



Sustainable Fisheries Livelihoods Programme

CONTRIBUTION OF FISH TRADE TO DEVELOPMENT, LIVELIHOODS AND FOOD SECURITY IN WEST AFRICA: KEY ISSUES FOR FUTURE POLICY DEBATE

by

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1. Introduction and aim

Fish is the most valuable agricultural commodity traded internationally with annual sales of nearly US\$80 billion and increasing each year (FAO FishStat, 2006). For Developing Countries in regions such as West Africa, fish exports to markets in Developed Countries, especially in Europe, are a major source of foreign exchange revenue, and help to underpin the domestic fisheries in terms of earnings and employment.

However, despite the range of benefits for development which are generated by the fish trade, including contributing to economic growth, there are also concerns about the possible negative impacts which might be involved. For example, it has been suggested that an expanding fish trade aggravates the overexploitation of vulnerable fish stocks under conditions of weak governance and that local trade routes supplying local markets may be disrupted as fish supplies are diverted for exports.

It is clear from the international literature that there are a wide range of policy issues which relate to the relationship between trade and sustainable development. There is also a well-established theoretical understanding of the inter-relationships between such major topics as economic growth and trade, which has been informed by a long-established body of empirical work in other sectors.

It is also clear that the analysis involved has usually occurred at the 'macro level' of the national economy and there is some concern that the impacts of trade which occur at the 'micro-level' – with particular reference to impacts on livelihoods, poverty and food security – may not be adequately identified or understood by policy makers (DFID, 2004). This type of knowledge is essential, for example, in designing and implementing pro-poor trade policies where it is essential to understand the impact of trade on specific groups (the poor) and not to restrict the analysis to the national aggregate.

In the following working paper, therefore, the specific relationship between the fish trade in West Africa and its impact on economic development, livelihoods and food security will be examined. The main objective is to outline the current understanding of key issues relevant to present and future policy in this area, and to identify any knowledge gaps and priorities for further work. Three main areas will be explored as follows:

- What is the general understanding of the relationship between trade and sustainable development, and between trade and food security and livelihoods, how well are gender issues taken into account ?
- What are the current patterns of fish trade in West Africa and what is the impact on livelihoods and food security?
- What are the key issues for the future development of fish trade policy?

2. Trade and sustainable development, livelihoods and food security

Before attempting to provide an overview of the contribution and impact of the fish trade to development, livelihoods and food security in West Africa, it is useful to consider the general understanding of the relationship between these elements (based on the literature). As a starting point a series of definitions are provided in Box 1.

In simple terms, 'development' in general (i – v) is concerned with bringing about change in society and with increasing people's welfare. This depends on establishing new economic and social mechanisms for increasing the stocks of capital per head, leading to a reduction or elimination of poverty (sustainable livelihoods (x)).

Economic development, which is a part of this change process, is underpinned by economic growth (v-vi), which signifies an increase in wealth or income of the nation, expressed as an increase in real Gross Domestic Product (GDP).

Trade (vii), and in particular, international trade represents a significant part of GDP for most countries. While international trade has been present throughout history (e.g. Silk Road, Amber Road), its economic, social and political importance have increased in recent times, because of factors such as industrialisation, advanced transportation and multinational corporations. The 'globalisation' of trade (vii) raises heated debate about its operation and impact. For example, so-called trade barriers (governmental quotas, restrictions and tariffs, and also subsidies) regulate the patterns of trade, and there is widespread concern about the degree of access which commodities from Developing Countries have to the markets of Developed Countries (protectionism).

However, the empirical evidence for the contribution of trade to economic growth and development is strong. For example, countries such as South Korea which adopted a policy of export-oriented industrialisation, have performed better (economic criteria) over the past fifty years, compared to countries such as India, which had a more closed policy. The role of effective state institutions in the 'Asian Tiger' economies was also critical.

In general, therefore, international trade can contribute significantly to economic growth and sustainable development. This will be accompanied by a reduction of poverty and the establishment of more sustainable livelihoods. A reduction in poverty will also mean an increase in food security (ix).

However, the question has to be asked: 'are all types of international trade beneficial for development?' In the specific case of food products, such as fish, which often make up an important part of the livelihoods and diet of poor people in developing countries, is there a risk of increasing their vulnerability to poverty and food insecurity through promoting fish exports? How are female actors in the post harvest sector affected by export promotion, and what impact does this have on the households and the communities? In the next section, the available evidence for the contribution of international fish trade to development in West Africa will be examined, and where possible both the positive and negative impacts on development, poverty and food security will be examined.

Box 1: Key Definitions

- (i) **Development** is the upward movement of the entire social system.
- (ii) The condition of being “**developed**” consists of having accumulated, and having established efficient social and economic mechanisms for maintaining and increasing large stocks of capital per head in various forms, Similarly the condition of being “underdeveloped” is characterised by the possession of relatively small stocks of the various forms of capital, including social and human capital.
- (iii) **Poverty** is a condition characterised by severe deprivation of basic human needs, including safe drinking water, sanitation facilities, health, shelter, education and information’ (Copenhagen Declaration)
- (iv) **Sustainable development** is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance current and future potential to meet human needs and aspirations.
- (v) **Economic development** is the process whereby the real per capita income of a country increases over a long period of time – subject to the stipulations that the number of people below an absolute poverty line does not increase, and the distribution of income does not become more unequal.
- (vi) **Economic growth** is the increase in value of goods and services produced by an economy; the increase in the wealth or the income of a nation or entity, measured as the percentage rate of increase in real gross domestic product (GDP).
- (vii) **Trade** is the voluntary exchange of goods and services, or both. International trade occurs across borders and represents a significant part of GDP for most countries.
- (viii) **Globalisation** of trade refers to the increase in trade and investment due to the falling of barriers (free trade or liberalisation) and the interdependence of countries.
- (xi) **Food security** is a situation in which people have continuity of food supply, or the methods by which this aim is achieved. Around 828 million people are chronically hungry while 2 billion people lack food security because of poverty (FAO, 1999)
- (x) A **livelihood** comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base.
- For general information on development issues see: Lynn, S.R. (2003), Meier, G. and Rauch, J.E. (2000), Thirlwall (2006).

3. The fish trade in West Africa

Introduction

In the following section, an overview of the fish trade in West Africa (25 Sub-Saharan countries in Western Africa from Mauritania to Angola) will be presented using three approaches. First, some basic national statistics and a description of recent trends will be given. Second, a brief overview of fisheries in relation to national economic development and poverty alleviation policy will be provided, including any information on impact assessments. Third, a series of five national case-studies, each illustrating a particular issue pertinent to the relationship between fish trade and sustainable development (including livelihoods, poverty reduction and food security) will be examined.

Regional and national statistics and trends on fish trade

For this overview of the fish trade in West Africa, information on both commodities and services (Box 3) will be given where possible.

First, for the **fish commodity trade** (Box 2 below), the main findings are as follows:

The total annual exports of fish by volume from West Africa are 294,395 tonnes, valued at US \$ 716 million (2003).

The total annual imports of fish by volume (tonnes) into West Africa are 1,344,115 tonnes valued at US \$934,132 (2003).

Therefore, there is a regional deficit overall in terms of both volume (- 1,049,720 tonnes) and value (- US \$218,391) of fish traded (although some of this trade is regional).

The average volume of fish exported annually by West African countries is 11,776 tonnes, and the average value of annual exports is US \$29 million. However, the export trade is dominated by just 4 countries:

- Senegal (97 Kt/yr valued at US \$ 283 million)
- Ivory Coast (48 Kt/yr valued at US \$ 141 million)
- Ghana (64 Kt/yr valued at US \$119 million)
- Mauritania (44 Kt/yr valued at US \$103 million).

It is interesting to note that both Ivory Coast and Ghana also import large quantities of fish, whereas Senegal and Mauritania do not.

Second, for **trade in fishing services** (also termed the trade in fishing opportunities) including third country access agreements (Box 3), the main findings are as follows:

The main trade in services relates to fishing access agreements between certain West African countries and the European Union. There are other trading partners including China and Korea, but information is sparse in the literature.

The total value of the EU Third Country Fishing Agreements with West Africa currently in operation (2001-2008) is Euro120 million per year to eight countries. Mauritania receives by far the largest share valued at Euro 86 million per year (or 72% of the total). A variable component of the financial contribution received is allocated to actions designed

to promote conservation of resources and sustainable development, termed 'targeted actions'.

The total value of the EU Third Country Fishing Agreements with West Africa amounted to Euro 301 million between 1993-1997. An additional sum equivalent to Euro 452 million was paid to Morocco during this period (not included in West Africa for this analysis).

The average annual value (over 5 years, 1993-1997) of EU fishing agreements to the ten West African countries involved was Euro 6 million. The major beneficiaries were:

- Mauritania (Euro 29 million p.a.)
- Angola (Euro 11 million p.a.)
- Senegal (Euro 10 million p.a.)
- Guinea-Bissau (Euro 7 million p.a.)

By comparison, Morocco also received an average (equivalent) of Euro 90 million p.a. (1993-1997).

Overall, then, the trade in fishing services is more important for some countries than for others: – for Angola it is equivalent to over 50% of total annual fish exports (commodities and services), and for Mauritania it is equivalent to 28% of total fish exports, and for Senegal, it is less than 3% of total fish exports. This simple comparison illustrates the relative importance of the different types of fish trade – commodities and services – and also the potential benefits which trade in fishing services offer to some countries.

The above analysis is a static one. The wider and dynamic context is that the world fish trade is increasing each year – in 2004 total world exports of fish reached a record value of US\$71.5 billion, a 51% increase from 1994 (FAO, 2006). Many Developing Countries are increasingly net exporters of fish and this includes West Africa, with major markets in Developed Countries and especially Europe.

Policy context and impacts of the fish trade

The policy context of the fish trade in West Africa – national, regional and international – is described by the economic, social and development indicators shown in Boxes 4 and 5 (below).

The total population of West Africa (Sub-Saharan, 25 countries) is about 285 million people. The average GDP/capita is low, and in general the region is characterised by high levels of poverty. The countries rank low in terms of the HDI from 91 (Cape Verde) down to 161 (Niger). In other words, these countries are amongst some of the most under-developed in the world. On average 72% of the national populations

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Box 2: Fish Trade in West Africa: Commodities (2003)

Countries	Exports		Imports	
	Tons	'000 US \$	Tons	'000 US \$
Angola	6 938	8 972	11 931	20 342
Bénin	439	1 934	29 234	10 629
Burkina Faso	-	-	6 352	786
Cameroon	151	315	126 288	37 780
Cape Verde	49	359	607	885
Central African Republic	-	-	1 460	1 075
Chad	-	-	562	1 125
Congo, Dem. Rep of	9	433	64 241	38 708
Congo, Republic of	734	4 307	7 639	9 928
Côte d'Ivoire	48 260	140 902	274 822	201 711
Equatorial Guinea	20	108	4 460	9 078
Gabon	2 039	9 827	3 914	7 521
Gambia	608	345	2 148	290
Ghana	64 299	118 952	135 958	81 114
Guinea	5 029	2 315	7 253	5 026
Guinea-Bissau	2 949	5 343	193	179
Liberia	83	178	2 624	2 207
Mali	1 011	443	1 312	1 799
Mauritania	43 509	103 432	14 606	6 051
Morocco				
Niger	4 932	2 360	486	230
Nigeria	2 914	17 733	625 235	485 277
Sao Tome and Principe	203	117	19	39
Senegal	97 841	282 866	336	680
Sierra Leone	5 038	11 463	2 142	3 755
Togo	7 340	3 037	20 293	7 917
Total	294 395	715 741	1 344 115	934 132

Source: FAO FishStat (2006).

Box 3: Fish Trade in West Africa

Services (1993-1997)			
Countries	Export Value: EU Third Country Fishing Agreements, 1993-1997		
	Total production (tonnes)	Total Value (Euros, 000)	Average Annual Value (000s Euro)
Angola	25,153	54,450	10,750
Bénin	-	-	-
Burkina Faso	-	-	-
Cameroon	-	-	-
Cape Verde	-	2,776	480
Central African Republic	-	-	-
Chad	-	-	-
Congo, Dem. Rep of	-	-	-
Congo, Republic of	-	-	-
Côte d'Ivoire	808	3,552	510
Equatorial Guinea	-	999	160
Gabon	-	-	-
Gambia	-	1,430	290
Ghana	-	-	-
Guinea	4,860	10,463	1,450
Guinea-Bissau	24,849	34,562	6,930
Liberia	-	-	-
Mali	-	-	-
Mauritania	229,433	142,898	28,560
Morocco	889,904	452,985	90,130
Niger	-	-	-
Nigeria	-	-	-
Sao Tome and Principe	-	3,588	720
Senegal	23,953	46,838	9,350
Sierra Leone	-	-	-
Togo	-	-	-
Total	1,198,960	452,985	90,130

Source: IFREMER/CEMARE/CEP (1999)

Fish trade in West Africa: Services (2005)		
Country	Financial contribution (Euro millions)	Targeted actions (% contribution)
Cape Verde	0.7	41
Cote d'Ivoire	1.1	100
Gabon	1.3	70
Guinea	3.4	41
Guinea Bissau	10.0	6.70
Mauritania	86.0	5
Sao Tome & Principe	0.6	40
Senegal	16.0	18.75
Total	120 million	n.a.

Source: EC (2006)

live on less than US \$1/day and under-nourishment is a widespread problem (on average 28% of the national populations are under-nourished).

With this context of generally weak economies and weak States, with limited abilities (it appears evident) to initiate and maintain the process of development, the fisheries sector is important for a number of reasons:

- fish exports contribute on average 27.8% to total agricultural exports for West African countries;
- fish also contributes on average over 30% of average daily protein consumption in West African countries;
- fisheries provide employment for about 2% of the economically active population in each country (highest is Cape Verde at 7.7%).

The question has to be asked whether this 'importance' of the fisheries sector is being translated into national policy for development? On the basis of a recent survey of national Poverty Reduction Strategies in Africa, Thorpe *et al.* (2005) undertook an evaluation of the extent to which fisheries has been mainstreamed into development and poverty reduction approaches. They reached the following conclusions:

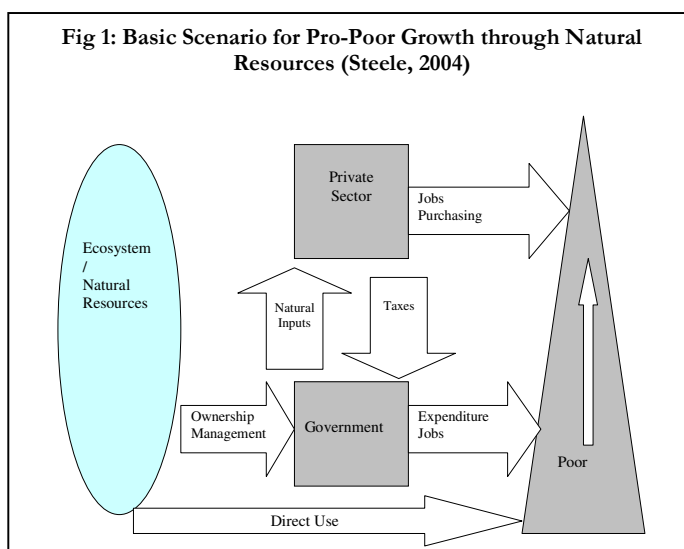
- although the fisheries sector is deemed to be highly significant in either trade/consumption and/or poverty employment terms in 12 countries, such significance only translates into effective sectoral mainstreaming in 3 of the accessed PRSPs (Ghana, Guinea and Senegal).

- there is larger group of nine countries – Cape Verde, Chad, Gambia, Madagascar, Mali, Mozambique, Sao Tome and Principe, Sierra Leone, and Tanzania

– for whom the sector is significant, yet this significance is not properly reflected in contemporary PRSPs.

- there is a smaller sub-set of three countries – Cameroon, Malawi and Mauritania – who have managed to effectively mainstream fisheries into the PRSP, despite the sector being relatively less/un important in trade/consumption and/or poverty/employment terms.

The potential contribution of any sector to development in a particular country is not always clear-cut and policy-makers must make difficult decisions based on the best available information in designing and implementing policy. Clearly, common pool resources (CPR) such as fisheries are important forms of renewable natural capital. With appropriate exploitation and management they can make an important contribution to economic growth and development. Fisheries can be exploited (and traded) as a source of direct economic benefits (e.g. activity-based benefits such as employment) and as a source of in-direct economic benefits (e.g. resource rent generated, extracted as taxes and re-invested in the economy) (Fig.1).



At present, fisheries policy in many countries tends to emphasise direct benefits, but in the context of weak or non-existent fisheries management systems, this has encouraged overexploitation, user conflict and a massive loss of potential benefits. In terms of pro-poor growth, fisheries can contribute to relevant goals through fishing activity (employment and livelihoods), but this 'conventional policy route' can also lead to negative impacts on the fishery and the economy. The alternative is to adopt a wealth-based management approach which puts resource rent at the heart of the process (Cunningham and Neiland, 2005).

The SFLP (2006) recognises the different contributions which fisheries can make to development – employment, GDP, fish trade, fish supply and taxes – but also recognises that in policy terms, when these are expressed as objectives, that the level of each cannot be maximised at the same time. The SFLP indicates that fisheries governance will have to make 'hard choices' or compromises. For example, a policy that seeks to grant access to fisheries resources to the maximum number of poor people as an occupational safety-net will not be compatible with an objective of maximising the present and future economic value of that resource. Also promoting exports of fish will likely limit its supply on domestic markets and influence negatively the employment of a number of actors in the post harvest sector. The SFLP (2006) also indicates that striking the right balance between these conflicting interests is thus the principal challenge in national policy formulation, and to achieve this, a rather experimental and participatory approach to national policy formulation is likely to be the most appropriate.

This theme of conflicting policy objectives was also examined by the FAO Expert Consultation on Fish Trade and Food Security (2003) which concluded that

Session 2. (2) fish must be considered not only as its commodity value (as a tradeable item) but also for its use value (as a food). Viewed in this manner, the right to fish as food is a part of the larger human right to food. This is not mere rhetoric, but an integral part of a set of international obligations affirmed by nation states. The principle of 'subsidiarity' is relevant here as it points to the priority of addressing food security issues primarily at the national or local levels. Consequently, global generalisations about food security should be given less prominence (p.2).

In looking at the contribution of fish trade to development, and with particular reference to the impact on food security, an FAO/MFO (Norway) project was initiated in 2003, underpinned by a series of 11 case-studies (with 2 in West Africa: Ghana and Senegal). The main findings (Kurien, 2004) were:

- that international trade in fishery products has had a positive effect on food security;
- that Developing Countries have benefited in terms of net receipts by up to US \$17 billion between 1980 and 2001;

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Box 4: West Africa: Economic, Social and Development Indicators

Countries	Indicators				
	Popn (1996) (millions)	GDP/ capita (US\$000)	HDI Rank	Under- nourish ment (%)	Below US\$1/day (% pop)
Angola	11.3	3.2	146	43	-
Bénin	5.5	0.9	147	15	-
Burkina Faso	10.7	1.0	159	30	86
Cameroon	13.6	1.6	125	32	-
Cape Verde	-	4.5	91	-	-
Central African Republic	3.4	1.2	154	42	84
Chad	6.9	0.9	155	46	-
Congo, Dem. Rep of	46.7	0.8	142	55	-
Congo, Republic of	2.6	0.7	126	34	-
Côte d'Ivoire	13.8	1.6 7	144	15	50
Equatorial Guinea	-	-	-	-	-
Gabon	1.1	6.0	109	8	-
Gambia	1.2	1.6	149	25	-
Ghana	18.2	1.9	119	11	-
Guinea	7.3	1.9	150	31	50
Guinea-Bissau	-	0.7	156	-	97
Liberia	2.2	-	-	-	-
Mali	10.2	0.8	153	29	91
Mauritania	2.4	1.6	139	13	22
Niger	9.5	0.8	161	39	85
Nigeria	101.4	0.9	136	8	91
Sao Tome and Principe	-	-	-	-	-
Senegal	8.6	1.4	145	17	68
Sierra Leone	4.3	0.5	162	43	75

Source: UNDP (2001) World Bank (2000)

Box 5: West Africa: Economic and social importance of fisheries

Countries	Indicators					
	Fish Exports as % Total Agriculture exports	Fish as % Average Daily Protein Consumption	Fisheries as % of Economically Active Population			
Angola	-	-	-			
Bénin	1.5	18.3	2.2			
Burkina Faso	0.1	5.0	0.2			
Cameroon	1.1	32.0	0.4			
Cape Verde	76.8	29.2	7.7			
Central African Republic	1.8	8.2	0.3			
Chad	-	15.0	8.3			
Congo, Dem. Rep of	1.4	43.6	0.5			
Congo, Republic of	-	-	-			
Côte d'Ivoire	6.3	37.4	0.3			
Equatorial Guinea	-	-	-			
Gabon	-	-	-			
Gambia	44	56.9	0.3			
Ghana	12.3	65.8	2.4			
Guinea	58.3	47.1	0.3			
Guinea-Bissau	5.0	11.0	0.5			
Liberia	-	-	-			
Mali	0.1	15.2	1.3			
Mauritania	68.5	9.8	0.7			
Niger	1.8	4.7	0.2			
Nigeria	-	-	-			
Sao Tome and Principe	66.1	46.5	5.1			
Senegal	60.4	44.8	1.3			
Sierra Leone	67.9	63.1	1.1			
Togo	-	-	-			
Mean	27.8	30.8	1.8			

Source: National PRSP Dataset

- increases in production coupled with the import/export of fishery products has ensured the continued availability of fish for domestic supply in Low Income Food Deficit Countries;
- international trade in fish products must be coupled with effective fisheries management; in fact unless this happens, experience has shown that increased trade also leads to over-fishing in the context of weak management systems or open access conditions;
- free and transparent trade and market policies should be place to ensure that the benefits from international trade are enjoyed by all segments of society;

- the study underscores the FAO's Code of Conduct for Responsible Fisheries recommendation that States consult with all stakeholders, industry as well as consumer and environmental groups, in the development of laws and regulations related to trade in fish and fishery products.

This recent study (above) is one of the first to look at the impact of the fish trade on development, focusing in particular on food security. In the next section of this paper, a series of 5 national case-studies are presented which focus specifically on West Africa. The linkages between fish trade and development are also examined on a broader front, looking at economic development, livelihoods and food security issues together – mainly because these issues are so intertwined and it would be pointless at this early stage of analysis to attempt to disentangle them.

Trade issues – national and regional case-studies

In this sub-section, a series of five case-studies will be presented to focus on key issues relevant to understanding the relationship between fish trade and development in West Africa, including livelihoods, poverty reduction and food security. The case-studies have been selected because they are based on empirical work, and provide coverage of a range of important issues including:

- policy decisions on the nature of national fish trade (Mauritania);
- coping with changing international trade rules (Ghana);
- the impact of government policy interventions (Senegal);
- trying to identify the winners and losers from trade (West Africa region);
- the role of informal (and undervalued) trade (Chad Basin region);

The first case-study (Box 6) emphasises the role of trade in translating the natural wealth of fish resources – in this case in Mauritanian waters – into development outcomes. The important policy question of whether to develop a national fishing industry based on the strong demand for fish, or whether to engage the services of foreign vessels through fishing agreements is of major importance in this country. Fishing agreements with the EU are a major form of trade in services, and coupled with commodity trading (fish products), the benefits for the country have been significant over the past few years. The case-study also raises the issue of whether a country with fish resources should necessarily develop a processing sector and national fish products (brands).

The second case-study (Box 7) explains the importance of the canned tuna industry to Ghana with both joint venture and national companies exporting mainly to Europe. The trade contributes significantly to Ghana's agricultural GDP and provides much needed employment for local workers. However, the case-study emphasises the particular conditions of international access and tariffs that has encouraged this trade, but that in the future there is a risk that the trade will be affected by serious competition from Asia as new WTO rules are applied. The immediate outcome is likely to be a reduction in trade and job losses in the industry. Policy-makers in Ghana will need to consider the options for the future, which almost certainly will involve looking for other markets, in order to avoid reducing the contribution of fish trade to national development.

The third case-study (Box 8) examines the fisheries sector in Senegal and identifies both the direct and indirect benefits which the associated fish trade generates for this country. The importance of the market in Europe is emphasised and the contribution to the national economy in terms of foreign exchange. However, despite the absence of in-depth studies and data, the general impression formed by the experts involved is that

the international fish trade has had a positive impact on development in Senegal and that food security in particular has not been compromised.

The fourth case-study (Box 9) focuses on the trade in small pelagics (sardinella) in West Africa and gives an account of the various artisanal and industrially-based trade routes both within the region and to Europe and Asia. While this fish type is important as a cheap form of food protein on local markets throughout West Africa, there are concerns that the future development of the Asian market will reduce local market supplies with serious implications for food supply and protein consumption, particularly by the poor. However, there is a need for further investigations of the wide range of factors affecting fish supply and food security in this context, before policy decisions regarding this trade are taken.

Finally, the fifth case-study (Box 10) highlights the importance of informal regional trade in the Lake Chad Basin with five riparian countries including the major fish markets of southern Nigeria. The trade in this region is currently valued at US \$50 million p.a. (first sale value) and is underpinned by a fish production of over 100,000 tonnes. The key issue is whether this informal trade, which is not part of formal government accounts or plans, makes a positive contribution to regional development. The answer, based on the empirical evidence, is mixed – almost certainly powerful rent-seeking merchants control most of the wealth, but there are also a wide range of local level benefits distributed as a result of participation by local people in the operation of the well-established marketing chains – including employment, income and food.

Box 6: Case-study No. 1: Mauritania – What kind of fish trade? (Cunningham, pers.comm)

The Mauritanian EEZ is extremely rich in fish resources. At present the most valuable of these are cephalopods and shrimp, although the stocks of small pelagic species are so large that these too can make a substantial contribution to wealth creation. The low population of Mauritania coupled with the relatively low per capita fish consumption means that trade is essential if the natural wealth provided by the fish resources is to be exploited fully. The question is: what kind of trade?

Mauritania fishers export fish products, generally but not always in a frozen form, to developed country markets, especially to Japan and to the EU. This trade has had a number of favourable impacts on Mauritania, most notably the contribution to hard currency reserves, the Government budget and to the development of the artisanal fishing sector (and the employment that it creates).

Since the mid-1990s, Mauritania has come to depend increasingly however on the trade in fishing opportunities, especially through its fishing agreement with the EU. The impact has been largely neutral on the Government budget: around 20% to 25% of the total budget still comes from the fisheries sector. But whereas in 1993 about 2/3 of this total was generated by the domestic fishing industry, mostly through export taxes, it is now generated almost entirely by the EU fishing agreement.

In addition to the question of who should catch the fish, a second important trade-related question is: what should be done with the catch? Like many countries, Mauritania currently aims to increase value-added from the landed catch. Two issues (at least) must be raised in this context. First, if an effective fishery management regime is not in place, increasing value added will almost certainly increase fishing effort and impact negatively on the fish stocks. Second, even if fisheries are well managed, a value-added strategy is difficult to implement in a situation where there is dependence on export markets. Little work, in the case of Mauritania or indeed in general, has been done concerning the question of what determines comparative advantage in such situations. It seems clear however that it goes beyond simple questions such as resource abundance towards difficult issues like brand recognition, niche marketing, familiarity with consumer taste development and so on.

Box 7. Case study 2: Ghana – Coping with international trade rules (Bennett, 2004)

Protected by zero-rated tariff barriers for its canned tuna, Ghana (like other West African ACP producers) has succeeded in developing successful and thriving canned tuna industries targeting the rapidly expanding markets in Europe. Yet, in mid 2003 Ghana lost a degree of its comparative advantage over Asian canned tuna producers when the EU, abiding by a WTO ruling, assigned Thailand, The Philippines and Indonesia a 25,000 tonnes import quota of reduced tariff canned tuna. Although the quota represented just 4.6% of tuna consumption in the EC in 2000 and 9% of total imports in 2001, interested parties argued that the consequences for ACP West African producers could be disastrous.

The Ghanaian fisheries sector contributes 3% to GDP, accounts for 5% of the agricultural GDP and 10% of the labour force. Tuna sales account for 14% of NTAX exports from Ghana and are the single largest contributor. Locally, the canneries in Tema provide considerable employment for a largely female workforce.

Intensive fishing for tuna began in 1959 with a fleet imported by the State Fishing Company. The fleet exploited off-shore waters between Angola and Mauritania on bilateral agreements, expanding rapidly in the early 1990s (on the back of increased EU consumption), peaking in about 1997 and again in 1999 but it has been on the decline ever since. There are 36 tuna vessels owned by 8 Ghanaian companies operating in Ghana. Stocks of tuna in Ghanaian waters are not considered to be overexploited and are thought to be the only significant species able to sustain large increases in production. 40% of the MSY of East Atlantic tuna stocks lies in Ghana's EEZ.

There are five tuna canneries in Ghana, all located in Tema and all working to capacity. The sector is dominated by PFC (majority owned by Heinz); a Swiss family owns 75% of the privatised state cannery whilst all other canneries are wholly Ghanaian owned. 90% of Ghanaian exports of canned tuna go to the EU and 54% of these to the UK (most of the balance going to Germany). The UK is also the prime EU destination for Asian canned tuna and thus Ghana is likely to be more affected by changes to EU import tariffs than other West African nations exporting to France and Spain. Exports to ECOWAS states account for around 8% of exports.

A number of factors constrain the competitiveness of the Ghanaian trade in canned tuna: labour and energy costs are high compared to its competitors; and shipping costs from West Africa to Europe are not competitive compared with shipping costs from Asia. Under the new tariff regime for Asian tuna, Ghanaian is more expensive per unit than that from its nearest market rivals (Senegal, Cote D'Ivoire) and its Asian competitors. Price competitiveness is also compounded by the EU Rules of origin which constrain Ghana's ability to purchase tuna at the best price.

In the face of the current tariff regime it is possible that Ghana's trade in canned tuna to the EU will be affected. It is possible that the only means of maintaining employment in the sector will be to sign an EU fishing agreement (Ghana has so far resisted this) and reduced production by Ghanaian canneries may see fishing companies selling to canneries in neighbouring Cote D'Ivoire instead.

Box 8: Case-study 3: Senegal – Assessing the impact of government fisheries and trade policies on food security (Murray and Faye, 2003)

Senegal has a population of 10.5 million people, a GDP of US \$16 billion and a real economic growth rate of 5.7%. However, 58% of people live below the poverty line, unemployment is high (48% working population), the population growth rate is 2.91% and the economy is heavily reliant on a few primary industries including fisheries. The fisheries sector has a turnover of CFA 293 billion and employs 15% of the workforce (600,000 people), mainly in the artisanal sector (non-industrial). The smaller industrial sector is centred around Dakar. Senegal has developed a major export trade in fish, mainly with markets in Europe. Factors involved in this include – the provision of government export subsidies, the series of Lome/Cotonou Agreements, and the 1994 currency devaluation. The fish trade contributes 23% of national export earnings (double the country's annual debt repayment) and is a major source of foreign exchange. At present, the fish commodity trade is dominated by demersal fish, cephalopods and shrimps, with only 15% of pelagic fish (sardines) exported.

Has the development of the international trade in fish commodities impacted on food security in Senegal? There have been no in-depth studies, however, a variety of observations and anecdotal evidence is available. Fish accounts for 70% of animal protein intake in Senegal, and the average annual consumption is 26 kg/year. Many exported fish types are no longer available on local markets and significant price increases have been noted. However, these changes were not found to be significantly different from price movements for other foods, and there are other sources of animal protein available. In general, Senegal is not a highly food insecure country. However, there are 4 groups of issues which need to be considered for the future: (i) there is a need for improved fisheries management (resources are increasingly overexploited); (ii) the role and operation of international fishing agreements for fishing opportunities in Senegalese waters needs to be reviewed (cost-benefit analysis); (iii) changes in WTO policies (more liberalisation) will reduce the competitiveness of Senegalese exports in Europe (negative effect on export trade, benefits for stocks); and (iv) increases in world fishmeal prices may divert sardines catches away from local markets to international ones.

Box 9: Case-study 4: West Africa: Assessing the impact of foreign market competition for locally-consumed fish on food security (Failler and Samb, 2005)

The small pelagic sardinella fisheries in West Africa are traded through three main routes: – first, a regional or sub-regional trade route with canoe fisheries landing fresh fish which is consumed or processed by the local population, and traded as food to national (130,000 tonnes/year to Senegal, Mauritania and Gambia) and other West African markets (120,000 tonnes/year) – second, an industrial fleet, mainly vessels under contract in Mauritania, which provides 20,000 tonnes/year for human consumption and fish meal reduction – third, a distant water fleet (European and ex-Russian) operating under fishing agreements which catches about 270,000 tonnes/year which goes for food use to markets in Eastern Europe (160,000 tonnes), West Africa, mainly Nigeria (75,000 tonnes), Asia (China, Philippines) (40,000 tonnes), Europe (5,000 tonnes) and for fish meal (20,000 tonnes).

Since 1999, new markets for African sardinellas have been developed in Asia, particularly China and the Philippines, driven not by higher prices, but by business risks and less administrative annoyances (ease of access) compared to markets in West Africa (especially Nigeria), where, in fact, prices have been consistently higher than that paid by Asian markets. However, for Nigeria and other West African markets which have few alternative sources of relatively cheap fish, the further development of the Asian market constitutes a high nutritional risk for African populations who depend on this fish supply. In particular, such new market opportunities could lead to the artisanal fisheries also exporting small pelagics – similar to the situation which occurred for demersal fish with the artisanal fishery supplying the export market rather than local markets.

Furthermore, it is predicted that demand for fish will exceed supply in West Africa (with an annual decrease in fish supply by 4% per year), leading to a supply deficit of 3.6 million tonnes in 2015. Market mechanisms will lead to an increase in fish price, and the poor will no longer be able to access fish supplies, leading to increased food security problems, both in terms of quantity and quality of food available. The situation is further complicated by the existence of a seasonal upwelling system which affects the natural production level of pelagic fish.

Box 10. Case-study 5: The Importance of Informal Regional Fish Trade in West Africa: Chad Basin (Neiland and Béné, 2004)

The linkages between economic development and trade and markets are the subject of increasingly sophisticated intellectual debate and analysis, with an emphasis on macro-economic issues and policy. But do the general economic assumptions which underpin this work apply equally as well in Africa and other developing regions. There appear to be some gaps – there is a lack of understanding of how markets work in Africa; important 'informal' economic activities have been undervalued and may contribute to GDP more than formal economic activities in some sectors; and the role of regional (within Africa) informal trade, as opposed to international trade, is probably also underestimated.

The regional and largely informal trade in dried fish within the Lake Chad Basin (LCB) countries (Cameroon, Central Africa Republic, Chad, Niger and Nigeria) was measured recently using a road traffic census over 12 months as part of the work of the DFID/FAO Sustainable Fisheries Livelihoods Programme (SFLP). The trade is based on an annual catch of over 100,000 tonnes of freshwater fish (mainly catfish and cichlids) and the gross market value (first sale) of the trade is US \$50 million. Most of the fish is traded by road to the urban markets of southern Nigeria (a distance of 1500 km) and is mainly informal since it is not recorded in official statistics or fiscal accounts.

But who benefits from this trade? For some countries, particularly Chad, the contribution of fisheries to GDP is recorded at up to 10% of the national total. However, in the light of the current findings, which indicate that the fisheries and fish trade are capable of generating significant wealth this could be much higher. It is also evident that the fish trade generates employment, income, contributes to food supply (both regional and national levels) and underpins the livelihoods of thousands of people in the five LCB countries. However, all these countries also show high levels of rural poverty (>40% total population) and there are concerns that the wealth of the fisheries and fish trade are retained by rich and powerful merchants, whereas the majority of fish-workers receive comparatively little benefit overall. However, the current study revealed that the distribution of benefits is complex, and that there are both winners and losers at all levels. There is a tradition of positive patron-client relationships in the rural society of the LCB, whereby the livelihoods of rural people which are vulnerable to poverty and food insecurity may be protected to some degree by the more powerful and wealthy merchants. But there is also evidence that these relationships have been eroded in other places as a consequence of modernisation and change, and the capture of benefit streams (fish trade) by elites. Within the LCB, the government authorities are either unwilling or unable to capitalise on the wealth being generated by the fisheries and fish trade, and most districts lack even the most basic social services and amenities.

4. Conclusions relevant to the future development of fish trade policy in West Africa

There are six main conclusions which emerge from this exploration of the relationship between the fish trade and development, including poverty, livelihoods and food security, in West Africa as follows:

- (i) There is a need for the further development of appropriate methodology for the analysis of the relationship between fish trade and development; much of the current analysis focuses on the macro-level (national economies), and there is a need to also work at the micro-level (livelihoods) to understand impacts of trade policy, in particular;
- (ii) There is a lack of empirical work on the analysis of the relationship between fish trade and development, particularly on gendered analysis of these relationships, and unless this is adequately addressed in the future, decision-makers and policy-makers will be limited in their work;
- (iii) There is a need also to provide a greater understanding of the dynamics of change in fish trade and its impacts (this could include - lesson-learning of past policy interventions; comparison of winners and losers; impact of rules governing international trade; role of international companies etc)
- (iv) The importance of identifying the factors that determine comparative advantage are not well-understood at present;
- (v) Policy coherence between trade and other policies relevant to development, including gender sensitiveness of the policies, is a crucial area for further investigation and development, with particular reference to ensuring that resource management policy is coherent with trade policy for outcomes relevant to sustainable development;
- (vi) The importance of informal national and regional trade should be recognised and assessed; the options for policy development in this area should be considered.

5. Next steps

This working paper will provide a platform to develop a policy brief 'Making the fish trade work for sustainable development and livelihoods in West Africa' (provisional title) as part of the SFLP 'New Directions in Fisheries: A series of policy briefs on development issues'.

The next step will be to consider how the material in the paper (which currently has a policy-research gaps focus) can be further developed to identify a series of policy recommendations for national governments in West Africa, and also donor and international organisations, in order to enhance the current contribution of the fish trade and to capitalize on future opportunities.

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