'Ivoire	175	189	155	297	345	230
Kenya	n.a	n.a	2	7	92	124
Ghana	200	200	100	105	110	76
South Africa	10	20	35	40	15	23
Malawi	3	5	7	10	12	15
Rwanda	4	5	4	5	40	14
Mali	40	24	24	24	30	11
Gabon	n.a	n.a	n.a	n.a	n.a	10
Cameroon	2	3	3	3	3	10
Swaziland	n.a	23	18	4	5	6
Liberia	n.a	n.a	n.a	n.a	n.a	2
Guinea	4	4	<0.5	<0.5	<0.5	<0.5
Lesotho	2	2	2	<0.5	<0.5	<0.5
Other countries	102	158	23	2	2	n.a
<b>Total</b>	<b>6 742</b>	<b>7 470</b>	<b>8 335</b>	<b>5 426</b>	<b>3 306</b>	<b>5 039</b>

(Source: FAO Fishbase, 2001)

**Table 3.** Aquaculture supply of catfish by specie in sub-Saharan Africa in 2000.

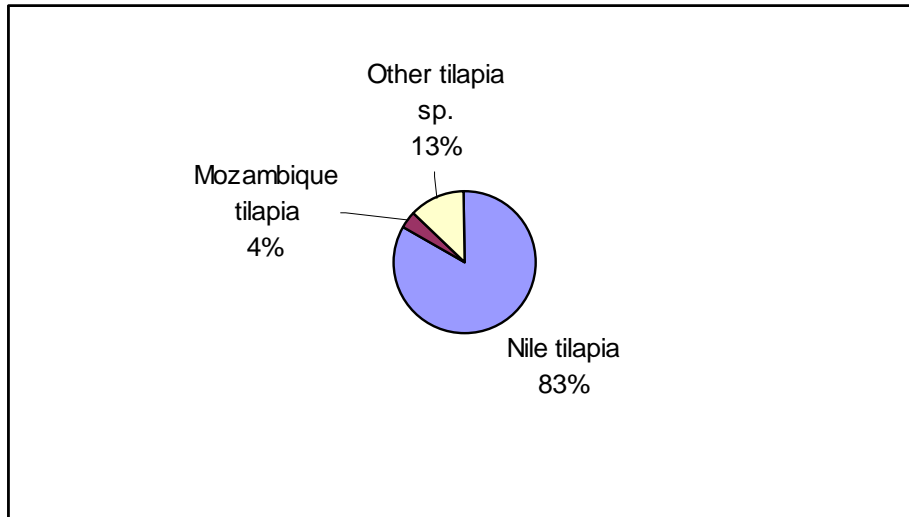
	Metric tonnes (MT)	%
Torpedo-shaped catfishes nei	4 201	83
Upside-down catfishes	451	9
North African catfish	291	6
Bagrid catfish	96	2
<b>Total</b>	<b>5 039</b>	<b>100</b>

(Source: FAO Fishbase, 2001)

### III. TILAPIA

Two-thirds of the world tilapia supply is derived from aquaculture. China, Egypt, Thailand and the Philippines are the main producers of Nile tilapia (*Oreochromis spp.*), which accounted for 83 percent of the world aquaculture supply of tilapia in 2000 (Figure 2).

**Figure 2.** World aquaculture supply of tilapia by species in the year 2000.

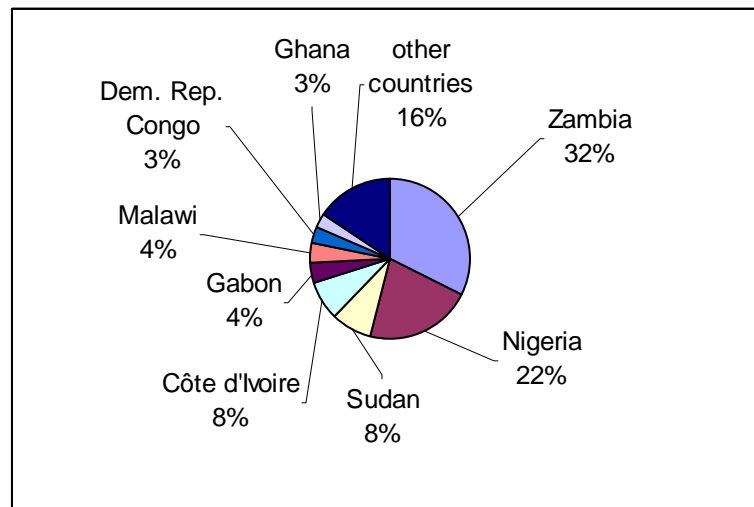


(Source: FAO Fishbase, 2001)

Indonesia is the major supplier of Mozambique tilapia (*Oreochromis spp.*). Tilapias sp. are produced by numerous countries, among which Taiwan, Mexico, Brazil, Sri Lanka and the Philippines. As far as capture supply of tilapia concerns, countries in sub-Saharan Africa such as Uganda, Tanzania and Kenya are important producers.

The tilapia aquaculture supply in sub-Saharan Africa has been relatively stable over the last five years. Around 12 000 MT was produced annually (Table 4). This quantity represents only one percent of the world tilapia aquaculture supply. The tilapia supply from capture fisheries by Uganda, Tanzania, Kenya and other sub-Saharan African countries was over 200 000 MT in 2000. As far as capture fisheries concerns, sub-Saharan Africa contributed almost one-third to the world catches and over 10 percent to the total world supply (aquaculture plus capture) by volume in 2000. The tilapia supply from aquaculture per country in sub-Saharan Africa in 2000 is presented in Figure 4.

**Figure 4.** Tilapia aquaculture production per country in sub-Saharan Africa in the year 2000.



(Source: FAO Fishbase, 2001)

FAO estimates that 32 percent of the total tilapia aquaculture production of the sub-Saharan African region is realized in Zambia and 22 percent in Nigeria. Although official statistics are absent it is acknowledged that Zimbabwe (Lake Harvest Tilapia) produced in 2000 a considerable quantity of tilapia, estimated at around 2 000 MT. Nile tilapia and other tilapias were the species groups most cultivated in sub-Saharan Africa in the year 2000, each accounting for 37 percent of the total supply (Table 5).



**Table 4.** Tilapia supply from aquaculture in sub-Saharan Africa (MT).

Country	1995	1996	1997	1998	1999	2000
Zambia	3 237	4 403	4 430	3 942	3 960	4 020
Nigeria	6 020	3 259	4 978	4 471	1 589	2 705
Sudan	1 000	1 000	1 000	1 000	1 000	1 000
Côte d'Ivoire	162	933	258	495	575	967
Gabon	37	59	54	150	530	533
Malawi	28	20	22	22	565	500
Congo, Dem. Rep. of the	600	600	550	500	414	414
Ghana	350	350	300	315	320	347
Rwanda	70	90	110	120	241	252
Kenya	536	500	124	87	118	222
Tanzania, United Rep. of	200	200	200	200	200	210
Congo, Republic of	139	106	99	140	190	200
Uganda	116	40	288	200	200	200
Central African Republic	200	140	80	80	117	120
South Africa	25	15	20	70	85	110
Senegal	40	53	53	3	105	105
Togo	20	21	17	25	150	102
Zimbabwe	50	70	70	70	75	75
Burundi	50	50	50	55	55	55
Cameroon	50	50	60	60	60	40
Swaziland	n.a	47	25	48	32	38
Sierra Leone	25	30	30	30	30	30
Mali	58	35	35	35	50	19
Niger	35	11	13	12	14	15
Liberia	<0.5	<0.5	<0.5	n.a	n.a	12
Burkina Faso	<0.5	30	45	40	25	5
Mozambique	36	4	1	1	1	1
Ethiopia	50	35	20	10	<0.5	<0.5
<b>Total</b>	<b>13 134</b>	<b>12 151</b>	<b>12 932</b>	<b>12 181</b>	<b>10 701</b>	<b>12 297</b>

(Source: FAO Fishbase, 2001)

**Table 5.** Aquaculture supply of Tilapia by specie in sub-Saharan Africa in 2000.

	<b>Metric tonnes (MT)</b>	<b>%</b>
Tilapias (unspecified)	4 548	37
Nile	4 533	37
Three spotted	2 750	22
Longfin	210	2
Redbelly	201	2
Mozambique	55	0
<b>Total</b>	<b>12 297</b>	<b>100</b>

(Source: FAO Fishbase, 2001)

## Fish consumption and markets for catfish and tilapia in the European Union

### I. CONSUMPTION

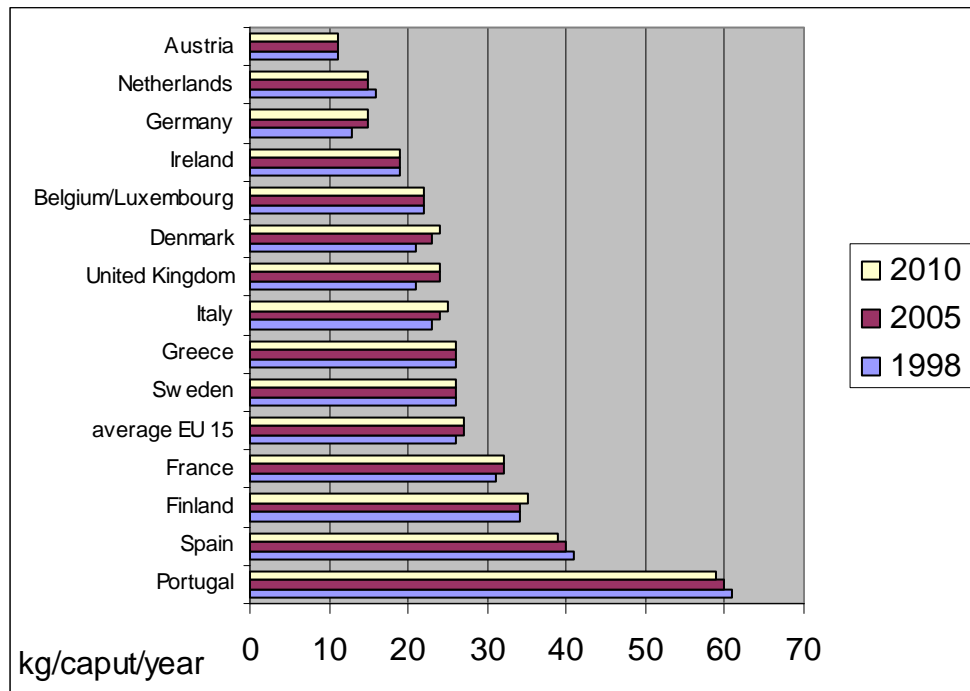
Of all EU countries Portugal has the largest consumption of fish per capita: 61 kg/year, followed by Spain, Finland and France with 41, 34 and 31 kg/capita/year respectively. Table 1 presents the per capita fishery consumption figures of EU countries. It shows that there exists a big variation in fish consumption and expenditures on fishery products between EU consumers. In terms of value consumed, the Belgians and Italians are spending much more than people in the other EU countries on fishery products. Belgians and Italians spent, on average, respectively 169 € and 147 € per person in 1999. Projections by CEMARE show a very small increase in EU fishery products consumption per capita, with only 1 kg till the year 2010. Current and forecasted per capita fishery products consumption data are presented in Figure 1. According to the model used, the fishery products consumption in the United Kingdom and Denmark will increase with 3 kg between 1998 and 2010. German and Italian per capita consumption will increase by 2 kg over the same period. In contrast, the per capita consumption in Portugal, Spain and the Netherlands is expected to decrease.

**Table 1.** Per capita fishery products consumption figures of EU countries.

Country	Average consumption per capita (kg/year) 1994-1998 (a)	Consumption per capita in value (€/year) in 1999 (b)
Spain	41	96
France	31	38
Italy	23	147
Germany	13	49
UK	21	24
Denmark	21	25
Netherlands	16	23
Portugal	61	83
Belgium/Luxembourg	22	169
Sweden	26	58
Greece	26	94
Austria	11	23
Finland	34	91
Ireland	19	35
average EU 15	26	68

(Source: (a) Cemare, 2002; (b) CBI, 2001. Note: Ireland and UK excluding shellfish, UK excluding frozen fish, Spain excluding dried, salted and smoked fish)

**Figure 1.** Current and forecasted per capita consumption of fishery products in the EU countries.



(Source: Cemare 2002)

Over the period 1996-2000, the volume of fishery products consumed in France, Italy and Spain increased with respectively 16 percent, 9 percent and 13 percent. In contrast, over the same period, the fishery products consumption in Germany decreased by 5 percent (UNIPROM, 2001). As the vast majority of data on fishery products consumed in EU countries is derived from fisheries and national fisheries industries it is difficult to estimate future consumption of aquaculture products, and almost impossible to forecast consumption of aquaculture products from Africa.

Catfish and tilapia are expected to continue being imported by EU countries mainly in frozen form (whole and filets). It is also expected that imports of aquaculture products will continue to increase relatively more rapidly than those of capture fisheries. Forecasted annual consumption changes till 2030 are presented in Table 2. No general trend towards or away from certain product groups can be identified as countries populations' consumption behaviour appears to differ a lot and will continue to differ in the future.

**Table 2.** Annual consumption change projections till 2030.

Country	Annual consumption changes (percentage) projections till 2030 (a)		
	crustaceans	fish fillets	frozen fish
Spain	0.3	0.3	-1.3
France	1.3	0.6	0.0
Italy	0.0	0.1	0.0
Germany	-0.3	0.8	-0.6
UK	0.0	0.3	-0.2
Denmark	-1.3	1.3	1.3
Netherlands	-1.3	1.3	0.0
Portugal	0.0	-0.7	0.0
Belgium/Luxembourg	-0.6	1.3	-1.3
Sweden	2.1	-0.6	0.0
Greece	0.2	0.6	0.0
Austria	0.0	1.5	1.3
Finland	-0.6	0.0	0.0
Ireland	0.0	0.0	0.0

(Source Cemare, 2002)

## II. CURRENT TRENDS IN EU FISH CONSUMPTION

The EU fishery and aquaculture products market is very dynamic. Current consumption trends are towards an increase in demand for fresh and value added products and a decrease in demand for whole frozen fish and canned products.

Innovation in new fish products should go through the food service sector. Fish is an ideal restaurant food. Chefs love to work with it; consumers prefer fish in restaurants because of convenience (they consider its preparation at home difficult) (EIFAC, 2001). In addition, consumers are more willing to try new products in restaurants than at home.

Although it is generally believed that consumers make the purchasing decision, it is probably more accurate to say that retailers (supermarket chains and fish specialty shops), caterers, restaurant chefs, processing industry and middlepersons influence the consumer decision whether to buy certain products or not. They decide what is available in what quantities, where and in which form.

Much of the farmed aquaculture products, except for salmon and trout, are not recognised by consumers as farmed products. This lack of awareness does not mean that most of the consumers would prefer wild fish over farmed fish. Only a small share (e.g. less than 20 percent in France) of the fish consumers seem to prefer wild fish over farmed fish. The large majority of the consumers are indifferent to the source of the fish as long as the price is right and quality/freshness is guaranteed.

In the last decade, especially the segments of fresh fillets, specialities and ready to cook (convenience) fish products have gained market share in the EU countries. The market for smoked fish products seem to stabilize after a large increase in the last years of the twentieth century. Nevertheless, “new” products as smoked tuna and swordfish are entering slowly the

market as specialities. The more traditional smoked salmon has, under the continuous decrease in market price, lost part of its image as specialty product for celebrations (Christmas, New Year and birthday parties) and its consumption is now more evenly spread over the year.

Salads containing fish and surimi based products are well received by the European consumers. Markets are developing for these products in almost all EU countries. However, so far, aquaculture products are hardly used as raw materials for surimi.

Recent studies have shown that the retail business and especially supermarket chains and the catering business (chain restaurants and institutional caterers) are in favour of, and willing to support, aquaculture products market entrance and development in the EU markets. Retailers and caterers tend to prefer aquaculture products over fisheries products for the following reasons:

- 1) Homogeneous sizes of fish delivered (fish size can be adjusted to portions demanded by consumer, filleting is easy and generally without much losses, better meat-waste ratios).
- 2) Homogeneous meat/flesh (colour can be partly adjusted to the preference of the consumers; white meat is preferred by hospitals and many canteens).
- 3) Year round availability (fish farmers can guarantee, to a certain extent, a steady delivery and allow supermarkets to anticipate demand and sell the product fresh during the whole year).
- 4) Less odour (some of the customers in supermarkets do not like the smell of fish and neither do many consumers).
- 5) Less fishy taste (some of the consumers like to eat fish but do not like the specific fish taste which is often the case with marine species; supermarkets acknowledge this situation and like to offer their customers such products).
- 6) Traceability (aquaculture products offer supermarket chains the possibility to trace the product back to its source, giving them a greater control over product safety).
- 7) Inexpensive price (aquaculture products as tilapia, trout and catfish are generally cheaper than many marine fish species, allowing supermarkets to provide customers with a wide range of varieties in fish products and prices).

### **III. CATFISH MARKETS**

A large part of the catfish consumed in the EU originates from the EU itself. In 2000 the Netherlands and Belgium produced 3 355 metric tonnes. The USA, Thailand and Vietnam are the main competitors in the EU market for catfish products. The Netherlands and Belgium mainly produce (North) African Catfish (*Clarias* spp.) while catfish from the USA and Vietnam are respectively of the species *Ictalurus* spp. and *Pangasius* spp. The intensive and highly water efficient recirculation systems currently used by Dutch and Belgium catfish farmers are a result of the ever more rigorous environmental government policies; this in contrast to the pond production systems used in Eastern Europe (*Silurus* spp.), Thailand and Viet Nam.

EU catfish farming has increased rapidly in the last few years and apparently market demand is still increasing. However, prices are under pressure as there seems to be some local oversupply and products from South East Asia enter the market in increasing quantities.

Catfish imports from the USA fluctuated a lot over the last years; they were valued at US\$1.8 million in 1996, just US\$80 000 in 2000 and US\$294 000 in 2001 (USDA, 2002).

The EU consumer demand for catfish species is largest in Germany, Austria and France. Especially in Germany the product is becoming better known and accepted as an alternative to Carp (*Cyprinus* spp.) and Pike-perch (*Lates* spp.). In 1994 “The Catfish Institute” of the USA tried to introduce its catfish products in Germany with limited success. Consumers got aware of its existence through a large advertisement campaign and other market promotions such as trade fairs. Only recently however the demand for catfish started to increase, especially as people were searching for alternatives in the period of the Foot and Mouth Disease crises, Bovine Spongiform Encephalopathy (BSE) crises and Pork and Poultry plagues which hit the EU markets since 1995.

Of the four species of catfish consumed in Germany, *Silurus* spp. (European catfish) and the marine species *Anarhichas* spp. (Wolf fish) are traditionally known. African and American catfish started to enter the market in the 1990’s. European catfish and Wolf fish are sold fresh in sizes of 1.5 kg per fish or larger. African catfish is generally sold in filet form (fresh and frozen) from fish larger than 1 kg. African catfish filets have a redder appearance than American (channel) catfish, but the industry is trying to produce hybrid catfish with white meat in order to better meet consumer preferences. An estimated 90 percent of the African catfish (*Clarias* spp.) produced in the EU is processed to fillets (Proteau, Volker and Linhart, 1996). Germans prefer larger sized catfish than Americans and German retailers are indifferent as far as the origin of the product concern. In addition, retailers show a clear preference for fresh fish over frozen product which is reflected in the price (Lombardi and Anderson, 1998).

A large part of the catfish produced in the EU is consumed in restaurants, institutional canteens and hospitals. The latter institutions request a type of fish filet that has a relatively firm texture (in view of the cooking processes used) and not much of a fishy smell and taste.

#### **IV. TILAPIA MARKETS**

The domestic production of Tilapia in the EU is very limited. Only in Belgium some farmers have started to raise this species (especially the Gabriel Group) but not more than some 180-240 MT are produced annually. At present, the import of tilapia is dominated by African, Asian and Central American countries. Competition from Israeli producers and in the near future from Hungarian producers is expected to increase (EIFAC, 2001). Imports of tilapia filets and tilapia meat from the US have been very limited over the last years. These imports were valued just at US\$10 000 in 2000 and US\$89 000 in 2001.

Nile perch, *Lates niloticus*, (a cheaper fish) has entered the Italian market as tilapia in recent years and in Spain the same specie is known as grouper (EIFAC, 2001). Differentiation between fish species is very difficult for the majority of the consumers especially for frozen boneless fillets. They rely on the label on the package, or when the fresh fish is displayed on the counter of the retailer they will need to rely on him/her. Nile perch is a clear competitor for tilapia from Africa. Tanzania, Kenya and Uganda are the main exporters of Nile perch. Nile perch is relatively cheap (on average around 20 percent) and can be delivered in large quantities within 48 hours to the market in the EU. Most of the imports pass through Dutch companies, as logistically this is most efficient, and are distributed from there to other EU markets.

Due to the generally low prices for freshwater aquaculture products and the pressure on producer margins for aquaculture products, under the influence of large retail chains market power, it is relatively difficult for producers from outside the EU to market their product. Nevertheless, fresh tilapia fillets from Zimbabwe reach the Dutch market within 24 hours after being caught from the cage.

Frozen tilapia fillets are generally imported from China, Taiwan, Jamaica, Costa Rica, Viet Nam, Thailand, Indonesia and the Philippines.

Tilapia is in the EU countries still considered as a niche product, although there are companies like Anova which market more than 500 MT/year. The demand for the specie is limited to particular ethnic groups (especially Asians and North Africans). Therefore consumption of tilapia is largely limited to countries with large communities of these ethnic groups (United Kingdom, Germany and France) and, to a lesser extent, to Belgium, Austria, Italy and the Netherlands. London is the largest market for tilapia in the EU, where tilapia fillets already appear in the common fish and chips dish of the Londoners. Supermarket chains such as Sainsbury's and Tesco import tilapia products including fresh fillets from Jamaica.

Prices of tilapia have been relatively stable. Due to its white meat it is a good substitute for other whitefish species (Vannuccini, 1998). Consumer acceptance has been continuously rising and restaurants have put tilapia on the menu as a low calorie dish. The fish meat has medium fat and high protein content. As most tilapia sold in the EU markets originates from aquaculture, the supply can be guaranteed which makes it an attractive product for retail chains (supermarkets).

On the whole the European market prefers tilapia of a bigger size than the USA. Nile tilapia is the preferred specie in Germany where it is used as a substitute for redfish (*Sebastes* spp.). The consumers in the United Kingdom prefer fresh imported product from mainly Jamaican origin (Vannuccini, 1998). Fresh products are appreciated more than frozen and have a related higher market value.

Tilapia is not expected to gain a market as large in the EU as it did in the USA as it is still considered a low quality product; however the trend of eating exotic food is affecting the demand for this species in a positive way. A slow but steady increase in market demand for tilapia is expected in the central and northern EU countries. Prices of tilapia are however expected to fall a bit due to increased competition with other freshwater fish species (e.g. Nile perch and catfish) .



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## European Union trade and marketing requirements for fishery products

### I. EUROPEAN UNION DIRECTIVES

Since the early 1990's the EEC and later the EU have emphasized that fishery products, including aquaculture products, entering the European market should be safe food and of high quality. Technical standards might be set by national authorities but the European Commission (EC) plays a leading role in regulating the trade of fishery and aquaculture products. It is the EC which issues directives. The national authorities are responsible for their application and enforcement (CBI, 2001a).

There are two important EU directives that refer to trade of fisheries and aquaculture products. The Directive 91/493/EEC and Directive 91/492/EEC. The Directive 91/493/EEC lays down the health conditions for the production and the placing on the market of fishery products, while the Directive 91/492/EEC determines the health conditions for the production and the placing on the market of live bivalve molluscs. For sub-Saharan African fish and shrimp exports to the EU the directive 91/493/EEC is thus most relevant. The integral text of the various directives can be found on the internet at <http://europa.eu.int/eur-lex/en/search.html>. In short, both directives deal with the hygienic conditions during handling, preparation, processing, packing, storage and transport. In addition to the two directives above Directive 2406/96/EU lays down the common marketing standards for certain fishery products. It discusses various freshness categories for fresh and chilled products, size categories (the latter for fishery purposes) and the labelling requirements for imports from third countries.

Directive 91/493/EEC stipulates that all fishery and aquaculture products (fresh, as well as chilled, frozen, canned, smoked, dried or salted) entering the EU market must come from an establishment where fishery and/or aquaculture products are prepared, processed, chilled, frozen, packaged or stored which is approved by the competent national authorities. Updated lists of the establishments endorsed by the EU in each exporting country can be found on the internet at <http://forum.europa.eu.int/irc/sanco/vets/info/data/listes/ffp.html> and are published also in the Official Journal of the EU. Listed establishments receive from the EU a number that authorizes their exports of certain products to the EU.

The Hazard Analysis Critical Control Point (HACCP) quality assurance system forms the basis of the 91/493/EEC Directive. For fish and shrimp farmers, wholesalers and processors Chapter 3 of the annex of the directive is very useful as it describes the general conditions for establishments on land including specific requirements for the working areas, equipment to be used in handling, preparation and processing areas, and general conditions of hygiene. The HACCP system allows, through a rational approach and by applying the necessary measures to control the microbiological hazards which manifest themselves at various stages in the handling and processing of the products.

Its main purpose is to avoid systematic detention, heavy sampling and laboratory checks at the point of entry in the EU (CBI, 2001a). This means a shift from the traditional approach of end product inspection and certification to prevention and that large part of the actual control has been moved from the entry points in the EU to the so called "third countries", the exporting

countries. As a consequence the third countries, which are often developing countries, got a number of new tasks added to their responsibility; e.g. a quality inspection system needed to be developed, legislation and regulations needed changes, the establishments of (independent) institutions/organizations for quality control, development of procedures for obtaining health certificates.

Countries exporting fishery and aquaculture products must submit complete legislation on the export of these products to the EC, as well as complete reports on the functioning of its controlling authority and the infrastructure in which it operates. This documentation will be carefully studied by the EC and if found satisfactory, a delegation of experts will be sent to the exporting country, which visits at random some companies (CBI, 2001a). Following the reports of the delegation the EC may give permanent or provisional approval for exports of these products to the EU. When the national controlling authority is recognised officially by the EU, it is held responsible for monitoring and checking if establishments in the country are following the procedures as stipulated in the legislation.

For the implementation of these EU Directives the EC is developing harmonized import conditions for the third countries exporting fishery and aquaculture products to the EU. The specific conditions for imports of specific products and product forms are being documented, which is a long process. Therefore, a transition period has been defined, during which so called “third” countries are allowed to export fishery and aquaculture products to the EU. In the meantime the list of countries is updated from time to time. Since July 1998 imports of fishery and aquaculture products are only possible, if a country appears on the first three of the following four lists.

- 1) European Area Countries (these are: Iceland and Norway)**
- 2) Completely harmonized countries, the so called “list 1” countries**
- 3) Provisionally harmonized countries**
- 4) Non-harmonized countries**

Of all “list 1” countries the EU has determined specific import conditions, including a published list of recognized establishments and a health certificate for each country. If issues regarding to packaging and labelling and the inspection requirements are met, then exports can take place without any problem. Fourteen sub-Saharan African countries are under Commission decision 2001/635/EC listed in this list up to June 2002: Ivory Coast, Gambia, Ghana, Guinea Conakry, Madagascar, Mauritania, Mauritius, Namibia, Nigeria, Senegal, Seychelles, Uganda, South Africa and Tanzania.

The provisionally harmonized countries have been listed under directive 95/408/EC “on the conditions for drawing up, for an interim period, provisional lists of third country establishments from which member states are authorized to import certain products of animal origin, fishery products or live bivalve molluscs”. Although the decision was intended to apply only till the end of December 1996, it is still into force. Commission Decision 2001/635/EC amended the earlier decision and the lists of countries. The countries listed here await their definitive harmonization. As most import conditions (e.g. in relation to packaging and control) are more or less identical to those for the completely harmonized countries, the main difference is that not all EU member states accept products from these countries (Eastfish, 1998). Moreover, no list of EU recognized establishments has been made officially yet for these countries. Sub-Saharan African countries which are mentioned in this list

(updated till June 2002) are the following ten countries: Angola, Benin, Cameroon, Republic of Congo, Eritrea, Gabon, Kenya, Mozambique, Togo and Zimbabwe.

Non-harmonized countries are not allowed to export fishery and aquaculture products to the EU. A large number of sub-Saharan African countries are not harmonized, e.g. Ethiopia, Malawi, Zambia, Central African Republic, Rwanda, Burundi, Congo Brazzaville, Somalia, Niger, Mali, Chad, Sudan, Guinea Bissau, Sierra Leone, Liberia, Burkina Faso, Botswana, Lesotho, Swaziland and Djibouti.

In addition to the above health and product quality related EU directives, the EC also decided that a health certificate has to accompany all imports from fishery and aquaculture products from third countries under Decision 95/328/EC. Moreover, EU Directive 93/43/EC of June 1993 on the Hygiene for Foodstuffs, which became effective in January 1996, stipulated that: “foodstuff companies shall identify each aspect of their activities and ensure that suitable safety procedures are established, applied, maintained and revised on the basis of the HACCP system”. The consequences of the latter directive directly affect the investments to be made by fish and shrimp processors, packers, transporters, wholesalers, distributors and exporters. As far as exporters concern, this group does not need to have an approved HACCP system, but in most cases the importer in the EU will request HACCP system compliance as they will be held legally responsible for the imported products (CBI, 2001a).

## **II. GENERAL SYSTEM OF PREFERENCES**

Since 1971 the European Community has granted trade preferences to developing countries. The General System of Preferences (GSP) is used by the EU to create a stronger trade, based on unilateral concessions which are granted by individual industrialized countries (DIPO, 2001). EC Council Regulation 2501/2001 on a “scheme of generalized tariff preferences for the period from 1 January 2002 to 31 December 2004” follows a similar regulation (EC/2820/98) and “extends the duty-free access without any quantitative restrictions to products originating in the Least Developed Countries (LDCs)”, (classified so by the United Nations). With the exemption of three products (bananas, rice and sugar) which are included in a transition period, all goods (thus also fish and shrimp) are allowed duty-free import when exported by LDCs to the EU. For the remaining developing countries there are varying reductions in duty. Countries, including LDCs, can be excluded (temporary) from the advantages of the GSP on the basis of observed slavery or forced labour, violation of association, export of goods made by prison labour, fraud and unfair trading. Issues considered of importance, for which countries are given incentive arrangements under the GSP are the protection of labour rights, the protection of the environment and to combat drug production and trafficking.

In addition to the GSP the EU has signed several partnership and trade agreements. One of these, which is highly relevant for sub-Saharan African Countries is the agreement between the EU and the 77 African, Caribbean and Pacific (ACP) countries a partnership. This agreement (which was a follow up on the former Lomé Convention) was signed in June 2000, regulates the trade between the two groups of countries, and also deals with the political dimensions of their relations, their development cooperation strategies and their financial cooperation (DIPO, 2001).

The partnership agreement with the ACP countries, under which zero-tariff duty for fishery and aquaculture products is defined, will be valid till December 2007 after which it seems

unlikely that new tariffs will be imposed, in view of the trend of growing membership in the World Trade Organization (WTO). The WTO favours generally reductions in tariffs and related duties. It should however be noted here that zero-tariffs only apply to those fisheries and aquaculture products which originate 100 percent from the ACP countries.

With one of the ACP countries, South Africa, the EU has a separate agreement in which it is agreed that the level of import duties (in both directions) as existed in the year 2000 will be gradually reduced towards the year 2010. Exact and up to date information on import duties (in view of special considerations and exemptions to the rules) is available from national chambers of commerce, the EC, customs departments and trade promotions offices in each of the member countries of the EU.

### III. PRODUCT QUOTA

Although there are no import quotas for fishery or aquaculture products, there exist certain tariff contingents which are applicable during (part of) the year. Contingents define volumes of fishery products, which may be imported for a special tariff if the customs value at least equals the reference price. At the moment the total EU imports of the product exceed the contingent, the general tariff applies again (CBI, 2001b). Contingents are laid down by the EU each year. As far as the three products discussed here in the report concern, tariffs are not applicable to *Penaeus spp.* shrimp and neither to catfish or tilapia.

Moreover, the reference price system as used by EU as a form of market protection for products as herring, sardines, anchovies, cod, hake, cuttlefish, squid, tuna, and shrimp of *Crangon spp.* has so far not been extended to aquaculture products, and there is no indication that this might happen in the near future. The latest information can be found on the internet at <http://europa.eu.int/eur-lex/en/search.html>.

### IV. PRODUCT AND PRODUCTION INFORMATION

EC Regulation 2065/2001 laying down the detailed rules for the application of Council Regulation 104/2000/EC “with regard to informing consumers about fishery and aquaculture products” specifies that products may be offered for retail only on the condition that a number of requirements regarding consumer information are met. Information on the origin (marine or freshwater, aquaculture or caught) of production should be made available by means of the labelling or packaging of the product, as well as its commercial designation and the scientific name. The EC considers it important that the scope of information to be passed on to the consumer throughout the marketing chain should be specific and that member states should establish arrangements for checking the traceability of the products covered by the above regulation.

In this respect the earlier EU regulation, 96/2406/EC on the common marketing standards for certain fishery products laid down that products as e.g. cod, hake, certain crustaceans and cephalopods imported from third countries may be marketed in the EU only if they are presented in packages on which the following information is clearly and legibly marked:

- Country of origin (printed in roman letters at least 20 mm high).
- Scientific name of product and its trade name.
- Presentation (the state of the offered fishery products, stripped of head/bones or not).
- Freshness and size classes.
- Net weight in kilograms of products in the package.

- Date of grading and date of dispatch (i.e date of sending).
- Name and address of consignor/shipper.

Although EU regulation 96/2406/EC does not specify shrimp, catfish and tilapia it is advisable to follow the above labelling requirements also for these species. In view of the increasing requests for information from retailers and consumers the following information could also be added on the packages:

- Conservation method (e.g. IQF/single frozen).
- Count size (number per kg).
- Ingredients (e.g. shrimp, salt, water).
- Kind of preparation (cooked, peeled, glazed).
- Packing date and expiry date (e.g. best before ....., when kept at  $-18^{\circ}\text{C}$ ).
- Warning (after defrosting do not freeze again).
- Name and contact details of producer, exporter and importer.

Special Eco-labels for environmentally sound fisheries and aquaculture products addressing the demand of certain consumer groups are not (yet) part of any EU regulation. However, recent experiences with dolphin-safe tuna (e.g. Flipper seal) and in sustainable fisheries management (Marine Stewardship Council logo) have shown that there is a market for Eco-labelled products.

In addition to the fact that consumers increasingly demand environmentally-friendly products and services it is becoming important for companies and organizations to demonstrate that not only their products are produced in a sustainable manner, but also that their investment strategies and day-to-day operations are sustainable. Two voluntary systems of standards have been developed and are currently used to cover this issue: ISO 14001 and the EU Eco-Management and Audit Scheme (EMAS). Both are tools for companies and other organizations to evaluate report and improve their environmental performance. ISO 14001 is integrated in the EU EMAS as its environmental management system. An attractive logo allows companies, which are EMAS accredited, to show their environmental awareness. Since September 2001 the EC adopted Decision 2001/2591 whereby the EC politically engages in a process of applying the EMAS regulation into its activities. The EMAS scheme is still relatively bureaucratic, but it might provide companies in the fisheries and aquaculture sectors with new business opportunities in markets where green production processes are important, increase their credibility and learn from good examples of other companies and organizations.

## **V. PACKAGING GUIDELINES**

As packaging is used to present the product as well as protect it from possible damage and maintain its quality it is a very important issue for shrimp and fish producers and all involved in the marketing chain of these products. Although at present a large amount of the fishery and aquaculture products from developing countries, which are destined for the EU market, are re-packed and sometimes further processed or re-exported, there is a trend of more and more packaging for the catering and retail industry being carried out in the developing countries. Therefore it is important to know which packaging materials and techniques are allowed under various regulations and which ones are desired by the importers and retailers. The EU Directive 94/62/EC “on packaging and packaging waste” emphasizes that EU members states are supposed to reprocess between 50 and 65 percent of their packaging waste. There is an opportunity for those involved in the marketing of fishery and aquaculture products to use the right materials (e.g. non-toxic, minimize PVC use) which are, as far as

plastics concern listed in so-called list of positive plastics, which is annexed to Commission Directive 95/3/EC which amends Directive 90/128/EEC relating to plastic materials and articles intended to come into contact with foodstuffs. As for packaging, the CBI (2001a) provides the following list which might help to determine the right packaging material:

- Weight of product.
- Size of product.
- Number of products being packed in one carton.
- Health.
- Odour.
- Possibility of stack.
- Visual appeal.
- Handling comfort.
- Environmental issues.

## **VI. REQUIREMENTS FOR EXPORTING TO THE EU**

As far as export of fishery and aquaculture products concerns, in most sub-Saharan African countries these products cannot be exported without authorization of a ministry, which is in general the Ministry of Industry and Trade. In addition, the customs at point of exit demand a kind of “trading licence for fish” (e.g. Uganda) or “export certificate” (e.g. South Africa) and a health certificate. Most sub-Saharan African countries removed their system of export duties, taxes and subsidies over the last years. Often transport documents (e.g. airway bill, freight transit orders) are requested to be shown to the customs.

An internationally certified bureau of standards (e.g. in Tanzania) is often in charge of overseeing standards, testing, labelling, and certification of fishery products imports and exports and should be contacted for the necessary documentation/information and approvals.

Many national governments in sub-Saharan Africa request that exports are paid for in foreign currency and have established regulations for payment. These can be obtained at the national banks. Payment documents are therefore often requested.

In addition to the above documents a packing declaration and sometimes an import notification form is requested by the importing countries to obtain the necessary import permit/licence.

Inspections of consignments originating from third countries are carried out on all consignments, at the first point of entry into the EU territory and at approved border inspection posts. Import controls are done in three consecutive steps:

1. Documentary check: examination of the health certificate;
2. Identity check: visual inspection to confirm consistency between documents and products, verification for the presence of required sanitary marks (country of origin, approval number);
3. Physical check: check on the product itself (organoleptic control, packaging, temperature), it may include sampling and laboratory testing.

Each transport must be accompanied by a sanitary certificate following the model drawn up by EU Decision 2001/65/EC. An example of such a health certificate can be found on the internet at:<http://www.nmfs.noaa.gov/trade/EUCONTENTS.htm#Example%20Health>

A certificate may be issued for goods produced in different establishments, but can only be made to one consignee. A certificate may be issued for several containers of the same product considered to be a single lot. It must be noted that a certificate defines the lot; therefore a rejection may be decided for all goods covered by the same certificate, even if only a part of it presents a sanitary or documentary problem (Vrignaud, 2001).

The certificate must be issued in one of the official languages of the country of entry into the EU territory, and if necessary in the language of the country of destination. In practice, the veterinary office of the point of entry into the EU does the documentary check and issues an "Annex B" which has to be in the language of the country of destination.

Each import control (one certificate = one control) is subject to inspection fees. In the case of processed fish and shrimp, the European importer must have an "import licence" from the Customs Authorities before the import process can be started.

Products imported from "harmonized" countries are subject to the documentary, identity and physical checks at the approved border inspection post at the first point of entry into the EU territory. When such a consignment satisfies EU requirements, it is then considered as an EU product. That is to say that if a consignment is allowed to enter the market in one member state; it can be marketed in all the others without being subject to non-harmonized rules (Vrignaud, 2001). However, marketing of fish and fishery products is subject to EU Directive 91/493, those products remain in the so-called "non-harmonized products" category. This means that national rules can still be applied in addition to the EU legislation. The Eastfish (1998) "Guidelines for fish exporters: requirements for the European markets" provide relevant information on specific national markets in this respect.

Transport insurance is not required but advised for the products exported. As all above procedures related to the export and import, can be very time consuming, it is advised to use specialized forwarding agents or brokers to guarantee smooth forwarding of the goods to the final consignee. Once informed that goods have arrived, the forwarding agent takes delivery of the documents, contacts the veterinary and customs services for various clearances. They then organize the delivery of goods to the final consignee. Forwarding agents are also valuable sources of information on specific regulations regarding the entry of products into any given country (Tetty, 2001).

With reference to the duty-free import in the EU of fish and shrimp products originating from ACP countries, it is necessary to complete and present a Circulation of Goods Certificate "EUR 1". A copy of this certificate can be found on the internet at:

[http://secretariat.efta.int/efta/library/legal/fta/plo/20-Protocol\\_B-Annex\\_IIIb.PDF](http://secretariat.efta.int/efta/library/legal/fta/plo/20-Protocol_B-Annex_IIIb.PDF).

Although not required, it is useful to have a written contractual agreement, as these are taken very seriously by EU importers. Verbal/ Gentleman's Agreements are also used, but only once a good trade relationship has been established. The CBI (2001a) distinguishes the following details which should be mentioned in such a contract:

1. The contract parties: seller, buyer, broker and/or export agent/import agent. All names and addresses should be correctly spelled.
2. The product form, price and quality of the product must be specified in sufficient detail, so that no misunderstanding can arise.



3. The quantities must of course be mentioned. If the buyer and the seller permit more or less than the agreed quantity, this is to be mentioned specifically.
4. The delivery terms must be stated according to the description of the Incoterms 2000 of the International Chamber of Commerce, which can be found at the internet: <http://www.i-b-t.net/incoterms.html> and include definitions of terms as FOB, CIF, CIP, FAS and CFR.
5. The payment terms and delivery time must be spelled out in detail. Payment methods commonly used are Letter of Credit, Documents against Payment, Clean Payments, Bank Guarantees, Cheques and Payments on Consignment basis.
6. Packaging details, including weight measurements and labelling instructions.
7. Special conditions, if any.
8. What will be done if the two parties disagree with each other? To which arbitration court will they turn?

### **REFERENCES:**

- CBI, 2001a. *EU strategic marketing guide 2001 Fishery products*. Centre for the Promotion of Imports from Developing Countries (CBI), Rotterdam, the Netherlands.
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- DIPO, 2001. *Exporting to Denmark: a guide for exporters from developing countries*. The Danish Import Promotion Office for Products from Developing Countries, Copenhagen, Denmark.
- EASTFISH, 1998. *Guidelines for fish exporters: requirements for the European Union market*. FAO Eastfish Fishery Industry Vol. 20, Copenhagen, Denmark.
- Tettey, E. 2001. *Markets and trade mechanisms for farmed tilapia, catfish and shrimp in Sub-Saharan Africa*, FAO, Rome (not published).
- Vrignaud, S. 2001. *How to export seafood to the European Union*. United States mission to the EU, Brussels, Belgium.

## Fish marketing information sources

### MAGAZINES/NEWSLETTERS

Title	Issues covered	Frequency	Language	Contact details
Fish Farming International	Marketing shrimp news new products country profiles exhibitions	Monthly	English	Agra Europe (London) Ltd 80 Calverley Road, Tunbridge Wells, Kent TN1 2UN. United Kingdom Tel: +44 (0)1892 533813. Fax: +44 (0) 1892 544895. E-mail: <a href="mailto:marketing@agra-net.com">marketing@agra-net.com</a> Internet: <a href="http://www.agra-net.com">www.agra-net.com</a>
World Fish Report	Policy and trade. legislative issues CFP consumption prices	Two-weekly	English	Idem.
Seafood International	Processing and packaging prices, supply, species companies new products	Quarterly	English	Idem.
Globefish - Highlights	Market analysis prices market news supply outlook commodity outlook	Quarterly	English French Spanish	FAO Globefish Fish Utilization and Marketing Service Fishery Industries Division Viale delle Terme di Caracalla 00100, Rome, Italy Tel: +39 -06 5705 6313 Fax: +39 -06 5705 5188 E-mail: <a href="mailto:globefish@fao.org">globefish@fao.org</a> Internet: <a href="http://www.globefish.org">www.globefish.org</a>
European Fish Price Report	Prices of main fish products traded in Europe	Monthly	English	Idem.
Infopêche Trade News	Prices of main fish products traded from sub Saharan Africa	Two-weekly	French English	INFOPÊCHE TOUR C 19eme Etage, Cité Administrative P.O. Box 1747 Abidjan 01, Ivory Coast Tel: (225) 22 89 80 Fax: (225) 21 80 54 E-mail: <a href="mailto:tall@africaonline.co.ci">tall@africaonline.co.ci</a>

<b>Title</b>	<b>Issues covered</b>	<b>Frequency</b>	<b>Language</b>	<b>Contact details</b>
Infofish Trade News	Prices of main fish products traded from Asia	Two-weekly	English	InfoFish 1 <sup>st</sup> floor Wisma PKNS, Jalan Raja Laut, 50350 Kuala Lumpur, Malaysia Tel: +60 -3 2914466 Fax: +60 -3 2916804 E-mail: <a href="mailto:infofish@po.jaring.my">infofish@po.jaring.my</a> Internet: <a href="http://www.infofish.org">www.infofish.org</a>
Seafood Business	New products processing consumption retail	Bi-monthly	English	Diversified Business Communications P.O. Box 7437, Portland, ME 04112 Tel: (207) 842-5508 Fax: (207) 842-5509 E-mail: <a href="mailto:food@divcom.com">food@divcom.com</a> <a href="http://www.divbusiness.com">www.divbusiness.com</a>

**Other useful publications which are frequently updated**

Globefish – Directory of Fish Importers, Exporters and Producers: Europe	Annually	English	FAO Globefish Fish Utilization and Marketing Service Fishery Industries Division Viale delle Terme di Caracalla 00100, Rome, Italy Tel: +39 -06 5705 6313 Fax: +39 -06 5705 5188 E-mail: <a href="mailto:globefish@fao.org">globefish@fao.org</a> Internet: <a href="http://www.globefish.org">www.globefish.org</a>
Infopeche Exporters Register	Annually	French English	INFOPECHE TOUR C 19eme Etage, Cité Administrative P.O. Box 1747 Abidjan 01, Ivory Coast Tel: (225) 22 89 80 Fax: (225) 21 80 54 E-mail: <a href="mailto:tall@africaonline.co.ci">tall@africaonline.co.ci</a>
Globefish Commodity Update - Shrimp - Freshwater Fish and others	Bi-annually	English	FAO Globefish Fish Utilization and Marketing Service Fishery Industries Division Viale delle Terme di Caracalla 00100, Rome, Italy Tel: +39 -06 5705 6313 Fax: +39 -06 5705 5188 E-mail: <a href="mailto:globefish@fao.org">globefish@fao.org</a> Internet: <a href="http://www.globefish.org">www.globefish.org</a>

Infofish -Directory of Fish importers -Directory of Fish exporters	Quarterly	English	InfoFish 1 <sup>st</sup> floor Wisma PKNS, Jalan Raja Laut, 50350 Kuala Lumpur, Malaysia Tel: +60 -3 2914466 Fax: +60 -3 2916804 E-mail: <a href="mailto:infish@po.jaring.my">infish@po.jaring.my</a> Internet: <a href="http://www.infofish.org">www.infofish.org</a>
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### Internet/websites

Address	Topics
<a href="http://www.globefish.org">www.globefish.org</a>	fish price reports, marketing reports, research reports, links
<a href="http://www.pefa.com">www.pefa.com</a>	daily market prices at several auctions
<a href="http://www.fis.com">www.fis.com</a>	market prices, reports, trade information, companies, technology, links
<a href="http://www.infofish.org">www.infofish.org</a>	fish inspector reports, prices, market reports, conferences and exhibitions
<a href="http://www.nmfs.noaa.gov/">www.nmfs.noaa.gov/</a>	trade, consumption, export, import, aquaculture
<a href="http://www.intrafish.com">www.intrafish.com</a>	market prices, industry reports, aquaculture news, codes of practice
<a href="http://www.fao.org/fi/default.asp">www.fao.org/fi/default.asp</a>	code of conduct, statistics, production info, reports, links
<a href="http://www.snm.agriculture.gouv.fr">www.snm.agriculture.gouv.fr</a>	market prices in France
<a href="http://www.feap.org">www.feap.org</a>	code of conduct, quality issues, marketing, role of associations
<a href="http://www.onefish.org">www.onefish.org</a>	markets, trade, aquaculture, handling, legislation, safety, quality, fisheries, projects, news, technologies, links