



MEGAPESCA Lda

PROJECT FISH / 2003 / 02

**FRAMEWORK CONTRACT FOR PERFORMING EVALUATIONS,
IMPACT ANALYSES AND MONITORING SERVICES IN THE CONTEXT
OF FISHERIES PARTNERSHIP AGREEMENTS CONCLUDED
BETWEEN THE COMMUNITY AND NON-MEMBER COASTAL STATES**

SPECIFIC AGREEMENT (07) : SÃO TOMÉ AND PRÍNCIPE

**Interim/ *Ex Post* Evaluation of the Current Protocol to the Fisheries
Agreement Between The European Community and the Republic of São
Tomé and Príncipe, and Analysis of the Impact of the Future Protocol on
Sustainability, Including *Ex Ante* Evaluation**

FINAL REPORT

AUGUST 2004

This report has been prepared with the financial support of the European Commission.

The views expressed in this study are those of the authors and do not necessarily reflect the views of the European Commission or of its services. This report does not seek to establish the Commission's future policy in this area. It merely acts as a guideline document for policy makers.

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ACRONYMS USED

ACP	African, Caribbean, and Pacific
AfDB	African Development Bank
AU	African Union
CEMAC	Central African Economic and Monetary Community
CFP	Common Fisheries Policy
DP	Directorate of Fisheries
EC	European Commission
ECA	Economic Commission for Africa
ECCAS	Economic Community of Central African States
EEZ	Exclusive Economic Zone
EIU	Economist Intelligence Unit
EU	European Union
FA	Fisheries Agreement
FAO	Food and Agriculture Organisation
FL	Fisheries Law
FPA	Fisheries Partnership Agreement
GEF	Global Environmental Facility
GoSTP	Government of São Tomé and Príncipe
GRT	Gross Registered Tonnes
GVA	Gross Value Added
HRD	Human Resource Development
ICCAT	International Commission for the Conservation of Atlantic Tunas
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IMO	International Maritime Organisation
IUU	Illegal, Unregulated, Unrecorded.
LOSC	Law of the Sea Convention
MCS	Monitoring, Control and Surveillance
MAODRP	Ministry of Agriculture Rural Development and Fisheries
MS	Member State (of the EU)
MSY	Maximum Sustainable Yield
NAFO	Northwest Atlantic Fisheries Organisation
NGO	Non-Governmental Organisation
OGE	General State Budget
SWOT	Strengths, Weaknesses, Opportunities and Threats
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
VMS	Vessel Monitoring System
WHO	World Health Organization
VA	Value Added

GLOSSARY OF TERMS USED

Ex-ante evaluation: a forward analysis of the impacts of the proposed fisheries partnership agreement, with an assessment of the expected net benefits to stakeholders in terms of performance against a set of agreed indicators. Will also identify conditions, external risks and assumptions which apply to the evaluation, and identify the technical and institutional basis for the monitoring indicators, all of which may affect the subsequent nature, substance and content of the subsequent FPA.

Mid-term evaluation: provides an interim review during the course of the FPA, to test the continuing validity of assumptions, and the adherence of the stakeholders to the FPA conditions. This review also checks to ensure that monitoring indicators are being prepared, and that their values fall within target ranges. Causality of any deviations is investigated and any required corrective actions are proposed.

Ex-post evaluation: provides an historical assessment of the impacts of the FPA after its termination, including as far as possible an indication of residual impacts not yet realised. It also assesses the extent to which specific and general objectives of the CFP have been achieved by the FPA, thus providing feed-back for development of wider policy. Since many FPAs are replaced by new agreements, there can also be a legitimate interest in formative issues at the ex-post stage providing feed-back for the design of future agreements.

EXCHANGE RATES USED IN THIS REPORT

Year	2000	2001	2002	2003	2004
Currency	Average Annual Exchange Rate				
STP Dobra	10,000	10,000	10,000	10,000	10,000
EURO	1,3099	1,2537	1,1743	1,0089	0,9372
USD	1,2141	1,1236	1,0956	1,1263	1,1488

SOURCE : *InforEuro* <http://europa.eu.int/comm/budget/inforeuro/index.cfm>

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EXECUTIVE SUMMARY

1. This report sets out the findings of a mission to the **Republic of São Tomé and Príncipe** to carry out an interim/ex-post evaluation of the current fisheries agreement between the European Community and the Republic of São Tomé and Príncipe, and a forward analysis of a future protocol, including ex-ante evaluation of potential renewal scenarios. The study was commissioned by the Directorate General of Fisheries of the European Commission under a framework contract “for performing evaluations, impact analyses and monitoring services in the context of fisheries partnership agreements concluded between the Community and non-member coastal states” operated by a consortium comprising Oceanic Développement (France), Poseidon Aquatic Resource Management (UK) and Megapesca Lda (Portugal).
2. The consultants visited São Tomé and Príncipe between 7th and 19th June 2004. The study team consisted of an Evaluation Specialist (Team Leader), an Economist and a Fisheries specialist. The mission comprised a review of documentation associated with the protocol and activities conducted under it, and meetings with key stakeholders, including representatives of the Government of São Tomé and Príncipe and its fishery sector. Additional desk-based support was also provided by an Environmental/Fisheries Biologist and a Fisheries Legal Specialist.
3. São Tomé and Príncipe is an island state in the Gulf of Guinea. Its small size, isolation, lack of natural resources, and weak governmental institutions constitute significant constraints to **economic development**. The structure of GDP is dominated by agriculture and development assistance, with fisheries accounting for just 3.6%. An estimated 15% of the active population depends on fisheries for their livelihood. Although São Tomé and Príncipe ranks as a least developed country and currently qualifies for debt relief as a highly indebted developing country, oil exploration contracts have recently been signed. Future oil revenues, to be shared with Nigeria under the terms of a Joint Development Zone Treaty, are expected to be significant and have a major economic impact.
4. São Tomé and Príncipe struggles to provide a favourable climate for **private sector investment and development**. Debt relief and a programme of public sector and policy reform supported by the IMF are bringing a degree of economic stability. Although the investment code treats national and foreign investors equally, in practice there are significant impediments to investment including high cost of imported inputs, bureaucratic procedures, corruption, and lack of physical and commercial infrastructure. The poverty reduction strategy focuses on private sector agricultural diversification directed at regional and international export markets, but implementation is impaired by poor infrastructure (port facilities, water supply, sanitation and roads) and lack of compliance with sanitary and phytosanitary measures. The fisheries sector in particular suffers from lack of access to the EU market due to non-compliance with EU sanitary directives.
5. **Fisheries administration**, management and development institutionally fall within the Ministry of Agriculture, Rural Development and Fisheries and its Fisheries Directorate (DP). **Fisheries policy** is only weakly defined and stagnant. Policy development capacity and consultative mechanisms are non-existent. Implementation capacity in terms of fisheries information and research, national fisheries development, fisheries management, monitoring control and surveillance and hygiene inspection are weak to the point of irrelevance. The operation of a flag of convenience vessel register, and participation of STP vessels in IUU fishing undermines responsible fishing, and creates an additional barrier to compliance with sanitary requirements.
6. The **legal framework** for the sector comprises adequate and modern Fisheries Law (2001), but this is inadequately regulated. A draft regulation currently subject to Ministerial approval, leaves unregulated the definition of industrial and artisanal fisheries, operating rules of the vessel registry, fishing licenses, and the operation of development funds. Fisheries MCS procedures and penalties are also not defined adequately. The lack of adequate fisheries regulation represents a serious constraint to sectoral development.
7. The main **national fisheries stakeholders** are: subsistence fishers in remote communities; small scale artisanal fishers, linked to a commercial network operated by 6000 women fish vendors (*palayés*). There is some artisanal fish smoking, drying and salting. A regional shrimp trawl fleet, operating in Cameroun, Equatorial Guinea and Gabon recruits STP crew and frequently tranships in São Tomé. There are no

national industrial fisheries or fish processing industry. The weakness of the national market is leading to decapitalisation of the fishery.

8. The volcanic nature of the region and narrow continental shelf defines the limit of the small scale fisheries. The **national fishery** focuses on coastal resources, producing about 4000 tonnes per year. These includes small pelagic fish (>40%), large pelagic fish (26%), and demersal resources (12%). There is a small fishery for deepwater crab. Annual fish consumption is just under 30kg/capita, and fish makes a vital contribution to the national diet (74% of consumption of animal products).
9. In addition to the national fleet, **foreign industrial fleets** fishing in São Tomé and Príncipe include those of the EC, plus (in 2004) 13 surface longline vessels, allegedly of Taiwanese (9 vessels), Japanese (2) and Portuguese (2) nationality, all operating under private licenses. Information on the license fee payments and identity of these vessels was withheld by the STP authorities. In addition a reciprocal fisheries agreement between São Tomé and Príncipe/Angola provides fishing opportunities for up to 6 Angolan tuna fishing vessels, but they are thought not to be utilised. A recent renewal of this agreement was rejected by the Sãotomean Parliament.
10. The principal **fisheries resources** of interest to industrial fisheries are large pelagic fishes (yellowfin, and skipjack tunas, swordfish and sharks). Exploitation of the deep sea crab resource may also be viable. According to ICCAT, the tuna stocks targeted by the EU purse seine fleet are fully exploited. For yellowfin and skipjack tunas the recommendations are for no increase in effort. With respect to swordfish, the southern stock status is not well understood due to lack of consistent data, but concerns over the increase in exploitation, and efficiency improvements have led ICCAT to recommend no increase in effort above current levels. There is a lack of reliable data on which to base a definitive stock assessment in relation to the main commercial **shark species**, but there is evidence of a significant decline in the abundance of blue shark and mako sharks. No data is available on the deep sea crab stocks. Although evidence is scant, small pelagic stocks are considered to be only lightly exploited in this region, especially so the sardinellas which could comprise a bait fishery for pole and line tuna vessels.
11. The **current protocol**, which is the 7th under the Fisheries Agreement between the EU and STP, provides fishing opportunities for 36 EU purse seiners, 25 surface longliners, 2 pole and line vessels (all nominally targeting tuna) and up to 3 vessels fishing experimentally for crab. Pole and line and experimental crab fishing opportunities have not been taken up at all. The number of tuna seiner licenses drawn has averaged 27 per annum, of which an average of 14.5 have been utilised. The number of surface longline licenses drawn has increased from 11 to 12 under the last Protocol to 16 to 17 under the current, mainly due to the entry of 5 Portuguese vessels. The reference catch for tuna is set at 8500 tonnes per year (above which level additional compensation would be payable by the EU).
12. The protocol sets out a **financial contribution** of €2,250,000 over the three years. Out of this amount, the Protocol foresees €550,000 (year one), €382,500 (year two) and €382,500 (year three) for the financial compensation. It also foresees €370,000 (year one) and €255,000 for each of years 2 and 3 for targeted measures in support of the São Tomé and Príncipe fisheries sector specified in Article 4 of the Protocol (40% of the total).
13. **Payments** of financial compensation are up to date for all three years of the protocol. For targeted actions none of the funds have been transferred, indirectly due to delays on the part of the DP in the accounting for the second and third payments of the previous Protocol, and failure to submit a sufficiently detailed request that complies with the measures defined in the Protocol.
14. The EU purse seiners **declared catches** of 7,414 and 1,307 tonnes in São Tomé and Príncipe waters in 2002/2003 and 2003/2004 respectively. Despite 15 surface longline vessels purchasing licenses in both years, only two catch declarations and some collated data from this fleet segment were available to the consultants, the DP or the European Commission. Overall the apparent fleet dependency on this Agreement is low, averaging 4.7% of annual catches for licensed purse seiners and 0.3% for surface longliners.
15. The Agreement is considered to be highly unequal, in that it benefits the EU considerably more than São Tomé and Príncipe, with only 6% of the **value added** generated falling to the partner country. EU fishers and fish processors (and fish processing in Côte d'Ivoire) share the remaining benefits. São Tomé and Príncipe benefits amount to little more than the financial income in the form of fishing licenses and

financial compensation, which account for €658,875 per annum, being about 17% of the annual value of the fishery products generated by the Agreement. This rent compares unfavourably with the 67% derived by the partner country from the Angola Agreement and 35% from the Cape Verde Agreement. Sãotomean employment on board EU vessels is limited to 9 (but exceeds the minimum of 6 specified in the current Protocol). EU vessels rarely visit STP, and there are no supplies of target or bycatch fish species to the STP market. Overall, the minimum net cost to STP of the Agreement is €179,503/year. Without accounting for the opportunity cost of value added foregone, STP gains a net benefit of €648,023.

16. Total **Community value added** attributable to the FA has averaged €3,861,824/annum, of which 21% is direct, 20% upstream and 58% downstream. More than 99% of the VA is derived from the purse seine fishing, principally due to the apparent low rate of utilisation of surface long line opportunities. The EU obtains on average 4400 tonnes of fishery products valued at €3.8 million/year and generates 329 FTE jobs (284 in the EU in tuna canning) from the Agreement. EU payments comprised 17% of the value (€144/tonne) of the fishery products (12% compensation and 5% license fees). The net benefit to the European Community is €3.3 million /year, with a cost advantage of 7.5%, indicating a highly favourable arrangement for the Community.
17. Not only are the direct economic benefits unequal, but the current protocol has not succeeded in promoting **investment** in São Tomé and Príncipe, neither investment from EC vessel operators working within the protocol nor from the application of funds for targeted actions. There has been no benefit in terms of **institutional development**. There is no impact, positive or negative of the FA on **poverty alleviation** and **food security**.
18. Principal **problem areas** associated with the execution of the protocol include: extremely weak capacity on the part of the STP authorities to absorb targeted action funds, implement measures and account for expenditure; lack of proper budgetary controls relating to the financial contributions; very poor catch and effort reporting by the surface longline fleet; inadequate catch reporting on sharks and other non-tuneid species (including bycatch); non-implementation of an observer programme; and the lack of any interaction whatsoever between the EU vessels and the national fishery and onshore sectors compounded by lack of access to the EU market for Sãotomean fishery products due to the weak sanitary control system.
19. In terms of the impacts on the stocks of target species of fish, the overall level of impact is limited by the low level of dependency of EU vessels on the Agreement. **Purse seine fishing** as pursued in the STP EEZ appears to have little significant impact on the sustainability of the target stocks of tuna. As far as can be ascertained, the fishing activities of this segment are conducted within the constraints of the ICCAT management recommendations. Catch reporting systems operate satisfactorily, bycatch interactions are minimal, and it appears that the continued inclusion of this fishing opportunity within the Agreement is fully in accordance with responsible fishing.
20. Poor levels of catch reporting by the **EC surface longline** fleet undermine a quantitative assessment of impacts. There are serious concerns over the environmental impact of this segment on oceanic shark stocks (particularly the depleted stocks of blue shark and mako sharks, which make up around two thirds of the catch). There is also mounting evidence that surface longlining results in significant mortality of leatherback and loggerhead turtles in the Atlantic fisheries (with bycatch rates ranging from 0.27 to 1.48 turtles/1000 hooks in Azorean and Brazilian fisheries respectively). There is no specific data on bycatch of turtles in the STP EEZ; however the critically endangered leatherback turtles nests on several Sãotomean beaches, and there is justifiable concern regarding a highly probable negative interaction with this population.

For a **future protocol**, key observations and recommendations are made with respect to:

21. **Technical assistance for institutional strengthening**; there is a case for the European Community to support an intervention programme of technical assistance and training to develop national fisheries management capacity. The operational costs to the EU would increase by about €700,000/year, but the approach would address the longer term developmental needs of the sector, particularly in relation to strengthening of the institutional capacity for sustainable fisheries management. It would allow future application of targeted action funds. The project will generate benefits through assisting with introduction of sanitary controls, take up of unutilised fishing opportunities, establishing observer programmes,

improving catch and effort reporting and analysis for fisheries management, as well as addressing the institutional strengthening of the DP and improving social capital in the policy development process. The project would require a long term resident fisheries advisor. A logical framework for an intervention to meet these needs is presented in an Annex.

22. **With respect to fishing opportunities**, 70-80% of the current levels of **purse seine** fishing opportunities for tuna are utilised, they appear to have no significant impact on these resources and may be retained in full in a future protocol. Precautionary reduction or elimination of the current **surface longlining** opportunities may be justifiable on grounds of their unsustainable environmental impacts on shark and turtle population. However, this would have little beneficial impact if the effort were displaced rather than removed, and there is a need to consider these issues on regional and fleet-wide basis. Should surface longlining be retained then significant **improvements in fishery management** are required to ensure compliance with responsible fishing practices, including introduction of new catch record forms, turtle bycatch reporting, sanctions against non-compliant vessels, and an observer programme. The Sãotomean authorities are incapable of implementing their contribution to these measures without external assistance. If surface longlining is retained, the Protocol should state the correct target species (e.g. non-tuna large pelagic fish) with reference catches and license fees set to reflect true catch values. The **tuna pole and line** opportunities have not been taken up during this or previous protocols, due to the lack of shore facilities and EU market access. The re-development of the port facilities at Neves and planned strengthening of the sanitary control system for exports to the EU may lower these barriers, and there is a justification for retaining these opportunities in the next protocol. **Deepwater crab** fishing opportunities have not been utilised, although the resource is exploited by at least one Sãotomean vessel. These opportunities may be retained if there is demand from Member States.
23. **Financial contributions**; there is a lack of capacity to implement targeted actions and a responsible approach to the future of the EU FPA should reflect this situation. Given the low level of derived benefits by São Tomé and Príncipe, there is a justification to pay the entire financial contribution as financial compensation in future agreements until such time as implementation capacity is developed.
24. Five ex-ante **scenarios** were modelled for a future protocol and assessed for their economic impacts:
 - Scenario 1: current level of fishing opportunities and their average utilisation.
 - Scenario 2: no protocol
 - Scenario 3: elimination of surface longliners
 - Scenario 4: elimination of surface longliners plus intervention project (€700,000 per year)
 - Scenario 5: purse seine only
25. In general the impact analyses reflect the fact that the purse seine segment is the dominant economic feature of the Agreement. The impacts of all other fleet segments are insignificant, either due to fishing license opportunities not being taken up (pole and line and crab fishing) or due their not being utilised if they are (surface longliners). As a result the economic impacts of changing these parameters are negligible, and except for Scenario 4, strong differences in outcomes do not emerge between the Scenarios.
26. If there were to be no agreement (Scenario 2), then it is assumed that displaced EU vessels would seek private license licenses. The cost of these is not known. Although in practice we would expect them to be higher, the scope for increasing license fees is limited by the low dependency of the EU fleet on this agreement (4.7% in the case of the purse seiners). If there were no agreement, the Community would retain most of the current benefits, and save the financial contribution, to the disadvantage of São Tomé and Príncipe. This is the least favourable scenario for the partner country.
27. The elimination of the possibilities for surface longliners (Scenario 3) appears to have little economic impact, neither on the Community nor on STP (although there is a loss of employment onboard). The low impact is due to the apparent low utilisation in the EEZ of licenses bought by this segment. Although the partner country loses through a reduced level of license fees and financial contribution, income rises as it would become fully accessible as financial compensation. In this scenario it is assumed that the Government of São Tomé and Príncipe will agree that private licenses will not be issued to displaced surface longline vessels.

28. Similarly, Scenario 5 (which provides purse seine fishing opportunities only) shows little material difference in costs and benefits, since there are only minor differences compared with Scenario 3, all related to the reduced level of contribution due to the removal of pole and line and crab fishing opportunities.
29. Scenario 4 foresees the 3-year intervention project with the objective of strengthening the institutional capacity of the MADRP and the DP for fisheries management and development. The scenario assumes that the project will facilitate the uptake of previously unutilised opportunities (pole and line and experimental crab), and that improved communication with EU vessels will encourage the purchase of goods and services, and recruitment of an increased number of Sãotomean crew. As a result the value added share becomes more equitably distributed (64% to EU, 36% to STP) and economic rents increase to 60% of catch value. The Community also benefits from a higher level of exploitation of the partner country resources, although this is balanced by the additional cost of the intervention. The project would appear to provide a significant and much needed boost to the fisheries development prospects for São Tomé and Príncipe. However, if the intervention is to be implemented, a precondition should be the introduction of strengthened budgetary and audit procedures. The Commission could assist with this during the course of the current protocol, along with a more detailed study of feasibility and preparation of terms of reference.

BACKGROUND AND INTRODUCTION

This report sets out the findings of a mission to the Republic of São Tomé and Príncipe to carry out an interim/ex-post evaluation of the current fisheries agreement between the European Community and the Republic of São Tomé and Príncipe, and a forward analysis of a future protocol, including ex-ante evaluation of potential renewal scenarios. The study was commissioned by the Directorate General of Fisheries of the European Commission under a framework contract “for performing evaluations, impact analyses and monitoring services in the context of fisheries partnership agreements concluded between the Community and non-member coastal states” operated by a consortium comprising Oceanic Développement (France), Poseidon Aquatic Resource Management (UK) and Megapesca Lda (Portugal).

The consultants visited São Tomé and Príncipe between 7th and 19th June 2004. The study team consisted of an Evaluation Specialist (Team Leader), an Economist and a Fisheries specialist. The mission comprised a review of documentation associated with the protocol and activities conducted under it, and meetings with key stakeholders, including representatives of the Government of São Tomé and Príncipe and its fishery sector. A list of persons met is provided in Annex 1. Additional desk-based support was also given by an Environmental/Fisheries Biologist and a Fisheries Legal Specialist. Key documentary references consulted are shown in Annex 2.

The Framework Agreement governing fisheries relations between the Republic of São Tomé and Príncipe and the EU was adopted by Council Regulation No.477/84 of 21 February 1984. The current protocol is the 7th three-year protocol to be agreed. It was adopted by Council Regulation EEC No.2348/2002 of 19 December 2002. The current protocol commenced on the 1 June 2002 and will run until the 31 May 2005. It has just completed its second year. The Agreement is an integral part of the network of agreements on tuna covering the Atlantic zone, which allows the Community fleet to follow highly migratory stocks in the equatorial seas of the Eastern Atlantic.

The report consists of two main sections. In the first we present an evaluation of the current situation in São Tomé and Príncipe, describing the governmental, economic, social and developmental conditions. This section also provides a detailed description of the fishery sector activities associated with São Tomé and Príncipe and its resources, and the institutional framework for its management. A detailed review of fish stocks and the utilisation potential is provided, along with a description of the activities under the current EU/ São Tomé and Príncipe Protocol.

The second part of the report presents a current SWOT analysis of the sector, from the point of view of São Tomé and Príncipe, and presents an interim (ex-post) evaluation of the current agreement. This investigates the employment and value added generated by the EU fishing opportunities exploited under the Protocol and evaluates the costs and benefits from the point of view of the European Community, São Tomé and Príncipe and the EU fishery sector. Environmental impacts are also assessed, considering the resource status of targeted fish stocks, as well as bycatch and indirect impacts of the fisheries concerned. The section concludes with an assessment of the effectiveness, efficiency, relevance, utility and sustainability of the Protocol.

The results of the evaluation are used to generate a forward assessment of any future Fisheries Partnership Agreement. This is based on four scenarios, each presenting different approaches and levels of fishing opportunity. The scenarios are assessed according to the expected costs and benefits, employment and fisheries and environmental impacts. They are also discussed in the context of the impact on sustainable livelihoods and development. Key indications and criteria are presented for consideration in decision making with respect to a future protocol, and possible monitoring indicators are proposed.

A EVALUATION OF THE CURRENT SITUATION IN SÃO TOMÉ AND PRÍNCIPE

A.1 THE POLITICAL AND ECONOMIC CONTEXT

A.1.1 Geography

São Tomé and Príncipe is an archipelago of islands straddling the equator in the Gulf of Guinea, to the west of Gabon. There are two main islands São Tomé, 860 km from the coast of Gabon, and Príncipe, 140 km NE from São Tomé. The islands are part of an extinct volcanic mountain range, which also includes the island of Bioko in Equatorial Guinea to the north and Mount Cameroon on the African west coast. Both islands are fairly mountainous. The land surface area is 1001 km² making it one of Africa's smallest countries. São Tomé is 48 kilometres long and 32 kilometres wide and the more mountainous of the two islands. Its peaks reach 2,024 m. Príncipe is about 16 kilometres long and 6 kilometres wide. The total length of coastline is 209 km. Both islands are crossed by swift streams radiating down the mountains through primary and secondary equatorial forest and cropland to the sea.

At sea level, the climate is tropical, hot and humid with average yearly temperatures of about 27 °C with little daily variation. At the interior's higher altitudes, the average yearly temperature is 20 °C. Annual rainfall varies from 500 cm on the south western slopes to 100 cm in the northern lowlands of São Tomé. The rainy season runs from October to May.

The islands were first discovered by Portuguese navigators between 1469 and 1472 and São Tomé was established as a Portuguese colony in 1493, originally for the purpose of regional trade in textiles and slaves. Since the 1800s, the economy of the islands has depended on plantations, (principally cocoa) and based on slave and later on, indentured labour imported from the African continent. Cocoa is still an important export crop, but other exports include copra, palm kernels, and coffee

A.1.2 Recent history

Following the revolution in Portugal in April 1974, São Tomé and Príncipe became independent on July 12th 1975 with an almost immediate installation of Marxist rule. Facing economic deterioration and pressure from popular opinion and western donors, in 1985 transition began with economic reforms and political pluralism. The first multiparty election was held in 1991. Since then political life has been characterized by power struggles between the President and successive governments, party infighting and corruption. Political instability is endemic in São Tomé and Príncipe. Public life has involved bitter struggles among a small political class in which personal, professional and family ties are easily blurred. The recent discovery of oil in the marine EEZ is set to radically alter the STP economy, although the precise arrangements for its exploitation are still to be determined. This brings high expectations to government and people, with potential for great transformation from a poor to a wealthy country.

The majority of the São Tomé and Príncipe people are poor Roman Catholics, mixed descendants of European colonists and African labourers (*forros* – local Creoles, *angolares* – former indentured workers from Angola) and Cape Verdean settlers. Independence from Portugal led to the departure of most Europeans and the return of many contract workers to Angola. Outside São Tomé and Príncipe there are important emigrant communities in Lisbon, Luanda and Libreville.

A.1.3 Political, institutional, administrative and legal framework

Soon after independence in 1975, the São Tomé and Príncipe government adopted a socialist model of rule; but by 1985 major political and economic liberalization initiatives were undertaken

Following the promulgation of a new constitution in 1990, São Tomé and Príncipe held multiparty elections for the first time since independence. Shortly after the constitution took effect, the National Assembly formally legalized opposition parties. Independent candidates also were permitted to participate in the January 1991 legislative elections. The National Assembly is the supreme organ of the state and the highest legislative body. Its members are elected for a 4-year term and meet semi-annually.

Since the constitutional reforms of 1990 and the elections of 1991, São Tomé has made great strides toward developing its democratic institutions and further guaranteeing the civil and human rights of its citizens. São Tomeans have freely changed their government through peaceful and transparent elections. While there have been disagreements and political conflicts within the branches of government and the National Assembly, the debates have been carried out and resolved in open, democratic, and legal fora, in accordance with the provisions of São Tomean law. Several political parties actively participate in government and openly express their views. Freedom of the press is respected, and there are several independent newspapers in addition to the government bulletin. The government's respect for human rights is exemplary; the government does not engage in repressive measures against its citizens, and respect for individuals' rights to due process and protection from government abuses is widely honoured. Freedom of expression is accepted, and the government has taken no repressive measures to silence critics.

The Movimento de Libertação de São Tomé and Príncipe (MLSTP) won an absolute majority in November 1998, and a new government was formed in January 1999. A multi-party government that took office in April 2002 lasted only a few months, and was replaced by a government led by the first woman prime minister in the country. However, in July 2003 the political scene was disrupted by a bloodless coup, which led to a ministerial reshuffling. The latest government reshuffling took place in March 2004 following the resignation of four ministers.

A.1.4 Macro-economic and budgetary/financial framework

A.1.4.1 Macro-economic framework

Following independence, the country had a centrally directed economy with most means of production owned and controlled by the state. The original constitution guaranteed a “mixed economy,” with privately owned cooperatives combined with publicly owned property and means of production. However in the 1980s and 1990s, the economy of São Tomé encountered major difficulties, economic growth stagnated, and cocoa exports dropped in both value and volume, creating large balance-of-payments deficits. Efforts to redistribute plantation land resulted in decreased cocoa production and at the same time, the international price of cocoa slumped.

In response to the economic downturn, the government undertook a series of far-reaching economic reforms. In 1987, the government implemented an International Monetary Fund (IMF) structural adjustment program, and invited greater private participation in management of the parastatals, as well as in the agricultural, commercial, banking, and tourism sectors. The focus of economic reform since the early 1990s has been widespread privatization, especially of the state-run agricultural and industrial sectors.

São Tomé and Príncipe's public sector is characterized by a weak institutional capacity, limited financial resources, poor working environment, an oversized civil service and high transaction costs, compounded with a lack of effective donor coordination and a general unreliability of donor flows.

This makes the exercise of public sector function and sound public resource management difficult. To correct this situation, the Government has adopted new organizational and staffing plans for the administration and is preparing, with donors' assistance, a full administrative reform, which includes a civil service retrenchment program. This will be done by realigning the roles and functions of each ministry, mapping functional responsibilities and introducing new management capacities. An important aspect of these reforms will be the establishment of effective linkages between development planning, policy making, resource allocation and staffing deployment.

Governance issues are drawing increasing attention from the country's development partners and risk is reducing the confidence of donors and investors. Many problems stem from weak implementation capacity; their solution will require time and will come progressively as development takes root. In the meanwhile some improvements are being made in expenditure programming and monitoring as well as in the availability of trained personnel at all levels in the administration, establishment of a pay and incentive system, and developing a public sector in general.

From 1987 to 1997, São Tomé and Príncipe experienced a profound economic and financial crisis. An early attempt to staunch the crisis was made in 1990 when Sao Tomé and Príncipe, with the support of the donor

community, embarked upon an ambitious recovery and economic development program. The results were poor owing mainly to weak institutional capacity, the lack of adequately skilled human resources, adverse external shocks - especially the decline in world cocoa prices – and heavy reliance on aging cocoa plantations. Real GDP growth rates remained low, macroeconomic imbalances worsened further, unemployment increased, and living conditions of the population deteriorated. The annual real GDP growth rate averaged about 1.6 percent over this period and income per capita decreased from US\$350 in 1987 to about US\$300 in 1997. Recent trends in GDP and its sectoral contributions are shown in Table 1.

Table 1: Gross domestic product by sector in €

Sector	Year							
	1996	1997	1998	1999	2000	2001	2002	2003 (est.)
Agriculture	2,033,724	4,076,820	4,807,836	5,267,064	5,660,688	6,185,520	6,691,608	7,244,556
Fisheries	271,788	562,320	805,992	1,143,384	1,283,964	1,396,428	1,499,520	1,611,984
Manufacturing & energy	487,344	1,021,548	1,462,032	1,733,820	1,902,516	2,052,468	2,183,676	2,314,884
Construction	1,255,848	2,071,212	2,933,436	3,589,476	4,104,936	4,526,676	4,901,556	5,295,180
Commerce & transport	2,127,444	4,536,048	6,654,120	7,956,828	8,762,820	10,243,596	12,089,880	14,058,000
Public administration	2,043,096	4,311,120	6,447,936	7,750,644	8,631,612	10,121,760	12,277,320	14,695,296
Financial institutions	815,364	1,640,100	2,558,556	3,083,388	3,402,036	3,992,472	4,751,604	5,538,852
Other services	234,300	524,832	656,040	796,620	880,968	1,030,920	1,227,732	1,433,916
GDP	9,268,908	18,828,348	26,335,320	31,311,852	34,629,540	39,549,840	45,622,896	52,192,668

Source: IMF, São Tomé and Príncipe – Statistical Annex.

Following a decade of economic decline and deteriorating social indicators, the authorities in 1998-99 implemented, in earnest, a series of reforms within the framework of an IMF staff-monitored program. They made progress in strengthening fiscal performance, stabilizing the exchange rate, and lowering inflation. In parallel with macroeconomic adjustment, the Government has implemented several structural policy measures.

So, in order to broaden the role of markets in resource allocation, price controls were eliminated, domestic trade, including the marketing of agricultural products, was completely liberalized, and a mechanism was introduced to automatically adjust petroleum retail product prices in line with changes in international prices.

In the area of institutional development, initial steps were taken towards improving public sector management capacity with the Government adopting new organizational and staffing plans for each of its ten ministries; revising civil service regulations, initiating the preparation of an administrative reform and a downsizing program to implement a full reform of the civil service.

As part of a public enterprise sector reform and private sector development program, the bankrupt national savings and loans institution (CNPC) was liquidated and a loan recovery program established; the petroleum distribution company (ENCO) was partially privatized and two hotels were placed under private management; a law governing property rights was adopted that clarifies the exercise of ownership rights, and work was launched to prepare a strategy for privatizing government owned agricultural estates and rationalizing the land tenure system.

In the area of trade and exchange, the export receipts surrender requirement was eliminated, all non-tariff import barriers were removed and external current account transactions were liberalized, and a comprehensive reform of the customs tariff structure and a plan to eliminate export taxes were adopted together with the

2000 budget. This tariff reform simplified the tariff structure to include only 3 rates and also reduced their levels (the highest rate is now 20 percent). With these trade liberalization reforms, the index of trade policy restrictiveness is estimated to have been reduced to 5 in 1999, compared to 10 in 1997-98.

In order to prepare for the oil era, the Government established an administrative unit in the office of the Prime Minister that would oversee government policy in the oil sector, handle legal issues related to oil production-sharing negotiations with Exxon/Mobil, and ensure transparency in the handling of future oil operations. The World Bank and Norway are assisting this unit.

São Tomé and Príncipe's economic performance improved during 1998 and 1999. Real GDP growth averaged 2.5 percent, up from 1 percent in 1997 although cocoa output fell by 13 percent as a result of unfavourable world prices. Nevertheless, as progress in economic reforms began to alleviate structural rigidities, the impact of the decline in cocoa production was more than offset by a rapid expansion in trade, construction, and tourism. The inflation rate dropped substantially from over 80 percent in December 1997 to 12.6 percent at end-December 1999. The external current account deficit (excluding official capital transfers) narrowed from 53.3 percent of GDP in 1997 to 95.7 percent in 1999.

In April 2000, the IMF approved a poverty reduction and growth facility for São Tomé aimed at reducing inflation to 3% for 2001, raising ideal growth to 4%, and reducing the fiscal deficit. In late 2000, São Tomé qualified for significant debt reduction under the IMF-World Bank's heavily indebted poor countries (HIPC) initiative. The reduction is currently being re-evaluated by the IMF, due to the attempted coup d'état in July 2003 and subsequent emergency spending. Following the truce, the IMF decided to send a mission to São Tomé to evaluate the macroeconomic state of the country. This evaluation is ongoing, reportedly pending oil legislation to determine how the government will manage incoming oil revenues. Selected economic indicators are shown in Table 2 overleaf and national accounts in Table 3.

Table 2: São Tomé and Príncipe: Selected Economic Indicators

	2001	2002	2003	2004
			Estimated	Projected
	(Annual percentage changes)			
Real GDP	4.0	4.1	4.5	6.5
GDP Deflator	9.8	10.8	9.5	12.7
Consumer Prices (annual average)	9.5	9.2	9.6	13.3
Real effective exchange rate 1/	-6.5	-5.2	-4.5	---
Terms of trade	10.8	52.7	-11.2	-6.4
	(% of GDP)			
Gross domestic investment	35.8	32.8	30.4	48.8
Gross domestic savings	-23.1	-12.5	-9.4	-18.0
Gross national savings	8.3	8.8	10.0	-2.4
	(millions of US\$)			
Exports (f.o.b.)	3.7	5.1	6.4	6.8
Imports (f.o.b.)	24.4	25.5	27.5	39.5
Current account balance 2/	-31.2	-27.3	-26.6	-43.9
Gross official reserves 3/	3.5	4.2	4.6	5.2
Overall balance	-0.5	-3.7	3.3	122.2
Non-oil current account balance (in percent of GDP) 2/	-65.3	-51.0	-44.7	-52.0
Net present value of total debt 4/	1,184.4	1,154.5	1,074.1	887.4
	(% of GDP)			
Total revenue and grants	59.3	50.5	50.4	46.7
Total expenditure	81.4	63.7	65.0	71.0
Non-interest current expenditure	23.0	20.5	24.2	25.3
Overall fiscal balance, excluding grants	-60.0	-40.4	-39.2	-41.0
Overall fiscal balance, including grants	-22.2	-13.2	-14.5	-24.3
Change in broad money (in percent)	36.7	26.9	50.3	11.7
Interest rate (in percent)	14.0-16.0	14.0-16.0	14.0-16.0	...

Sources: Sãotomean authorities; IMF staff estimates and projections.

A.1.4.2 Public Administration, Budget and Public finances

The exercise of public sector function and sound public resource management is difficult due to reasons explained in the preceding section. To correct this situation, the Government has adopted new organizational and staffing plans for the administration and is preparing, with donors' assistance, a full administrative reform, which includes a civil service retrenchment program. This will be done by realigning the roles and functions of each ministry, mapping functional responsibilities and introducing new management capacities. An important aspect of these reforms will be the establishment of effective linkages between development planning, policy making, resource allocation and staffing deployment.

In the field of strategic planning, UNDP and the World Bank jointly designed, financed and executed the National Long Term Perspective Studies project, which started in August 1996 and was completed in December 1998, with a workshop presenting the prospective document entitled "Sao Tomé and Príncipe: Horizon 2025". The strategic vision was endorsed by all participants, who were Government, private sector or civil society representatives. In 2004 it was officially presented to the new government in order to ensure its full integration with mid-term global and sectoral strategies and action plans, and will be widely disseminated nationally and internationally.

The coverage of the rolling Public Investment Program (PIP) needs to be broadened to cover all sectors, thus facilitating greater consistency between the PIP and the outlays on operations and maintenance provided for in the recurrent budget. Moreover, the Government will continue its policy of not subsidizing the operating costs of public enterprises and containing the civil service wage bill. Although some progress has been made in estimating and linking the impact of the investment budget on the recurrent budget, the planned broadening of a Public Expenditure Program (PEP) to all sectors would help to integrate better the PIP within regular budgetary management procedures.

The authorities have begun to implement the key elements of a strategy that calls for strengthening the capacity to improve strategic planning, analysis, and the implementation of policies, improving the day-to-day management of the economy, streamlining public administration, and reinforcing the budget process. Although significant progress has been made in the last years in this area, much remains to be done to make public economic management more effective and efficient and thus facilitate economic growth and reduce poverty. Issues to be addressed concern mainly macroeconomic and sectoral management, budget management and institutional capacity which at present suffer from weak human capacity.

The government will enhance economic management capacity by (i) strengthening key government agencies in economic management and the statistical system; (ii) enhancing the capacity to formulate economic policy, undertake impact analysis, and define sectoral development strategies; (iii) improving budget preparation, execution, and financial management; (iv) ensuring adequate resource allocations, particularly to the social sectors (health and education) and to basic infrastructure as development priorities; and (v) implementing a comprehensive civil service reform program, as well as a public enterprise reform and privatization program. The government will also adopt an action plan to strengthen the judicial system and create the conditions for the equal treatment of all before the law.

The high indebtedness of São Tomé and Príncipe partly results from inadequate past policies and governance problems, and the weak participation of the authorities in the selection of foreign-financed projects. As a result, investments have not brought the expected returns, and the country has continued to accumulate external debt. The success of the new growth and poverty reduction strategy critically hinges on the ability of the authorities to best identify sources of growth through thorough consultations with the population and to coordinate action among the donor community. It is crucial that the management of public investment projects be owned by the authorities and be framed in a long-term growth strategy.

So, the capacity building is at the core of all development and cooperation programmes, whether financed by the UN system or by other multi or bilateral donors. UNDP is financing the preparation of a framework programme for strengthening national capacity for the management of development and good governance. More specifically, the following areas can be highlighted:

- **macro-economic management:** UNDP, DDSMS, the World Bank, the IMF, UNCTAD, the ADB, Portuguese and French Cooperations have designed and financed and are executing joint projects in the

areas of statistics, public finance, customs reform, accounting, financial and banking markets and debt management, the latter in the specific context of eligibility for the HIPC initiative;

- **strategic planning:** UNDP and the World Bank have jointly designed, financed and executed the NLTPS project, which started in August 1996 and was completed in December 1998, with a workshop presentation of the prospective document entitled "Sao Tomé and Príncipe: Horizon 2025". The strategic vision was endorsed by all participants, who were Government, private sector and civil society representatives. It has just been officially presented to the new government in order to ensure its full integration with mid-term global and sectoral strategies and action plans, and will be widely disseminated nationally and internationally;
- **civil service reform:** UNDP and DDSMS have been supporting administrative reform for a number of years, and the World Bank was closely involved in the design of the second phase of the process, which began effectively in 1998. During the first phase, the Civil Service Statutes were drafted and approved, organic laws and appropriate structures and staffing tables were prepared for all Ministries, and a comprehensive training programme was developed. The second phase began in 1998, with UNDP support; World Bank co-financing has just been confirmed. During that period, the process of in-depth restructuring of the civil service was initiated, and should lead gradually to significant downsizing, streamlining of functions, introduction of modern management methods, implementation of an appropriate salary and incentive scheme, and effective decentralization.

Table 3: National accounts and Government budget

Sector	% of GDP							
	2000	2001	2002	2003	2004	2005		
National accounts								
Consumption	103.5	98.4	105.2	98.0	103.0	105.4	102.0	102.6
Gross investment	43.5	49.9	50.0	45.3	45.2	58.4	95.6	411.4
Public investment	26.0	33.0	33.1	28.4	28.3	28.7	29.3	29.0
Private investment	17.5	16.9	16.9	16.9	16.9	29.8	66.3	382.4
<i>Of which: oil sector</i>	0.0	0.0	0.0	0.0	0.0	17.3	44.6	361.4
Gross domestic savings	-3.5	1.6	-5.2	2.0	-3.0	-5.4	-2.0	-2.6
Public savings	-8.4	-11.0	-12.5	-13.1	-10.7	-12.1	-10.3	-10.5
Private savings	4.9	12.6	7.4	15.0	7.7	6.7	8.3	8.0
Gross national savings	23.1	39.3	34.2	44.9	35.5	27.2	32.8	32.1
Government budget								
Total revenue and grants	49.6	61.4	64.9	68.0	63.0	57.5	60.4	61.9
<i>Of which: grants</i>	28.0	39.2	42.3	45.5	41.0	35.0	33.3	33.7
	66.1	76.4	76.7	72.6	69.3	69.5	73.0	74.4
Total expenditure								
<i>Of which: noninterest current expenditure</i>	17.6	19.9	21.8	18.3	19.6	19.7	20.1	21.0
Overall balance (commitment basis)	-16.5	-15.0	-11.8	-4.6	-6.2	-12.0	-12.6	-12.6
Primary balance (commitment basis; incl. HIPC initiative spending)	2.1	-7.4	-9.9	-3.0	-4.7	-7.7	-7.1	-7.8
Primary balance (commitment basis; excl. HIPC initiative spending)	2.1	-3.4	-5.9	1.7	-0.1	-1.9	1.2	0.2

Source: IMF, Statistical appendix; 2003-2005 are estimates

A.1.5 International relations

Until independence in 1975, São Tomé and Príncipe had few ties abroad except those with Portugal. Following independence, the new government sought to expand its diplomatic relationships. A common language, tradition, and colonial experience have led to close collaboration between São Tomé and other ex-

Portuguese colonies in Africa, particularly Angola. Sãotomean relations with other African countries in the region, such as Gabon and the Republic of the Congo and Angola, also are good. In December 2000, São Tomé signed the African Union treaty; the National Assembly later ratified it.

The Sãotomean Government has generally maintained a foreign policy based on nonalignment and cooperation with any country willing to assist in its economic development. In December 2000, São Tomé and Príncipe signed the African Union treaty; the National Assembly later ratified it. In recent years, it also has increasingly emphasized ties to the United States and Western Europe.

In addition São Tomé and Príncipe belongs to the community of Portuguese-speaking countries (CPLP-Comunidade dos Países de Língua Portuguesa). CPLP includes Portugal and its former African colonies: Angola, Cape Verde, Guinea-Bissau, Mozambique and São Tomé and Príncipe, as well as Brazil and East Timor. Its main purposes are to promote the Portuguese language and co-operation between its members in international diplomacy, economic affairs, culture, justice and science. The annual conference of heads of state of CPLP will be hold in July 2004 in São Tomé.

The Central African Economic and Monetary Community (CEMAC) in Central Africa, forms a customs and monetary union and consists of six countries: Cameroon, Central African Republic, Chad, Republic of Congo, Gabon, and Guinea Equatorial. São Tomé and Príncipe, although not a member, is economically linked to CEMAC in a free trade arrangement.

São Tomé and Príncipe belongs to CEMAC/ECCAS (Economic Community of Central African States) which aims to achieve collective autonomy, raise the standard of living of its populations and maintain economic stability through harmonious cooperation. Its ultimate goal is to establish a Central African Common Market. CEMAC/ECCAS was established on 18 October 1983 by the UDEAC members and the members of the Economic Community of the Great Lakes States (CEPGL) as well as São Tomé and Príncipe. Angola remained an observer until 1999, when it became a full member.

ECCAS has overlapping membership with CEMAC. In 2003, the European Union concluded a financial agreement with both ECCAS and CEMAC, conditional on ECCAS and CEMAC merging into one organization, with ECCAS taking responsibility for the peace and security of the sub-region. In 2001, São Tomé and Príncipe and Nigeria reached agreement on joint exploration for petroleum in waters claimed by the two countries. After a lengthy series of negotiations, in April 2003 the joint development zone (JDZ) was opened for bids from international oil firms. The JDZ was divided into 9 blocks; the winning bids for block one, ChevronTexaco, ExxonMobil, and the Norwegian firm Equity Energy, were announced in April 2004, with São Tomé and Príncipe to take 40% of the \$123 million bid, and Nigeria the other 60%. Bids on other blocks were still under consideration in April 2004. São Tomé and Príncipe stands to gain significant revenue both from the bidding process and from follow-on production, should reserves in the area match expectations.

A.1.6 Identification of Donor activity

The Sãotomean Government has traditionally obtained foreign assistance from various donors, including the UN Development Program, the World Bank, the European Union (EU), Portugal, Taiwan, France and the African Development Bank. The donor investment matrix is shown in Table 4.

Table 4: Donors matrix (2003)

	Programmed €	%
Multilateral	7,587,012	37,2
UE	1,721,354	8.4
WB	1,558,192	7.6
UN	1,036,075	5.1
AfDB	1,411,347	6.9
BEI	856,598	4.2
BADEA	636,330	3.1
IFAD	310,006	1.5
Others	57,106	0.3
Bilateral	12,808,182	62.8
France	155,003	0.8
Portugal	4,894,847	24.0
China-Taiwan	7,342,270	36.0
Others	416,062	2.0
Total	20,395,195	100.0%

Source: PIP 2004

The last UNDP-sponsored round table meeting took place in Paris in October 2000. A Paris Club meeting with STP in April 2002 discussed implementation of the first phase of the rescheduling agreement.

São Tomé and Príncipe joined the World Bank and IDA in 1977 and became a borrower in 1995. The Bank's previous involvement supported structural adjustments, as well as the agriculture, health, and education sectors.

São Tomé received from the International Monetary Fund (IMF) and the World Bank Group's International Development Association (IDA) US\$200 million in debt service relief under the Enhanced HIPC initiative, and reached the HIPC decision point in December 2002. It is expected to achieve the completion point in mid to late 2005. The country's Poverty Reduction Strategy Paper was adopted by the government in a national gathering in December 2002. The current IDA Country Assistance Strategy (CAS) for the period 2000–2005 supports the government in achieving the objectives of the Interim Poverty Reduction Strategy Paper: (a) sustaining strong economic growth to raise income and reduce poverty, and (b) broadening access to services and improving their quality. A country Economic Memorandum was completed in mid 2003.

The two ongoing projects - the Public Resource Management Project of US\$7.5 million equivalent, and the Public Resource Management Technical Assistance Project of US\$2.5 million equivalent, approved in October 2000 to assist in strengthening the economic management capacity of the country - will close in June 2004.

World Bank cooperation with STP in the years to come will be focused on technical assistance for oil and on the social sector for an amount of US\$11.5 million. Two new projects are under preparation: the Governance Capacity Building project scheduled for Board presentation in July 2004 will support São Tomé's public finance management and help to build the institutional framework of the nascent petroleum sector, and the

Social Sector Support project scheduled for Board presentation in May 2004 will assist the country in achieving the human development goals as defined at the UN Millennium Summit. The IMF Article IV Consultation was concluded on March 17, 2004.

The Country Assistance Strategy (CAS), report for São Tomé and Príncipe, for the period 2000-2005, aims at supporting the Government in sustaining economic growth to raise incomes and reduce poverty. Furthermore, the strategy seeks to broaden access to social services and improve their quality. The country faces three main development challenges: to develop institutional capacity to meet the demands of a market-oriented economy; to develop a dynamic private sector, and a diversified economy, in order to reverse the trend of low real GDP growth, declining per capita income, and increased poverty and to develop its human resources. However, given the limited administrative resources, future lending program for the country will be limited to one project every two-three years. The Public Resource Management Credit (PRMC) Project, and its supporting Technical Assistance Project, will improve economic management capacity. Nonetheless, opportunities for further Bank lending may be considered in support of the Poverty Reduction Strategy Paper (PRSP), and, on the outcome of oil exploration, and production activities, provided the PRMC is implemented satisfactorily, and the PRSP is satisfactory as well. Such opportunities will be in the areas of health, education, and social protection, and in support of oil development as a new growth source.

IDA's strategy for the period 2000-2005 is to support the Government's objectives aiming at: (a) sustaining strong economic growth to raise incomes and reduce poverty, and (b) broadening access to social services and improving their quality. Given the limited administrative resources, IDA's future lending program in São Tomé and Príncipe will be limited to one project every two or three years. The proposed Public Resource Management Credit (PRMC) and its supporting Technical Assistance Project (PRM TA), which are being presented together with this country strategy, aim at supporting the Government's goal of improving its economic management capacity. However, opportunities for further Bank lending may be considered in support of the Government's Poverty Reduction Strategy Paper and may depend on the outcome of oil exploration and production activities, provided the PRMC is satisfactorily implemented and a satisfactory participative PRSP has been prepared. Such opportunities are possible in areas of human development (health, education and social protection) and as support to development of oil as a new growth source.

The World Bank Board approved an International Development Association (IDA) credit of US\$5 million and an IDA grant of US\$1.5 million for a Social Sector Support Project in São Tomé and Príncipe. The project will improve the delivery of basic health and education services through increased collaboration between the public sector, civil society and communities and the strengthening of institutional capacity to operate light decentralized systems with improved strategic planning, management and monitoring as well as equitable access to and better quality of these services.

The Social Sector Support Project (PASS), developed in close collaboration with partners and key stakeholders in the country, focuses on reforming the education system to offer six years of quality basic education and on strengthening health services at the district level. The PASS will also support the country's strategic plans to contain the spread of HIV/AIDS and combat malaria in a country where over 80 percent of the 140,000 inhabitants are affected by malaria, cited as the number one cause of death.

The PASS is conceived to strengthen the education and health systems and their institutions and mechanisms for accountability in recognition of the fact that it is critical for São Tomé & Príncipe to be more successful, unlike other oil-rich African countries, and to channel oil revenues into building a solid human and economic foundation for sustained growth and development. The project will improve the delivery of basic health and education services through increased collaboration between the public sector, civil society and communities and the strengthening of institutional capacity to operate light decentralized systems with improved strategic planning, management and monitoring as well as equitable access to and better quality of these services.

The project design and implementation arrangements are based on the premise that collaboration between the state and civil society is critical to improving the effectiveness, efficiency, and relevance of social services and to ensure ownership and sustainability. Following an annual work program approach also offers flexibility to adapt to changes in the economic and social environment.

The IDA grant part of the project will finance all the HIV/AIDS and Malaria activities in addition to the community-driven initiatives implemented by civil society organizations and community groups in improving the health and education of communities. Public sector executed activities in the area of basic education and health service delivery will be financed by the IDA credit.

IFAD has been a long-term partner of the Republic of São Tomé; from 1984 to date, São Tomé and Príncipe has received four IFAD loans (with a total amount of USD 7.8 million) to finance rural development projects in the country, of which three have been completed. These four projects are the Artisanal Fisheries Project, the Pilot Food Crop Development Project, the Second Artisanal Fisheries Development Project and the National Smallholders Support Project (PNAPAF). A grant of US\$ 30,000 was also granted to ZATONA-ADIL, a local and very active NGO operating in São Tomé.

The recent discovery of large oil reserves on the archipelago of São Tomé & Príncipe has prompted initiatives seeking to encourage the government to ensure that revenue from this resource will be used to advance development, reduce extreme poverty and improve the welfare of the population.

A.1.7 Social dimension i.e. social policy and general socio-economic situation

A.1.7.1 Profile

The population of São Tomé and Príncipe is around 137,599 indicating a growth rate below those projected and also below normal African standards. More than one half of the population lives in rural areas with a growing proportion being concentrated in and around the capital, São Tomé, in Água Grande district, which had a population of 51,886 in 2001. The main population indicators are shown in Table 5.

São Tomé and Príncipe was ranked as a Medium Human Development country according to the UN Human Development Index (ranked 122nd for 2003 out of 175 countries). This was the seventh highest ranking in Sub-Saharan Africa. This suggests that indicators of social development have performed relatively well, but in fact poverty rose from 36% of the population in 1991 to 53.8% in 2001 (Table 5). Also, the UNDP study indicates an average GDP capita of 1,317 for São Tomé and Príncipe. Due to data difficulties with factors contributing towards the Human Development Index, (HDI indicators are shown in Table 7), it is not possible to establish the true state of development of the country, although by any measure São Tomé and Príncipe is undeniably a very poor country.

Table 5: Population indicators

Indicators	São Tomé & Príncipe		Neighbouring Sub Saharan African Countries	
			Cameroon	Gabon
	2001 ^{/a}	2001 ^{/b}	2001 ^{/a}	2001 ^{/a}
GDP per capita (PPP Euros)	1,074		1,371	4,887
Population	0.2 million	137,599	15.4 million	1.3 million
Urban population (%)	47.6	28.0	49.6	82.1
Population under age 15 (%)	41.2		42.7	41.3
Population above age 65 (%)	4.6		3.6	4.5

Source: ^{/a} EIU 2004; UNDP 2003; ^{/b} based on local data (2001 Census)

Poverty problems are shown in Table 6. Extreme poverty affects 15.1% of the total population and 38.7% are on the threshold of poverty. The average dimension of the families is proportionally inverse to their level of income. Extremely poor families have an average of 6.43 members and non poor 3.78. Of the income of poor families around 75% is spent on food expenses with only around 5% being spent on health, education and housing.

Table 6 : Poverty Profile

	Population (%)	Share of Food Expenses from family budget (%)	Share of Health, Education and House Expenses from family budget (%)
Poor	53.8	74.8	5.1
Extremely poor	15.1	79.1	4.4
Threshold of poverty	38.7		

Source: National Poverty Reduction Strategy

In respect to minimum livelihoods conditions 11.8% of the population never went to school. Illiteracy affects 9.6% of the non poor population, 12.9% of the poor population and 15.9% of the extremely poor.. Adult literacy rate in 2001 was 83.1%, fairly high by African Standards. However, overall education is characterised by high drop-out and repetition rates which undermines development.. There is also a lack of secondary and tertiary education, although in 1993 a private institute was established and a state-run Instituto Superior Politécnico has been functioning since 1997.

Health parameters show a life expectancy estimated at 69.4 years, relatively high according to African Standards. Infant and children under 5 mortality rates respectively of 54 and 74 per 1,000 live births are however higher than the MHD (average 45 and 61). The main causes of sickness are malaria with about 40,000 recorded infections per year and acute respiratory and diarrhoeal diseases.

Table 7 : Human development indicators

Indicators	São Tomé and Príncipe	MHD	Sub Saharan Africa
Human Development Index	0.639	0.684	0.468
HDI rank	122	n.a.	n.a.
Human Poverty Index	-	n.a.	n.a.
Life expectancy (years)	69.4	67	46.5
Adult literacy rate, of people over age 15 (%)	83.1	78.1	62.4
School enrolment (% of total school age population)	58	64	44
Probability at birth of not surviving to age 40	10	n.a.	
Infant mortality rate (per 1,000 live births)	57	45	107
Children under 5 mortality rate (per 1,000 live births)	74	61	173
Fertility rate (children per women)	4.0	2.4	5.6
HIV/AIDS – estimated sero-prevalence rate (%)	-	-	8.6

Source: UNDP 2003;

Access to a water supply is a very serious problem, with only 19.6% of the population having access to the municipal system. Recent studies show that 25.5% of the non poor population have access to this municipal water supply system, 13% of the poor and only 9.2% of the extremely poor. Sanitary conditions are considered to be catastrophic. Only 16% of population have access to minimum levels sanitation (sewage network or earth latrine), with 69% defecating in the open environment.

Table 8 : Health Indicators: Access to basic services, 2000

Population with:	MHD	São Tomé and Príncipe	Sub-Saharan Africa	Neighbouring Sub Saharan African Countries	
				Gabon	Cameroon
% of total					
- access to improved sanitation:	51	16 / ^a	53	53	79
- sustainable access to improved water sources	82	19.6 / ^a	57	86	58
- sustainable access to affordable essential drugs		0-49		0-49	50-79

Source: UNDP, 2003; /^aLocal data (PRSP)

A.1.7.2 Employment and Gender

The active population as noted in the 2001 Census was about 52,150 people, 31,525 male (60.5%) and 20,670 female (39.5%) from a total population of 137,599 (with a gender distribution of 49.6% male and 50.4% female). A study of the workforce showed that 44,032 were employed with an unemployment rate of 15.8%. Gender wise, unemployment is higher amongst the females (5,133 with a rate of 24.8%) than the males (3,071 – 9.7% rate). As indicated in Table 9.

Table 9 : Employment in São Tomé and Príncipe

Population	Total	Female	Male
Total	137,599	69,363	68,236
Active (%)	52,150	20,670	31,525
Employed	44,032	15,537	28,454
Unemployed	8,256	5,133	3,071

Inequality amongst economical activities is high and also between genders. The poorest working class include people in agriculture, fisheries and animal production. Women have much less favourable conditions than men, with unemployment being one of the main features. The fisheries sector is characterised by having static development, despite a significant amount of interventions and investment in infrastructure during the 1980's and 1990's.

A.1.7.3 Social Policy

A poverty reduction strategy paper (PRSP) was finalised in 2001. Main objectives are to raise the rate of GDP growth and improve access to basic social services and productive assets for the poor. The government also finalised its Priority Action Plan which establishes a policy framework for social sector investment, macroeconomic stabilisation and higher economic growth. A medium-term development strategy has also been elaborated for the period 2000-05, and includes:

- private sector promotion and diversification of productive activities;
- placing smallholder agriculture at the centre of growth strategy;
- reform and strengthening of public institutions and capacity.

The National Poverty Reduction Strategy is defined through 5 main areas:

- reform of public institutions and strengthening of capacity and promotion of good governance practices;
- speeding growth and distributive share;
- creating opportunities to increase and diversify revenues;
- development of human resources and access to basic social services;
- mechanisms of accompaniment, evaluation and update of the strategy.

The main economically traditional sectors and sub-sectors are referred to in the National strategy. In the case of the fisheries and fish resources sector, respective potential is underlined in the strategy. A key step is to define a policy which will enhance fisheries contribution to GDP, as well as the development of jobs, self-employment and family revenues. The strategic objectives for the sector are as follows:

- qualitative increase as contribution of animal protein for the population;
- improvement of livelihoods and working conditions of fishing communities;
- development of organisational and institutional structures adapted to the need and reality of the sector in order to permit the development of a *Plano Director de Pesca* and allowing the coordination of the activities;
- development of a strategic reference framework;
- strengthening of institutional capacities of the sector;
- development of conditions of production and commercialisation of artisanal fisheries,
- promotion of a healthy and solid management of fish resources.

The opportunity for growth and revenue diversification for the poor is defined through a strategy to accomplish progressive and evolutionary development of these populations. This strategy should always integrate the sectors, agriculture, animal production, fisheries, industry, commerce, tourism and services and involve the six following objectives:

- 1) Increase and diversification of productions;
- 2) Food Security
- 3) Improvement of socio-economic conditions of all population (rural, urban and periurban);
- 4) Conservation of natural patrimony;
- 5) Promoting females and young people;
- 6) Promotion of exports

Regarding these objectives, in the table below the priority actions for the fisheries sector are identified and scheduled.

Table 10 : Creation of opportunities and revenues for the poor through the fishery sector

Priority Actions	Period
Installation of a fishmongers facility at Neves	2003 –2004
Imports of fishing gear	2003 –2006
Concession of credit to private artisanal fishers	2003 –2010
Construction and maintenance of FADs	2003 –2007
Development of and increase in new types of canoes	2003
Development of a fisheries information system	2004 –2005
Improve storage and commercialisation of fishery products (introduce small ice plants)	2003
Institutional aid to Direcção das Pescas	2003 -2006
Aid to GIEPPA	2004 -2008
Study Tours	2004 -2008

A.1.8 Conditions for private sector development and development of investment

São Tomé and Príncipe faces three main development challenges at this time: (i) to develop the institutional capacity needed to meet the demands of a modern economy, including managing the development and use of oil resources when this becomes a reality, (ii) to develop both a dynamic private sector and a diversified economy so as to reverse the trend of low real GDP growth, declining per capita income and increasing poverty, and, (iii) to develop its human resources.

Private sector promotion and diversification of productive activities need to improve the environment of the private sector and to diversify production and exports. Agriculture remains the primary focus of the strategy, which is also aimed at some sectors of the processing industry, tourism and the development of new services. The sectoral policies are presented below. To promote the private sector, in addition to creating a business-conducive environment, it is necessary to develop the entrepreneurial spirit and build capacity in the areas of organization, management and technology. The Government is also aware of the need to strengthen the judicial system with a view to providing security for investors and the population.

São Tomé and Príncipe's investment code offers a wide range of tax exemptions and other incentives, but has been remarkably unsuccessful in attracting foreign investment. This is partly because fiscal incentives are relatively insignificant in relation to the high costs of doing business in São Tomé and Príncipe (due in no small part to its remoteness), but also because procedures for setting up a business are lengthy, complex and costly, despite the code. A new code has been prepared, which envisages, inter alia, the establishment of a one-stop window ("guichet unique") for new investors, but has not yet been passed into law.

Key priorities include (a) reform of the judicial and regulatory system focusing on the antiquated commercial, penal and civil codes, and the expediency and quality of judicial services (b) streamlining of the lengthy and complex procedures for the licensing and registry of enterprises and the resolution of business disputes (c) modernization of the bankruptcy laws (d) reform of the legal system governing the recovery of loans and, (e) revamping the land tenure system and establishing proper land titling. Some of these issues are already being addressed through other initiatives, such as a World Bank technical assistance credit which is currently under preparation. The Diagnostic Trade Integration Study (DTIS) is currently under way and it will examine each of these issues and carry out further analytical work as necessary.

To promote the private sector as the chief agent of growth in the context of the economic liberalization, the government will modernize and streamline the business legal and regulatory framework and thus encourage the development of private investment, including foreign capital. The government is expected to adopt the necessary measures for (i) revising the commercial laws and adopting a law on competition, on the basis of legislation and regulation adopted by other African countries within the framework of the Treaty of the

Organization for the Harmonization of Business Law in Africa (OHADA) (ii) restructuring and improving the functioning of the judicial system (iii) applying international business standards and, (iv) taking the necessary steps to remove obstacles to the recording of property titles.

To promote job creation, the government will also stress the development of the services sector, especially tourism. It will encourage private sector initiatives by introducing an appropriate regulatory framework, thus fostering the development of reception facilities and promoting the country's image abroad. The government has already adopted a legal framework for the free trade zone and established an authority responsible for promoting the zone. Free trade zone activities should increase private investment and job creation, while diversifying available services. However, for tourism to develop in a sustained way and generate employment, protection of the environment is important, as the ecological balance is very fragile and can be easily undermined by human intervention.

To strengthen food production chains, especially in the rural area, and encourage diversification, the recently adopted agricultural policy stresses production, diversification, private sector involvement, and full participation of rural populations in the sector's development efforts. While endeavouring to increase cocoa production, which remains the main export, the government will strengthen the development of new agricultural products. The diversification effort will cover various crops, specifically ylang-ylang, black pepper, vanilla, other aromatic plants, fruits and vegetables, flowers, and tubers. To achieve these objectives, the government announced to prepare and implement a national extension service policy and improve the processing capacities for agricultural products at the small-farmer level.

A.1.9 Relations with the main external partners of development and economic cooperation

Under the Cotonou Agreement signed in June 2000 a new approach to trade and co-operation between the EU and ACP countries has been adopted. The instrument developed to deliver it is the Economic Partnership Agreement (EPA).

This is based upon the four principles of:

- Partnership (including bilateral free trade and the strengthening of the ACP supply side capacity);
- Regional integration;
- Development (economic, social and environmental);
- WTO compatibility.

In general an EPA is designed to enhance production, supply and trading capacities to create new dynamics for trade and foster investment.

Currently, the only formal trade grouping to which São Tomé and Príncipe belongs is the ECCAS. Little integration or harmonization has yet taken place, in terms of harmonisation with the trade policies of ECCAS. Of more immediate concern is São Tomé's upcoming negotiation of a new EPA with the EU. The Cotonou Agreement provides for negotiation of EPAs between the EU and Sub-Saharan African countries. The new arrangements are scheduled to take effect in 2008 when the existing Cotonou Agreement expires. The main objective of these EPAs is to modify trading arrangements between the EU and its ACP partners, to make relations more effective in stimulating trade and investment and more compatible with WTO rules.

While an EPA could have some advantages for São Tomé and Príncipe¹, it also presents significant challenges. First, the EPAs include a provision for reciprocity in preferential tariff reductions and eliminations. While this may, through the application of the Most Favoured Nation principle, not lead to a complete reciprocity of duty-free access, it would nonetheless imply a significant reduction in duties on goods originating in the EU. In the case of São Tomé, and Príncipe this would undermine a major generator of tax revenue. Alternative

¹ These include assured continued duty-free access to the EU market (though it should be remembered that this access is only the first hurdle; complying with phyto-sanitary and other regulations is often more difficult), encouragement of new product development for export to Europe, related technical assistance (including private firm-level cooperation) and financial support, lower consumer and input prices (provided, of course, that the EU is the lowest cost provider for the goods in question), and eventually greater international competitiveness.

sources, such as higher taxes on factor incomes or the creation of a new value-added tax, would have to be found to compensate for this. Implementation of these new taxes is not an easy or cost-free exercise, especially in a less developed country. Second, the reduction or elimination of duties on imports from the EU may threaten certain economic activities in the country. This effect is not likely to be of great importance in São Tomé and Príncipe since there are comparatively few local enterprises that compete directly with European imports. Moreover, informal duty-free imports of a range of consumer goods from or via Nigeria already exist. Third, for practical reasons, the EU has expressed its intention to agree and sign each EPA, not with individual countries, but with regional economic blocs. In principle, therefore, São Tomé and Príncipe would need to choose “its” bloc, which, given its location, would have to be either CEMAC or ECCAS. Given the relatively limited degree of harmonization and integration achieved in ECCAS to date, the likely preference of the EU would be for CEMAC.

The possible future relationship between São Tomé and Príncipe and CEMAC is a major issue in the country. STP could derive certain advantages from membership of CEMAC. These would include easier access to CEMAC country markets and possible peer pressure to reform policies and institutions². On the other hand, membership of CEMAC has significant implications which go beyond trade. Perhaps chief among these is the fact that CEMAC is also a monetary union, whose common currency (the CFA Franc) is tied to the Euro. While this may provide a degree of monetary stability, it also means exchange rate rigidity, which could have serious implications for the country’s competitiveness and range of possible trading options, especially when added to the macroeconomic impact of future oil revenues.

The extent to which São Tomé and Príncipe already has preferential access to the CEMAC market or whether such access could be negotiated short of full CEMAC membership is unclear.³ Irrespective of the formal situation, access would not appear to be easy at present. Practical difficulties in penetrating, for instance, the Gabonese market, have been reported. Agricultural produce from São Tomé and Príncipe was being sold on a small scale in Gabon, but following protests from fellow CEMAC member Cameroon, which wished to supply the Gabonese market with the same or similar products, measures were taken to block São Tomé and Príncipe access. Most trade seems to take place on an informal basis. A draft commercial accord has been drawn up by the CEMAC secretariat, on which the STP Authorities have made critical comments.

An alternative to an EPA, with or without accompanying membership of CEMAC, would exist for São Tomé and Príncipe. A country designated as Least Developed, be it an ACP country or not, is eligible for preferential access to the EU market without reciprocity obligations under the “Everything but Arms” initiative⁴. However, while this alternative does have short term attractions, it also carries risks. First, in principle, the concessions, unlike those enshrined in an EPA Treaty, may be removed at any time, though that is improbable. Second, and more serious for São Tomé and Príncipe, would be the almost certain loss of LDC status once significant oil revenues start to flow. Third, refusal of an EPA may diminish the volume and quality of EU financial and technical support, though this is likely to be only in the longer term, when the flow of financial and technical assistance on concessionary terms would have diminished anyway because of petroleum revenues.

The complex issue of the future trading relationship with the EU, and the related question of regional integration, would, *a priori*, merit in-depth investigation in the DTIS. São Tomé and Príncipe has already commissioned a study, financed by the EU, to examine the impact of an EPA. This is currently being carried out by consultants, and a first draft is due in June, 2004.

² For example, initiatives to harmonize business laws and commercial regulations and to establish internationally acceptable accounting standards and practices through OHADA, adoption of a common external tariff, etc. However, membership of CEMAC is not a precondition for the adoption of the OHADA legal, regulatory and accounting frameworks.

³ As is, for that matter, whether a relationship short of full membership would satisfy EU EPA negotiating requirements.

⁴ STP also enjoys preferential access through the US Generalized System of Preferences, and has been approved for duty free access under the US Africa Growth and Opportunity Act though it does not possess a clothing visa under the latter.

A.1.10 Oil economy: opportunities and threats of a revolution in the economic situation

São Tomé is located in a region with a demonstrated petroleum potential, discovered by seismic studies conducted in the early 1990s. In 1997 the Government signed a concession agreement with oil companies transferring to them the prospection and tapping rights. However, the size of the oil reserves is yet to be determined. Tapping of the petroleum resources should enable the country to earn significant income, the size of which is hard to determine at present. However, for the economic impact to be positive for the country, the Government should seriously prepare for the advent of petroleum era and avoid the slippages noted in some neighbouring oil-producing countries. Therefore, the Government should seek to obtain maximum benefits from its production and income-sharing agreements with the petroleum companies. It should also improve its public revenue management capacity in order to optimize the utilization of future petroleum resources for the economic and social development of the country.

The oil industry in STP is likely to be an “enclave” with very limited links to the local economy, nonetheless, and while it would indeed be unrealistic to suppose that STP could become a major supplier of goods and services to the offshore oil operations, there are degrees of enclave. An extreme case, and which could serve as a warning to STP, is that of fellow Gulf of Guinea oil producer Equatorial Guinea. There, at least during the early years of oil production, all but a handful of oil company staff and executives lived not in Equatorial Guinea itself but in nearby Douala, Cameroon. The main reason for this was the lack of basic services on either Bioko Island or the mainland portion of the country.⁵

There is no reason why this should necessarily be the case for STP, though Nigeria would no doubt be a rival for the provision of many services. Provided a timely and well-prepared and targeted training program is put in place,⁶ STP could, at a minimum, provide oil industry employees and their families with basic services such as lodging, food and restaurant services, carpentry, masonry, auto-mechanics, plumbing, domestic electricity and the like. Currently, the availability of the necessary skills is seriously limited, and it is not clear to what extent current publicly funded training programs are targeted towards them. The DTIS will investigate this issue and identify other ways in which STP’s local economy could benefit from oil industry spin-off.

In 2001, São Tomé and Nigeria reached agreement on joint exploration for petroleum in waters claimed by the two countries. The Nigeria/São Tomé & Príncipe Joint Development Zone (JDZ) is an area of overlapping maritime boundary claims to the NW of the archipelago (see Figure 1) that will be jointly developed by the two countries. A formal Treaty on the joint development of resources was developed following conflicting territorial claims regarding the EEZ. This was signed by Heads of State and subsequently ratified by respective legislatures in February 2001.

⁵ Health conditions are also poor. Not only is malaria prevalent, but the quality of potable water is deficient.

⁶ And that, in parallel, measures are taken to improve health conditions on the islands, measures which are necessary for development, exclusive of the needs of the oil industry.



Figure 1: Joint Development Zone Nigeria/ São Tomé and Príncipe

The key provisions of the Joint Development Zone treaty are:

- Definition of the Joint Development Zone by co-ordinates
- 60% of resources to Nigeria, 40% to Sao Tomé and Príncipe.
- Treaty to last for 45 years with review after 30 years.
- No renunciation of claims to the zone by both countries.

The affairs of the Joint Development Zone will be managed by a Joint Development Authority (JDA) that reports to a Joint Ministerial Council. The Council has overall responsibility for all matters relating to the exploration for and exploitation of the resources in the JDZ, and such other functions as the States Parties may entrust to it. The JDA has been established in international law and under the law of each of the States Parties and such legal capacities under the law of both States Parties as are necessary for the exercise of its powers and the performance of its functions.

In particular, the JDA shall have the capacity to contract, to acquire and dispose of movable and immovable property and to institute and be party to legal proceedings. Unless and until the Council otherwise decides, the head office and seat of the JDA shall be at Abuja, Nigeria, with a subsidiary office in São Tomé & Príncipe.

The JDA, subject to directions from the Council, is responsible for the management of activities relating to exploration for and exploitation of the resources in the JDZ, in accordance with the Treaty.

Functions include amongst others:

- controlling the movements into, within and out of the Zone of vessels, aircraft, structures, equipment and people;
- fishing activities and other development activities and the effective management of the Zone,
- environmental issues,
- the regulation of marine scientific research;

Each State Party may accept, in accordance with its own laws, applications by non-nationals to engage in non-petroleum development activity (which includes fishing activities) in the Zone, but shall forthwith inform the other State Party of each such application.

After a lengthy series of negotiations, in April 2003 the joint development zone (JDZ) was opened for bids by international oil firms. The JDZ was divided into 9 blocks; the winning bids for block one, Chevron Texaco, Exxon Mobil, and the Norwegian firm Equity Energy, were announced in April 2004, with São Tomé to take 40% of the \$123 million bid, and Nigeria the other 60%. Bids on other blocks were still under consideration in April 2004. São Tomé stands to gain significant revenue both from the bidding process and from follow-on production, should reserves in the area match expectations.

A.1.11 Environmental dimension

Governmental environmental policy is planned and prepared by the Environment Cabinet of the Ministry of Natural Resources and Environment. Activities of this cabinet focus on the development of documents and legislation related with environmental issues and its enforcement..

The main issues of concern are:

- Deforestation, with particular emphasis on the protection of large trees;
- Beach protection from sand extraction for construction purposes;
- Biodiversity plan;
- National Plan for the Environment;

Activities are very limited due to staff and budgetary limitations. Implementation, control and enforcement of legislation is very poor as a consequence of lack of human resources, and is largely dependent on Agriculture and Forestry services of the MADRP.

Environmental policy development of the Government of São Tomé and Príncipe is undermined by a lack of adequate environmental data on the national flora and fauna. Many species are not identified. This is particularly so regarding the assessment and conservation of marine populations.

A.1.12 Protection of the Marine Environment

In the marine area, the issue of sand extraction from the beaches has been the main focus of activities. With respect to turtle conservation and protection, the Ministry has no activities, and interventions in this area have been dependent on the activities of the NGO Marapa. This NGO has implemented a programme for protection of two nesting beaches in São Tomé and Príncipe. Marapa is linked to the European Union funded ECOFAC Programme (Conservation and Rational Use of Forest Ecosystems in Central Africa), which provides support for the Kudu programme (regional programme for the protection of turtles in the Western Africa).

São Tomé and Príncipe has signed the Abidjan Turtle Conservation Convention, established in 1999 through a Memorandum of Understanding under the Convention on the Conservation of Migratory Species of Wild Animals. Also in the marine area, São Tomé and Príncipe is member of ICCAT. More information is provided in Section A.2.5.1.

A.2 THE FISHERIES OF SÃO TOMÉ AND PRÍNCIPE

A.2.1 Oceanographic features

The Islands of São Tomé and Príncipe are part of the Cameroon volcanic ridge and represent the peaks of substantial seamounts. They have a very a restricted continental shelf, with an estimated area of 1469km² , 65% of which is around the island of Príncipe. The EEZ has an area of 160,000km² , comparable in size to Guinea (283,000 km²) and Gabon (213,600km²). The climate is equatorial oceanic, with a high rainfall >1000mm per year.

The islands are located in the equatorial alternation zone, subject to several major surface currents; the Benguela current, the South Equatorial and Guinea currents. A stratum of warm water (>24°C) overlays a cold water mass, separated by a thermal and saline discontinuity. The thermocline is relatively close to the surface in the eastern Atlantic (30-40 metres), and especially so in the Gulf of Guinea. The seasonal variations in the thermocline have a major effect on the fisheries of the region, and in particular the migratory fish stocks.

The oceanic conditions in the region are described by Schneider (1990)⁷. The various oceanic currents combine to create four distinct oceanographic seasons. The EEZ of São Tomé and Príncipe is situated on the front line of these systems, where mixing of cold nutrient rich water with warm tropical surface waters create good conditions for primary production. There is a long warm water season from February to May, a long cold season from June to November, a short warm season from November to January and a short cold season from Mid-December to January. The long cold season features a strong upwelling along the equator (the equatorial divergence) and along the north and south coasts of the Gulf of Guinea. The seasonal variations are expressed in the movements of two fronts which define the northern and southern limits of the extensions of the warm water layer. The northern front cuts the São Tomé and Príncipe EEZ across its North South axis, giving rise to a very strong seasonal effect on the abundance of different fish species. The main tuna fishing season is associated with the long cold season, from June to November when the tuna are thought to feed on sardine and other small pelagic fish associated with the plankton blooms at the oceanic fronts.

The volcanic nature of the region defines the demersal fisheries. Seabed conditions on the continental shelf are generally rocky and unsuitable for trawling, although there is a small limited trawl fishery in Príncipe. The shelf is very steep, with depths of 1000m within 1km of the shoreline. Small scale demersal line fisheries are therefore limited to close inshore. The possibility exists of offshore demersal fisheries on distal seamounts, but there has been no systematic exploration. There are deep water crustacean resources, principally the West African deep sea crab (*Chaceon spp.*) currently subject to a very limited trap fishery. Little is known of the distribution and biology of the species concerned.

A.2.2 Legal extent and characteristics of the EEZ

The EEZ was for the first time defined in 1978 and later codified by Law 1/98⁸. The Law defines the maritime waters under jurisdiction of São Tomé and Príncipe and exercises the rights conferred by international laws and conventions within the EEZ, and sovereign rights over the exploitation, conservation and administration of the natural resources (living and non-living). The EEZ is illustrated in Figure 2, on page 33.

The Joint Development Zone treaty between Nigeria and São Tomé and Príncipe allocates equal share of all resources within the zone. This includes living resources and fishing activity. However fishing within the Joint Development Zone is specifically excluded from the current EU/São Tomé and Príncipe Fisheries Agreement.. According to the treaty a separate agreement could be conducted with the JDA.

⁷ Field guide to the commercial marine resources of the Gulf of Guinea. FAO Species identification sheets for fishery purposes, Wolfgang Scheider, FAO Regional Office for Africa, FAO 1990

⁸ Adopted in 31.03.1998, by DR 3.

In respect to the EEZ delimitation with other neighbouring countries São Tomé and Príncipe has Agreements with Gabon and Equatorial Guinea:

- Agreement on the Delimitation of the Maritime Border between the Gabonese Republic and the Democratic Republic of São Tomé and Príncipe on the 26 April 2001.
- Treaty Regarding the Delimitation of the Maritime Boundary between the Republic of Equatorial Guinea and the Democratic Republic of São Tomé and Príncipe, 26 June 1999.

None of these have specific content relating to fishing activities.

A.2.3 Principal marine fishery resources

The fisheries of São Tomé and Príncipe may be considered to fall within two distinct groups, the oceanic fisheries (large and small pelagic fish) and the coastal fisheries.

A.2.3.1 Large pelagic fish stocks

The main oceanic fisheries of commercial importance in this region are for tunas, swordfish and shark.

The major species of **tuna** in São Tomé and Príncipe waters are: the yellowfin tuna (*Thunnus albacares*), which is the target of a dispersed fishery by the industrial fleet, and the bigeye tuna (*Thunnus obesus*) which is targeted by foreign fleets (long-line); the skipjack (*Katsuwonus pelamis*) is a smaller tuna which is normally found in the tropics and caught by purse seiners. The Atlantic swordfish (*Xiphias gladius*) is targeted by industrial surface longline fishing vessels, along with several species of shark (Table 11.)

Table 11: Main shark species caught in surface longline

Spanish Common name	English Common name	Species
Pez martillo / Tubarão	Hammerhead sharks	<i>Sphyrna spp.</i>
Marrajo ¹	Mako Shark	<i>Isurus oxyrinchus</i> <i>Isurus paucus</i>
Quella	Blue Shark	<i>Prionace glauca</i>
Jaqueton	Silky shark	<i>Carcharinus falciformis</i>
	Great white shark	<i>Carcharodon carcharias</i>

¹May also be the Porbeagle shark, *Lamna nasus*

A.2.3.2 Small pelagic fish stocks

There are several species of small pelagic fishes in São Tomé and Príncipe waters. These include the mackerel scad *Decapterus macarellus*, and the round scad *Decapterus punctatus*. There is a migratory stock of sardinella *Sardinella aurita* which is shared with Angola and Gabon. There are locally important resources of carangids and several varieties of flying fish.

A.2.3.3 Coastal fish stocks

The coastal marine fishes of the São Tomé and Príncipe archipelago have not been studied in detail. The last known survey of identification of coastal fish species of São Tomé and Príncipe, was undertaken by Afonso *et al.* (1999) of the University of Azores. Scientific expeditions by the Danish 'Galathea' (1950-52) and the French 'Calypso' (1956), as well as the Russian expeditions in 1983 and 1986 were undertaken. However there is no published record of any findings. Gascoigne (1993, 1996) compiled a bibliography on the fauna of the archipelago listing 26 references dealing with fishes. Since then, only two more publications have dealt with (non-commercial) species fishes from this area. Despite its proximity to the African Continent, it is clear that these islands harbour a unique fish fauna. The great majority of the species also occur in adjacent continental

coasts, but there is also clear influence of the islands further west (St. Helena and Ascension) and ultimately of the Western Atlantic. It is interesting to note that several Atlantic-wide species appear to occur in the eastern Atlantic only at these oceanic islands.

The geological characteristics of both islands suggest a higher presence of demersal stocks around the island of Príncipe due to a more extensive continental shelf.

São Tomé island is surrounded by a steep slope, in some places reaching 1000m deep within 1km of the shore. This influences the type of demersal species which are available (as well as their accessibility) and means that the demersals of São Tomé and Príncipe can be considered as deepwater species. Species of fish living below 200m are not exploited. Some of the demersal fish stocks may have potential for the EU market, including *Pagrus spp.* (pargo) and *Polyprion americanus* (cherne).

Some of the most important commercial species are listed in Table 12. No biological studies have been conducted on the stock size.

Table 12: Main demersal resources

Local name	Scientific name	English name
Pargo	<i>Pagrus caeruleostictus</i>	Bluespotted seabream
Cherne	<i>Polyprion americanus</i>	Wreckfish
Badejo Branco	<i>Epinephelus goreensis</i>	Dungat grouper
Caqui	<i>Holocentrus ascensionis</i>	Squirrelfish
Coelho	<i>Lagocephalus laevigatus</i>	Smooth puffer
Cozinheiro	<i>Drepane africana</i>	African sicklefish
	<i>Ephippus goreensis</i>	African spadefish
Malagueta	<i>Pagellus bellottii bellottii</i>	Red pandora
Moreia	<i>Muraenidae</i>	Moray eel
Roncador	<i>Pomadasys rogeri</i>	Pignout
Vermelho fundo	<i>Dentex macrophthalmus</i>	Large-eye dentex
Vermelho Sangue	<i>Erythrocles monody</i>	Atlantic rubyfish
Tubarão	<i>Ginglymostoma cirratum</i>	Nurse shark
	<i>Rhizoprionodon acutus</i>	Milk shark
	<i>Sphyrna lewini</i>	Scalloped hammerhead shark
	<i>Charcharias taurus</i>	Sand tiger shark

A.2.3.4 Other species

There is a catch of cephalopod molluscs, which include octopus and cuttlefish species. There is also a small catch of deepwater crab (locally known generally as *santola*). At present research is being developed by University of Algarve on these deepwater crabs of São Tomé and Príncipe. One mission took place in July 2004 and it provisionally identified the species as:

- *Chaceon sanctaehelenae* Manning & Holthuis, 1898 – locally known by fishers as santola or caranguejo
- *Chaceon gordonae* (Ingle, 1985) – locally known as caranguejo-rei (previously also identified as being *C. atopus*)

Biological measurements were taken and some crabs were sent to the London Museum for confirmation of the species. The research team hopes to identify funds to commence a stock assessment exercise during the next months.

A.2.4 Fishing activities

A.2.4.1 Artisanal sector

Artisanal fishing is pursued in the coastal zone by canoes. There are 23 principal fishing beaches and 12 secondary beaches. The evolution of the fleet is shown in Table 14. The artisanal fleet in 2003 comprised 1,614 canoes, of which about 20% are motorised. The number of canoes has fallen by about 12% since 1995, as shown in Table 14. More noticeable is a decline in the number of powered craft from about 662 in 1995 to 339 in 2003. The artisanal sector is decapitalising, principally due to the weakness of the local market.

Fishing in São Tomé and Príncipe is undertaken by an artisanal fleet of wooden canoes and a small segment (less than 10 vessels) of semi-industrial fibre-glass open-deck vessels of around 12m length. Fishing gears are indicated in Table 13.

Table 13: Common fishing gears in STP

Fishing gear	Type of utilisation	Local description
Gillnets	for surface fishing (drift net) for bottom fishing	Rede voador (most commonly used) rede carapau /rede feijão
Purse seine nets	Purseseining (small pelagic species) (35 to 75mm) targeting specifically <i>Hemiramphus balao</i>	Cerco (most commonly used) Rede maxipombo
Hand line	Bottom fishing Surface	Linha de mão / Palangre de fundo / pingue Corrico / brindado
Beach seining nets	Seining and trawling to beach	Arrasto de praia
Cast net	Surface fishing (small pelagics)	Tarrafa
Crab pot	Deepwater fishing for crab	Armadilhas / covos

Table 14: São Tomé and Príncipe artisanal fishing sector – key characteristics

Districts	No of Fishers		Canoes with oars		Canoes with motors on board		Total No. Conoes	
	1995	2003	1995	2003	1995	2003	1995	2003
Lembá	508	509	386	446	182	87	611	533
Lobata	155	180	137	151	22	11	165	162
Á.Grande	791	462	276	149	211	75	520	230
MéZóchi		194		130		25		155
Cantagalo	135	158	71	109	52	25	121	134
Caué	351	284	175	175	128	69	324	244
Pagué	120	202	41	114	67	47	99	156
Total	2,060	1,989	1,086	1,274	662	339	1,840	1,614

Source : Direcção das Pescas

Artisanal fisheries represents an important source of employment, being in some regions one of the principal productive activities. In 2003 employment in fisheries numbered 1,989 fishers in direct employment, mainly in the areas of Agua Grande and Lembá. This shows a slight decline of about 80 fishers since 1995.

A.2.4.2 National Semi-Industrial and Industrial Fleet

A small semi-industrial demersal trawl fleet targeting shrimp historically operated from São Tomé and Príncipe, has migrated to other African nations during the last few years due to the lack of access to the EU market for São Tomé and Príncipe fishery products. The vessels carry the flag of either Gabon, Cameroun and Equatorial Guinea and fish in the coastal waters of these states. They either land their catch to packers/exporters in these countries, or in the case of some of the vessels, tranship to reefer vessels in São Tomé bay. Activities are sporadic, and frequently interrupted due to lack of fuel supplies. Trip length is reported to be around 1 week. There is no data available on the catches from this sector.

In addition to the shrimp sector, the consultants were informed that an STP flagged vessel (DELFIN S.T. 171 under the ownership of Ottomar Maritime of Spain) was licensed until 2005 to operate in the STP EEZ to fish deep water crab with traps. The vessel is reported to be supplying the Iberian market with frozen crab claws.

A.2.4.3 São Tomé and Príncipe Flagged vessels operating in international waters

The Government of São Tomé and Príncipe operates an international vessel register. In 2001, the São Tomé and Príncipe flag was defined as a flag of convenience by the International Transport Workers Federation (<http://www.itf.org.uk>). On the 14th October 1999, the register had 23 fishing vessels. By 2001 the register had 91 vessels of all types. Later, in 2001/2002 the register appeared to have 31 fishing vessels. At least one of these is reported by the DP to have been re-flagged from an EU member state with a beneficial owner in the EU and another vessel (the Australia) was operated as an EU- São Tomé and Príncipe joint venture (Africa Pesca Lda). In 2001 at least one Portuguese owned vessel was recorded as operating with the São Tomé and Príncipe flag⁹. The São Tomé and Príncipe vessel register has not been transparent in the past. However the authorities appear to have taken some actions to restrict the registration of vessels without direct links to STP.

⁹ Revised Working Document 3: On the role of flags of convenience in the fisheries sector, Committee on Fisheries, European Parliament, 23 October 2001

The register is now held by the Capitania do Porto in São Tomé¹⁰. The register presently contains 5 fishing vessels, as indicated in Table 15.

Table 15: Current fishing vessels registered under the STP Flag

Name	Registration No.	Length	GRT	Validity	Owner
Delfim	ST171	27.89	110.8	31/12/2005	Ottomar Marine (Spain)
Antoxo	ST186	26.7	71.5	23/03/05	José Ramos Horta (Spain)
Jantel	ST187	34.75	220	7/05/2004	Vitor Nunes/Juliano Nogueira (Portugal)
Kinsai Maru 38	ST188	48.33	379	27/07/2004	H.Suisan Company, Taiwan
Ilha Graciosa	ST191	44.84	419	11/04/2005	João Laida Marques (São Tomé/Portugal)

Of these vessels, it is thought that at least the Ilha Graciosa and the Delfim operate in the STP EEZ. No data is available on production from this sector, although it is likely that historical levels of exports from São Tomé and Príncipe to the EU include production from this fleet. (see section A.2.5.3).

A.2.4.4 Industrial (non-EC) Foreign Fleet

The São Tomé and Príncipe DP also issues a number of individual fishing licenses to foreign flagged vessels¹¹. In 2003, these reportedly numbered 13 surface longline vessels, of which it was alleged that 9 were Taiwanese, 2 Japanese and 2 Portuguese. We do not know the identity of any of the vessels. The license fee is set by the Director of the DP and its basis was not made available to consultants, but it is believed to be based on GRT/month. Typically a surface longliner of 498GRT would pay an annual fee of USD39,840 but the rates are reported to be substantially discounted. The lack of transparency arouses the suspicion of corrupt practices and (at least) the potential for internal conflicts of interest.

In addition the São Tomé and Príncipe /Angola fisheries agreement provides fishing opportunities for up to 6 Angolan tuna fishing vessels. It is not known if any of these opportunities are utilised.

A.2.5 Fish Catches

A.2.5.1 The oceanic fishery

ICCAT data catch information for the tuna and tuna-like species targeted by the foreign vessels is not specifically available for the São Tomé and Príncipe EEZ. It is however available for sea areas which include this EEZ. ICCAT catch data is aggregated at the level of 5° squares. The São Tomé and Príncipe EEZ falls within the square with sides 5°N to 5°S and 0°W to 10°E. This area, which we will call here the São Tomé and Príncipe ICCAT Box, is indicated on the map in Figure 2. The area covered by the EEZ corresponds to approximately 16% of the São Tomé and Príncipe ICCAT Box.

¹⁰ the consultants believe that previously the register was operated from a based in Switzerland

¹¹ The DP declined the consultants' request for information regarding arrangements with non-EU foreign vessels, citing the need to retain confidentiality in advance of forthcoming renewal negotiations with the EU.

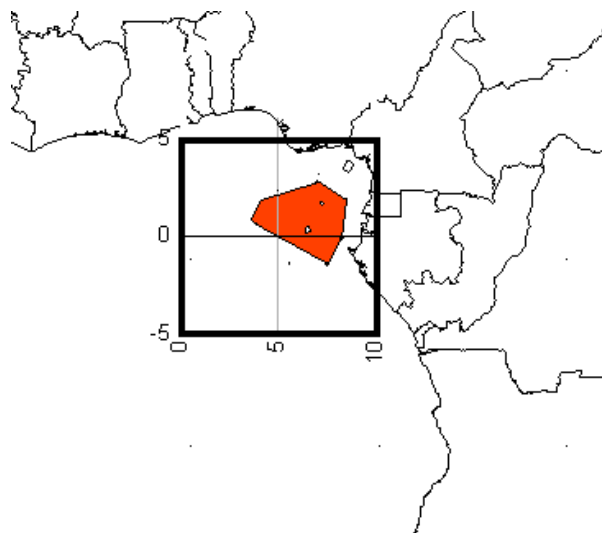


Figure 2: ICCAT data square and the São Tomé and Príncipe EEZ

In this São Tomé and Príncipe *ICCAT Box* the major fishing effort is by EU, Taiwanese, Chinese and Japanese longliners, and EU purse seiners. The annual catches by species are shown in Table 16.

In the period 1991-2000 the annual average catches in the *São Tomé and Príncipe – ICCAT Box* by all fleets was 18,625 tonnes of skipjack (44% of the total catches), 17,701 tonnes of yellowfin (41% of the total catches), 5,431 tonnes of bigeye (13%) and 1,053 tonnes of swordfish.

Table 16: Annual catches in ST&P ICCAT Box by species

Year	Catch (tonnes)									
	Albacore Tuna	Bigeye Tuna	Bluefin Tuna	Blue Marlin	Sailfish	Skipjack	Swordfish	White Marlin	Yellowfin Tuna	Total
1991	9	6,287		17	3	42,279	1,347	19	20,425	70,387
1992	28	6,190		25	1	30,082	761	16	26,813	63,915
1993	31	5,813		22	2	14,935	820	23	20,650	42,296
1994	2	7,939		85	14	31,858	2,604	4	18,269	60,777
1995	33	6,160		94	14	11,883	1,855	10	11,095	31,143
1996	240	5,917		61	114	14,386	1,120	425	22,868	45,131
1997	7	3,344		68	12	5,354	964	8	10,053	19,808
1998	11	2,918		71	13	7,296	417	9	13,289	24,024
1999	151	5,879	0	114	18	14,306	311	11	17,738	38,528
2000	1	3,860	1	39	3	13,867	333	3	15,808	33,915
Average	51	5,431	1	59	19	18,625	1,053	53	17,701	42,993
%	0.1	12.6	0.0	0.1	0.0	43.3	2.4	0.1	41.2	100

Source:ICCAT data from Catdis.MDB, for the São Tomé and Príncipe – *ICCAT Box*
<http://www.iccat.es/accessingdb.htm>

Until 1994 there was an important pole and line fishery from Ghana (Ghanaian and Panamanian flagged vessels), with catches in some years higher than 20,000 tonnes. However since 1994 no catch reports with pole and line have been made. Since 1994 all of the skipjack and yellowfin tunas are caught by purse seine

vessels, which also catch the smaller sizes of bigeye tuna. EU longliners target swordfish and shark, and Japanese and Taiwanese surface longliners target bigeye tunas.

The long term trends of the fishery in the São Tomé and Príncipe region are shown in Figure 4. Yellowfin tuna catches peaked in the mid-1970s and have been in decline ever since. Maximum catches in the region were recorded in 1975. Although the figure illustrates significant variation between consecutive years, there is clear evidence of a decline in catches of both yellowfin and skipjack tuna throughout the 1990s. The share of the European Union catches reported in ICCAT for this area for the decade 1991-2000 accounted for 68% of the yellowfin catches, 64% of the swordfish, 43% of the skipjack, and 40% of the bigeye.

Catches of Skipjack, Yellowfin, and Bigeye in STP - ICCAT Box (1955-2000)

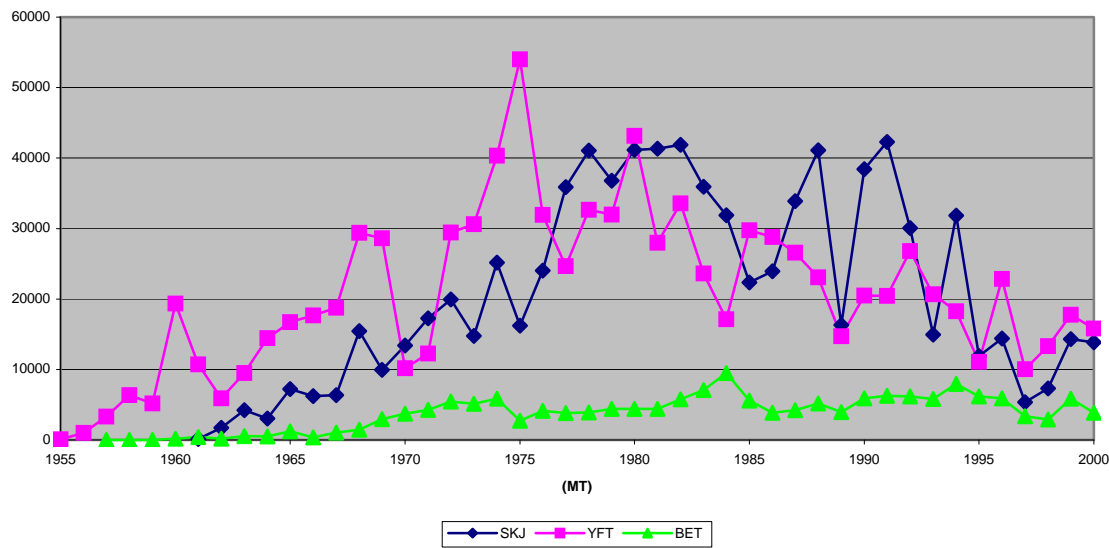


Figure 3: Skipjack (SKJ) Yellowfin (YFT) and Bigeye (BET) catches (in tonnes) in São Tomé and Príncipe - ICCAT box, 1955 – 2000

Source ICCAT data from Catdis.MDB, for the *São Tomé and Príncipe – ICCAT Box* <http://www.iccat.es/accesingdb.htm>

The fishing season follows a distinct pattern associated with the annual upwelling from May to December. Only small quantities of tuna are available in the São Tomé and Príncipe EEZ outside of this season, as indicated in Figure 5.

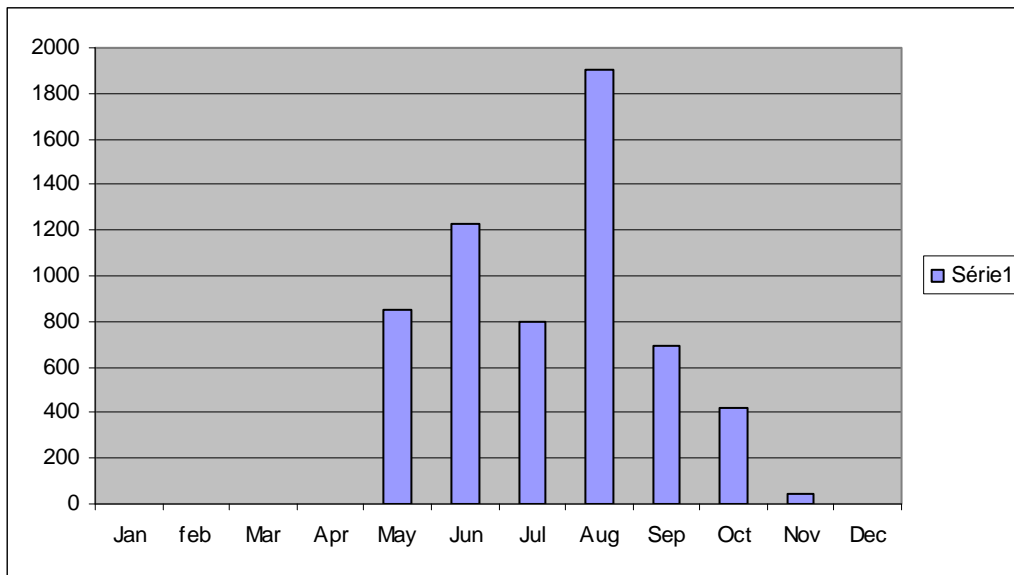


Figure 4: Seasonality of tuna catches (in tonnes) by purse seiners in the São Tomé and Príncipe EEZ, 2002

A.2.5.2 Catches from the artisanal fishery

There is a lack of comprehensive data relating to the actual catch of local artisanal fishing. No regular catch statistics are generated. Estimates are prepared from annual surveys. The catches from the artisanal sector from 2000 to 2003 are shown in Table 17. Catch levels are reported to be steady at around 4000 tonnes per year, with little seasonal variation.

The most important local fisheries, from the point of view of supplies to market, target mobile pelagic species, namely the flying-fish, scads, little tunas, and half-beaks. About 65% of the total artisanal catch comprises pelagic fish with small pelagics representing at least 40% of total catch. The Atlantic flyingfish *Cheilopogon melanurus* represented the main resource (27% of artisanal fisheries) while the small tuna species frigate tuna and little tunny represented respectively about 10% and 5% of the catch. Yellowfin and skipjack tunas (also targeted by the EU fleet) comprise about 11% of the catch. Sardines represent only a very small proportion of the catch, being around 0,3t in 1997. Demersal species, which represent around 12% of total catch of this local fishery, are only exploited up to a depth of 200m depth

The fishery for deepwater crabs in São Tomé and Príncipe is characterised by a very small scale operation of extremely low effort. Fishing for deepwater crabs was initiated in 1975 by a Portuguese investor. The operation ceased in the mid-80s, but the technology (deepwater pot fishery at 500m to 1000m depth, within 2 km of the shore) was adopted by a group of local artisanal fishers (4 x 8m canoes each working one hand operated pot, operating from the village of Neves. The main fishing zone is in the Neves area (from Lagoa Azul to Ponta Figo).

Table 17: Catches from the artisanal sector from 2000 to 2003

Local name	English Name	Latin Name	1997		2000	2001	2002	2003
			Total	%				
			tonnes	of total	Estimated Species Total			
tonnes								
Agulha espada	Flat needlefish	Ablennes hians	59.31	1.8	72.64	66.34	68.64	72.55
Asno	Bluespotted triggerfish	Balistes punctatus	33.78	1.0	41.37	37.78	39.09	41.32
Atun flogo	Bigeye tuna	Thunnus obesus	4.83	0.1	5.92	5.41	5.59	5.91
Atum Judeo	Skipjack tuna	Katsuwonus pelamis	6.86	0.2	8.40	7.67	7.93	8.39
Atum Olede	Yellowfin tuna	Thunnus albacares	4.10	0.1	5.02	4.58	4.74	5.01
Badejo	Dungat grouper	Epinephelus goreensis	18.27	0.6	22.38	20.43	21.14	22.35
Barracuda	Great barracuda	Sphyræna barracuda	56.24	1.7	68.88	62.90	65.08	68.79
Bonga	Bogue	Boops boops	17.06	0.5	20.90	19.08	19.74	20.87
Bonito	Blue runner	Caranx crysos	138.90	4.2	170.12	155.35	160.73	169.91
Caqui	Squirrelfish	Holocentrus ascensionis	99.33	3.0	121.65	111.09	114.94	121.50
Carapau	bigeye scad	Selar crumenophthalmus	42.99	1.3	52.65	48.08	49.74	52.58
Cavala	Mackerel scad – Round scad	Decapterus macarellus – Decapterus punctatus	80.19	2.4	98.21	89.69	92.80	98.09
Cherne	Wreckfish	Polyprion americanus	30.97	0.9	37.93	34.63	35.83	37.88
Choco	Cuttlefish	Sepia officinalis - Sepia rondeleti	0.25	0.0	0.31	0.28	0.29	0.31
Coelho	Smooth puffer	Lagocephalus laevigatus	3.30	0.1	4.04	3.69	3.82	4.04
Colombeta	Pompano dolphinfish	Coryphaena equiselis	36.50	1.1	44.70	40.82	42.24	44.65
Concon	Flying gunard	Dactylopterus volitans	145.27	4.4	177.92	162.48	168.11	177.70
Corcovado	Crevalle jack	Caranx hippos	45.57	1.4	55.81	50.96	52.73	55.74
Cozinheiro	African sicklefish / African spadefish	Drepane africana / Ephippus goreensis	14.77	0.4	18.09	16.52	17.09	18.07
Fulufulu-Aux	Frigate tuna	Auxis thazard	322.76	9.8	395.29	360.97	373.49	394.80
Fulufulu-Eut	Little tunny	Euthynnus alletteratus -	159.18	4.8	194.96	178.03	184.21	194.72
Malagueta	Red Pandora	Pagellus bellottii bellottii	36.11	1.1	44.22	40.38	41.78	44.17
Maxipombo	Balao halfbeak	Hemiramphus balao	121.81	3.7	149.19	136.24	140.96	149.00
Moreia	Moray	Muraenidae	1.32	0.0	1.61	1.47	1.52	1.61
Osso Mole	Cottonmouth jack	Uraspis secunda	14.91	0.5	18.26	16.67	17.25	18.23
Pargo	Bluespotted seabream	Pagrus caeruleostictus -	49.51	1.5	60.64	55.37	57.29	60.56
Peixe Andala	Atlantic sailfish	Istiophorus albicans	232.65	7.0	284.93	260.19	269.21	284.58
Peixe Fumo	Wahoo	Acanthocybium solandri -	151.66	4.6	185.75	169.62	175.50	185.52
Peixe Serra	West African Spanish mackerel	Scomberomorus tritor	8.83	0.3	10.82	9.88	10.22	10.80
Polvo	Octopus	octopus vulgaris	4.15	0.1	5.08	4.64	4.80	5.07
Roncador	Pignout	Pomadasy's rogeri	30.60	0.9	37.48	34.22	35.41	37.43
Sardinha	Sardine	Sardinella aurita	0.27	0.0	0.33	0.30	0.31	0.33
Tartaruga	Marine Turtles	Not specified	23.40	0.7	0.00	0.00	0.00	0.00
Tubarao	Sharks		123.23	3.7	150.92	137.82	142.59	150.73
Vermelho Fundo	Large-eye dentex	Dentex macrophthalmus	83.18	2.5	101.87	93.03	96.25	101.74
Vermelho San	Atlantic rubyfish	Erythrocles monodi	7.97	0.2	9.76	8.91	9.22	9.75
Voador	Atlantic flyingfish	Cheilopogon melanurus	897.96	27.2	1099.77	1004.29	1039.11	1098.41
Diversos			216.539	6.6	263.3376	240.4755	248.8127	263.0119
TOTAL			3,324.51	100	4,043.00	3,692.00	3,820.00	4,038.00

Note: Total catches reported for 2000-2003 were factored for species based on 1997 catch breakdown.

A.2.5.3 Catches under the EU/ São Tomé and Príncipe Protocol

A summary of the EU vessel catches of tuna and tuna-like fishes under the São Tomé and Príncipe /EU Fisheries Protocol. (2000-2003), specifically reported in the São Tomé and Príncipe EEZ is shown in Table 18. EU vessels in the São Tomé and Príncipe EEZ reported annual catches of 1,839 tonnes, 3,361 tonnes, 7,457 tonnes and 1,307 tonnes during the last four fishing seasons.

Table 18 : Summary of EU catches.

Sector/Country	2000/2001		2001/2002		2002/2003		2003/2004	
	No. Vessels	Catch (tonnes)	No. Vessels	Catch (tonnes)	No. Vessels	Catch (tonnes)	No. Vessels	Catch (tonnes)
<i>Tuna seiners</i>								
France	14	1,499	15	2,274	6	5,939	11	1,011
Spain	5	340	5	932	7	1,475	5	296
Sub-total	19	1,839	20	3,206	13	7,414	16	1,307
<i>Longliners</i>								
Spain	n/a	n/a	3	155	2	43	1	2.5
Portugal	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sub-total	n/a	n/a	3	155	n/a	43	n/a	n/a
TOTALS	19	1,839		3,361		7,457	37	1,309

Source: São Tomé and Príncipe DP

Most of the catch is tuna and the variable nature of the fishing pattern is clear and typical for oceanic tuna fisheries which follow the variable migration pattern of tuna stocks. EU longliners targeting swordfish and shark appear to be few in the São Tomé and Príncipe EEZ, with only three reporting longliners from Spain in 2003/2004.

A.2.6 Ports and infrastructures

For an island state, the ports and onshore support infrastructure are weak. In São Tomé town, the main commercial area, the harbour area is very limited in depth limiting the size of vessels which may enter. Larger fishing vessels (including the EU fleet) are forced to tranship well offshore when visiting São Tomé.

The only other facility is the ongoing port development project in Neves. This is the location of the largest fishing community and, due to the absence of any shelf, deepwater is found close to the shore. Porto de Pesca at Neves was first constructed in the 1960s. It is a deep water port, which is now being refurbished by the DP with bilateral assistance from the Government of Spain. The current phase is the reconstruction of a quay and port offices. The quay will have 30m length and accommodate vessels with a draught up to 7m. This will be operational in late 2004.

The second phase (funding still to be allocated) will refurbish the cold stores, ice plant and processing hall, and a repair yard with slip way (possibly 20-30m). The facility will be managed by a Spanish/STP Joint venture. It will serve the EU tuna fleet (refuelling, crew changes, gear store and transhipment) and the local artisanal sector (training, landing site, ice supply, fish processing and exports of fresh and frozen fish). The Porto de Pesca at Neves is located next to the main fuel loading and storage facility for STP.

In respect of service or technical assistance in the country for industrial fishing vessels there are no specialised companies or personnel available. Any specialised operations require that technicians be brought in from abroad. However, this may be expected to change once larger vessels start to use Neves port.

A.2.7 Processing Activities

There are two cold storage processing facilities. Both are currently out of action.

1. SNCP is a parastatal company with a cold store and processing hall near Neves, funded with EDF support in the 1992. Precise ownership is not known and there is no activity.

2. The other cold storage processing facility forms part of the shore infrastructure of Porto de Neves, described in the previous section. This includes cold storage, freezing facilities, processing area and ice plant. The facilities are currently completely broken down and require rebuilding. The site has considerable potential to re-invigorate the São Tomé and Príncipe fishery sector, subject to the overcoming of the export health condition constraint.

Small scale fish processing (smoking/drying and salting) takes place in the South of São Tomé Island. The precise numbers of processors is not known.

A.2.8 Fish distribution

Fish distribution and marketing in São Tomé and Príncipe is undertaken mainly by women in each of the fishing communities as mentioned before. The distribution and market system is weak, without any significant infrastructure support, adequate water supply, ice availability, chill or cold storage. An ice machine operated by MARAPA is no longer functional. Distribution of fish from remote communities is a problem. Market information is not available. There is no weighing (sales are by unit), no species differentiation in the prices, and prices have not changed for several year, all evidence of the low purchasing power of the local market. The DP plans to construct a new wholesale and retail fish market at Praia Melão, at a cost of €82,000. The project is to be financed by the state budget and is planned for completion in 2005.

There is only a small ice block production plant in the city of São Tomé although this does not regularly work and distribution is quite limited. There is no ice supply or any refrigeration facilities for fresh fish marketing and processing activities in the two islands. At present there is no link or strategy to establish fish export operations based on artisanal fishing. This is considered by the consultants as an essential step for the development of the entire sector, and would contribute decisively to poverty reduction in the region.

A.2.9 International trade in fishery products

The EU has historically represented the main trading partner for STP, on all goods as well as fishery products. EU/STP trade in fishery products is shown in Table 19. Exports from São Tomé and Príncipe involve many Northern Atlantic fish products from demersal trawls (e.g. cod represented 24% and 30% of total tonnage in 2000 and 2001). Exports decreased significantly from around 2,300t in 2000 to zero in 2003, also accompanying the decrease of this fleet. Sharks represented 32% and 20% of total quantity in 2000 and 2001 and in these years swordfish represented 32% and 51% of the value, suggesting that at least one surface longliner was also operating. For the same period exports were all delivered to Portugal, while in 2002 most was sent to Spain.

Table 19: Exports of fishery products to the EU from STP

Products	2000		2001		2002	
	Value €1000	tonnes	Value €1000	tonnes	Value €1000	tonnes
Fresh						
Swordfish			951	145	164	20
Sharks			87	73	20	18
Others			16	11		
<i>Total</i>			<i>1,052</i>	<i>229</i>	<i>184</i>	<i>38</i>
Frozen						
Cod	1,670	1,021	574	359		
Sharks	2,192	1,378	212	237		
Hake	366	282	20	40	38	15
Swordfish	1,923	443	203	59		
Squid	61	49	26	52	420	347
Alaska pollack	655	245				
Flat fish	371	321				
Others	1,171	555	158	213		
<i>Total</i>	<i>8,409</i>	<i>4,294</i>	<i>1,193</i>	<i>960</i>	<i>458</i>	<i>352</i>
TOTAL	8,409	4,294	2,245	1,189	642	400

Imports from the EU accounted for just 75 tonnes in 2003 with a value of €0,21 million. The type of products have varied over the years although for the last 2 years it has involved mainly canned fish products. In 2000 it was mainly dried salted cod, and in 2001 frozen sardines and mackerel.

A.2.10 Fisheries sector organisations

There are two fishery sector organisations of importance.

GIEPPA – Grupo de Interesse de Economia de Palais e Pescadores Artesanais

This group is a federation comprising 7 fishermen's associations and 1 women's fish vendor association representing 7 fishing communities. It represents around 200 members from a total of about 8,000 fishers and vendors. They have a small workshop for outboard motors and sell fishing gear to fishermen, but commercial services have ceased due to very limited financial resources and lack of human resources (both in number and technical capabilities). The performance of GIEPPA is very dependent on hand-outs from the Direcção das Pescas and MARAPA. The organisation is weak, and does not perceive itself as a representative of the sector.

MARAPA – Mar Ambiente e Pesca Artesanal

MARAPA is a NGO comprising 5 qualified staff (with degrees), 3 medium level staff, 4 guards (including beach guards) and 1 secretary. It was established in 1999 with the objective of providing a vehicle for

continuation of work done under the previous Artisanal Fisheries Project (with funding of IFAD, Japan and later on French Technical Cooperation).

Current activities are funded from a range of sources; French Technical Cooperation, EDF (via the Ordenateur Nacional) and the DP (using targeted action funds under the 1999/2002 FA.). The organisation has a number of programmes:

- Development of artisanal processing for fishing communities (salting and drying processes; involving 10 communities in São Tomé and 6 in Príncipe, mainly women);
- Training of mechanics to service outboard motors for artisanal fishing;
- Supply of motors, knives and drying equipment, using credit.
- Social development using volleyball training in fishing communities.
- Supply of ice for fresh fish distribution (although the IFAD supplied ice machine in the city has now broken down and is waiting for spare parts)
- environmental protection of turtles, to promote eco-tourism; two beaches are protected by guards (protection of turtles from humans and natural predators, tagging, collection of eggs, protection of incubation, release of born turtles, protection of beach in terms of sand exploitation), collection of data for ECOFAC programme.

A.2.11 Socio-economic importance of fisheries

A.2.11.1 Fishing

Artisanal fishing is pursued for subsistence purposes with the balance sold for distribution. Subsistence fishing is more likely in small and remote communities which lack distribution and commercial systems. It is also common for small scale farmers to undertake subsistence fishing to supplement the family diet.

Fisheries are therefore, significant for providing income and a source of food supply. In both cases this activity has an important role in supporting rural livelihoods. In locations located close to urbanised areas where both distribution facilities and a trading system exists fisheries can be regarded as a making an important contribution to poverty reduction.

There is little employment in foreign vessels including regional and international fleets.

A.2.11.2 Vessel construction and repairs

The artisanal fishing communities have some carpenters working without machines on canoe construction for artisanal fishing, but these people are not counted in social statistics. The ONG Marapa – *Mar Ambiente e Pesca Artesanal* – has had an intervention in this area by encouraging the construction and acquisition of the so-called ecological canoes (using other material appropriate for marine purposes, instead of trees). Until now 40 canoes of this type have been built (2.5% of the total 1,614 canoes in 2003).

In respect of assistance for industrial fishing vessels there are slipway facilities in São Tomé capable of providing basic services to vessels up to 250GRT. However there are no specialised companies or personnel available for engineering repairs. There are only automobile mechanics or technical personnel in electronics field. Any specialised operation requires technicians from abroad.

In 2003 there were 340 outboard motors. There is lack of skilled labour for service and repair. The decrease of the number of outboard motors from 754 in 1995 to 340 in 2003 is a result of lack of revenues, reflected in a lack of demand for professional services.

A.2.11.3 Fish processing and marketing

Downstream activities include fresh fish selling, managed mostly by women. This activity is linked with landings of all national fishing activities (artisanal and semi-industrial fleet).

Marapa has assisted in developing and implementing artisanal processing for fishing communities (salting and drying processes). This has involved 10 communities in São Tomé and 6 in Príncipe, with mainly women being the beneficiaries of these actions.

A.2.11.4 Employment in fisheries

Employment and dependency in fisheries is shown in Table 20.

Table 20 : Employment and dependency ratios in fishing

Population	2001
Total Population	137,599
Total Active Population	52,192
Employment in Fisheries Sector	2003
Artisanal Fishermen	2,000
Industrial Fishers in Foreign Fleet	140
Fishers in Industrial EU/FPA Fleet	25
Women Fish Vendors	6,000
Processing industry	0
Administration (Ministry. DP)	20
Total employment in fisheries	8,185
Ratios (employment)	
<i>Ratio of Total employment in Fisheries</i>	15.7%
<i>Ratio of Total employment in Fishing</i>	4.1%
<i>Ratio of Total Fish Vendors activity</i>	11.5%

Sources: IMF, São Tomé and Príncipe. Statistical Annex Direcção das Pescas, Consultants estimates.

Employment in fishing is estimated to occupy 2,165 persons mainly due to artisanal fisheries, which is undertaken in canoes (1 to 4 people). About 140 are employed in the semi /industrial vessels (although these frequently operate under Gabonese or Cameroon flags. The EU surface longline fleet operating in W.African waters is reported to employ an estimated 20-25 persons of STP nationality. Only some of these vessels are thought to fish within the STP EEZ, and this employment is therefore not considered to be strongly linked to the Fisheries Agreement. Overall an estimated 4.1% of the working population are employed in fishing.

There is little specific employment related to upstream activities. The numbers are few and limited to artisanal vessel construction and repair, there are no specialised suppliers or commerce of fishing gear.

Small scale fish processing and marketing is reported to employ some 6.000 women vendors ("palayés"), comprising around 11.5% of the total active population.

Overall dependency on fishing activities is quite evident in São Tomé and Príncipe, with the sector estimated to support directly or indirectly some 8,200 jobs. The employment dependency ratio for 2003 is estimated at 15.7% of the active population.

A.2.11.5 Nutrition and food supply

Annual fishery product consumption is estimated to be around 29.8 kg/capita. This represents about 74% of the consumption of animal products¹². Nutritional dependency on fish products is therefore quite high. Fish is in fact the major source of animal protein.

A.2.11.6 Livelihood analysis

Human Capital

Although adult literacy rate in 2001 was 83.1% - fairly high by African standards, the education system is considered to contribute little to the development of the country. Education is characterised by high drop-out and repetition rates. There is also a lack of secondary and tertiary education and the conditions of schools are poor. Efforts to eradicate illiteracy have had relatively unsuccessful results with a tendency for regressive illiteracy. School enrolment rates are thought to be decreasing.

Fishermen of São Tomé and Príncipe represent a low cost workforce for the foreign fleets, with no technically skilled personnel. Average wages for São Tomé and Príncipe crew are in the region of €250/month¹³.

In the artisanal sector most of the fishers are identified as subsistence fishers, principally due to their limitations in skills, educational attainments, individual expectancies and location in remote communities, all of which contribute to limited livelihood benefits. This explains why fishers and fish vendors are amongst the poorest in the country. Annual incomes are in the region of €300-500 and are comparable with rural poor.

In the fishery sector there are no specialised training programmes. There are no fisheries training or research institutions or departments in São Tomé and Príncipe or relevant skills courses at medium/high school level to contribute to development of human capital in the sector. There is no knowledge of coastal resources (demersal, small pelagics and crustaceans) and oceanographic characteristics. Specialised human resources for research are practically non-existent, in particular in the area of stock assessment. Occasional training of DP staff is undertaken overseas. Data storage and organised libraries within the DP do not exist, which perpetuates a lack of learning and development.

The only institution contributing to development of human capital is the ONG MARAPA where training of mechanics for outboard motors for artisanal fishing has been undertaken, although in limited numbers.

Natural Capital

The São Tomé and Príncipe archipelago is characterised by high marine biodiversity with the resource dimension appearing to be relatively small. However there are few biological studies reported and little related data. Fish resource surveys undertaken by Russian scientists in 1970s and 1980s are not available. There is no accurate knowledge of the resource potential or availability. A deepwater crab resource is available, and a study by the University of Algarve has just commenced with a mission to identify the species. Future funding is sought to continue work on this species. Much more needs to be done to characterise the biology, ecology and population dynamics of all fishery resources.

In view of the type of fishing practices/effort it is unlikely that the fisheries during the last years have been damaging to coastal resources. Demersal resources caught by hook and line gear, between 100m and 200m depth have a low fishing pressure and below 200m there is no fishing at all except for a small catch of deepwater crab. However the precise total level of fishing by foreign fleets and the respective impact is not known. Fishing by some semi-industrial vessels is not characterised at all.

Post-harvest aspects need to be improved in order for fishers to improve the economic utilisation of catch. The market distribution system is very weak, ice is not available, other preservation methods are very limited,

¹² Calculations account for an average supply of 4,100t of fish products (local production and imports) and a per capita consumption of 8 kg/year of meat and 2.34 kg/year of eggs (based on FAO 2001 food balance sheets) considering a total population of 137,600 in 2001.

¹³ According to the maritime agencies interviewed by the consultants in São Tomé (Equador and Sonatrans)

and buying power is very low. Fish is not weighed throughout its distribution and sale is typically by unit rather than weight. There is no price differentiation between species. These factors are indicative of the fact that most of the small fishing communities maintain a subsistence type activity, with limited potential for developing livelihoods. There is a need for strategic development of export operations with fishery products derived from artisanal fisheries.

In general environmental degradation is starting to become a problem in São Tomé and Príncipe. Although negative impact is not evident amongst fishery resources it is already noticeable in the forests (trees), on the beaches (by sand extracting practices) and by decreased numbers of turtles (food for population until the late 1990's, impact from destroyed beaches, and possibly industrial fisheries).

Marapa is contributing in terms of environmental protection of turtles and promotion of eco-tourism in order to support economic development of communities. Activities include protection of 2 beaches with 1 guard each.

Social Capital

São Tomé and Príncipe fishermen are characterised by a significant individualism. Associative or Cooperative culture is weak. Each vessel operates individually and the only existing fishers association (GIEPPA) is weak and has a lack of technically capable human resources to develop the sector. These facts contribute towards limited development of their livelihood objectives.

At this level MARAPA is contributing to the social upgrade of fishing communities by participatory activities (such as the turtle conservation programme and a volleyball championship amongst fishing communities).

Financial Capital

There is no real intervention from state institutions. In the past some micro-credit support for artisanal fishing operations (via GIEPPA for outboard motors) was provided but this ceased due to lack of proper controls and reported misappropriation of funds. At present only the ONG MARAPA provides support and assistance for artisanal fishers and processors, with micro-credit schemes for supply of motors, knives, drying equipment etc.

Physical Capital

Canoes (built from trees) are the major part of the artisanal fleet. Only 40 canoes are constructed of environmentally friendly materials (developed by ONG Marapa), and about 10 vessels are constructed of fibre-glass material. During the nineties some fishermen achieved improved access to resources by the motorisation of the artisanal fleet but lack of revenue, maintenance and skilled mechanics has decreased the level of available motors.

Onshore support infrastructure does not exist. At present there is port development project in Neves where the most important fishing community is located. This is being supported by bilateral development funds and technical assistance from Spain. The project will benefit the EU fishing fleet as well as the local artisanal sector, although real local benefits will not be realised until export possibilities are established.

Generally the lack of onshore infrastructure is an important barrier preventing the reception and storage of fish landings, essential for the development of a commercial supply chain, especially if the sector is to benefit from exports.

Domestic infrastructure for families is also poor. Water supply and sewage disposal is a very serious problem as discussed previously in Section A.1.7.1..

Vulnerability context

The most important vulnerability factor for the São Tomé and Príncipe fisheries communities seems to be the weak fish commercialisation and distribution chain, dependent exclusively on the internal market which is characterised by low buying power. Development of the sector is only possible by opening the export segment

which would allow the inflow of external funds and value added processing and export packing. Poverty reduction in rural coastal areas is therefore considered to be highly linked to this development.

The characteristics of the islands with limited continental shelf and seasonality conditions are of particular importance. Although the resource status of demersal fish is believed to be good due to the limited fishing effort of the artisanal fleet, the abundance is also suspected to be insufficient for an intensive utilisation by both national and foreign fleets. Most development benefit can be obtained by restricting access to the national artisanal sector.

Some 16% of the artisanal catch comprises tuna species also targeted by the EU vessels. However STP fishers catch is taken in the immediate coastal zone whereas the EU vessels are required by the protocol to fish outside the 12nm range. There are no direct resource conflicts at present.

Transforming Structures and Processes

The fisheries area in São Tomé and Príncipe is integrated in the Ministry of Agriculture, Rural Development and Fisheries (MADRP) having just one agency (the DP) to cover all roles within the fisheries field. Despite this there is an overall lack of a well orientated and coordinated fisheries policy and strategy.

In the fisheries private sector São Tomé and Príncipe is characterised by a group of artisanal stakeholders without investment capacity, and with weak financial and commercialisation activity. Also the existing producers organisation is weak, has poor representation and technical capacity and a culture of non-intervention. There is no significant processing industry. At present the market system does not function as a complete network from producer to consumer. This is an important constraint on the development of the sector, especially for the remote artisanal fishing communities which find it difficult to get their products into a distribution system. On the other hand the market by itself does not have sufficient capacity to increase the intake of higher value products. The current strategic orientation has failed to give sufficient importance to compliance with the health conditions required by the EU market, to use export revenues as a motor for sectoral development.

A.2.12 Stakeholders

The main stakeholders in São Tomé and Príncipe (shown in Table 21) are:

1. Subsistence fisheries located in small fishing communities;
2. Small scale artisanal fisheries using vessels of up to 8m in length, landing on beaches and distributing fish to the local market. Numbers are in the region of 2000.
3. A corps of women fish vendors, estimated to number 4.000.
4. About 30 French and Spanish tuna purse seine vessels 20-25 m operating regularly in the São Tomé and Príncipe EEZ
5. An unknown number of São Tomé and Príncipe flagged trawl vessels operating in international waters of the North and South Atlantic supplying the international market. Recent data on registered vessels is not available.
6. Spanish and Portuguese surface longline fleet up to 20 m operating in the São Tomé and Príncipe EEZ. targeting swordfish and shark
7. Up to 13 foreign longliners operating on individual licenses (mainly Taiwanese but thought to include 2 Japanese and 1 Portuguese vessel).
8. An industrial shrimp fishery operating in the coastal waters of neighbouring states including Cameroon and Gabon. This comprises about 15-20 vessels of 20 to 30 meters in length, registered in the states where they operate, but using a significant number of São Tomé and Príncipe crews and transshipping in São Tomé and Príncipe ports. This is possibly to evade control measures since there is no beneficial infrastructure or distribution system in São Tomé and Príncipe. No more information is available on this segment.
9. A small number of small scale fish processors (smoking, salting and drying)

Table 21: Main Fishery sector stakeholders and production

	Subsistence and Artisanal Fishery	Semi-Industrial Fishery	Fish Industrial Fishery (excl EC FA fleet) / ^a	EC Fleet
Production (Tonnes)	4,000/ ^a		unknown	4,383/ ^b
STP Fishers directly employed	2,000/ ^a		0	20-25/ ^c
Foreign fishers directly employed	0		unknown	945/ ^c
Indirect employment (National)	6,000/ ^d		0	0
Indirect employment (EU)		0		4725 / ^f

^a DP, 2004

^b Catch declarations (EU Commission), 2002

^c Source Maritime Agencies; not all working in STP EEZ or on STP licensed vessels

^d Estimated women fish vendors

^e estimated from average crew per type of fishing vessel; not factored for STP dependency

^f A ratio of 5 jobs onshore for 1 job at sea (EU fisheries sector); not factored for STP dependency

A.2.12.1 Industrial (EC fleet)

The EC industrial fleet licensed to fish in STP waters comprises 49 vessels at present with the fleets originating mainly from Spain (tuna purse-seiners from Bermeo - in the Basque Country and longliners from Vigo) and France (Concarneau) with a small group (5 vessels) from Aveiro Portugal.

Purse seiners have lengths between 40 and 78m with an average GRT just over 1000. Surface longliners usually have a length of between 18 and 32m with average 122GRT.

The fleet comprises the following crew composition according to type of vessel and nationality:

- tuna purse seiners (France) - average 20 men;
- tuna purse seiners (Spain) - average 24 men;
- surface longliners (Spain and Portugal) – average 15 men;

A.3 INSTITUTIONAL FRAMEWORK FOR THE FISHERIES SECTOR

A.3.1 The fisheries policy

A.3.1.1 National Policy Objectives

Policy formation

Fisheries policy is unstructured and weakly defined. It is, according to the statements of the DP, broadly based on the “Plan Directeur des Pêches de la République de São Tomé and Príncipe”, developed with IFAD assistance in 1998, under the Integrated Fisheries Development Programme for West Africa. The plan focuses on the development of this small scale fishery, to improve supplies to the local market and investigate export potential. Improvement of working conditions of fishers is also addressed. The plan also recognises the institutional weaknesses and the need to improve management skills of the DP and strengthen fisheries NGOs so that they can participate in the policy process. Scientific research and strengthening MCS will ensure that benefits from the foreign fishing the EEZ are maximised. The plan proposes a number of Action Programmes, each with sub-projects:

Programme 1: Strengthening of institutional capacity

1. Revision of fisheries legislation
2. Introduction of research/development unit in the DP
3. Introduction of Training/Extension unit in DP
4. Pilot project for community development and organisation

Programme 2: Development and Management of artisanal fisheries

5. Pilot project artisanal fisheries for available resources
6. Introduction of credit line to access means of production
7. Protection control and surveillance

Programme 3: Marketing of fishery products

8. Feasibility study for opening the Port of Príncipe
9. Promotion of the use of ice in the distribution chain
10. Introduction of new smoking ovens and salting and drying workshops

Many aspects of the plan are still relevant, but changes in the environment have meant others are less so. For example the sanitary conditions constraint is not recognised. In addition the plan mentions neither a policy towards foreign fishing agreements in general nor the EU/ São Tomé and Príncipe fisheries agreement specifically. This seems to be a major omission given its important contribution to the national budget. Since its development there has been no structured effort to implement the plan. This is mainly due to the lack of national means and donor support.

In discussions with the DP it is apparent that currently the main (inferred) policy measures are aimed at:

- meeting the health conditions for access to the EU market
- maximising foreign fishing activity in the EEZ as a means of generating finance for sector development, though the EU FA, bilateral agreements and individual licensing
- continued membership of international and regional fisheries bodies, particularly ICCAT
- developing a capacity for marine based monitoring control and surveillance activity
- providing infrastructure for small scale fisheries where possible, including market facilities

Except at a general level (for example in development of rural infrastructure such as roads, water supply and electrification), there seems to be little integration of fisheries policy into the overall national policy framework for rural and agricultural development. The Agricultural master plan of the MADRP does not mention fisheries, although the sector does feature in the PRSP. Several studies have identified the need to develop exports from agriculture as a means of accelerating poverty alleviation, yet there is no structured policy for export development from agriculture and fisheries, which could share similar institutional and physical infrastructure (phyto-sanitary inspection and certification systems, cold storage and distribution facilities).

Legal aspects

The Fundamental Law of São Tomé and Príncipe prescribes the sovereignty of the State over all living and non-living natural resources in the national territory including the soil, subsoil, archipelagic waters, territorial waters, contiguous zone and in the EEZ. The preservation of the harmonious balance of nature and

environment is a fundamental objective of the State. With regard to international law, the Constitution establishes that accepted or ratified international agreements constitute part of the São Tomé and Príncipe legal regime and prevail, after their entry into force, over all national legal instruments except the Constitution.

The Framework Law on Environment¹⁴ recognises the right to the environment and development and is built upon *inter alia* the prevention and precautionary as well as the participatory principles. It establishes that the users of the natural resources are subject to the obligation of paying a fair price for their use (“user-pays principle”) and that those causing damage to the environment are responsible for restoring the damaged situation to the baseline condition or pay for its restoration (“polluter pays principle”). It aims at protecting the different environmental elements and establishes the need to ensure a sustainable use of the water including the maritime waters and the prevention of and action by the State against any type of pollution. The pollution or contamination in any area subject to jurisdiction of São Tomé and Príncipe, including the damage of the coastal zones as well as the marine resources, constitutes an environmental infraction. The Plan of Fisheries Resources, as well as fisheries indicators and criteria, are defined by the Framework Law as instruments and mechanisms of the environmental policy. However no such plan has been developed. The Minister of Fisheries is a member of the National Commission of the Environment, a consultative body on environmental matters, including the National Fund for the Environment presided over by the Prime Minister.

The Law for the Conservation of Fauna, Flora and Protected Areas¹⁵ distinguishes conservation from the protection of the natural resources and establishes the Council for the Conservation of Fauna, Flora and Protected Areas of which the Minister for Fisheries is a member. The protected areas are classified as natural parks, natural reserves, natural monuments and special reserves. It defines the surveillance scheme, including fines, which vary depending on whether the infraction was caused by a natural or legal person and to be defined by regulation. However, there are no marine protected areas defined.

Furthermore, other legal instruments deal specifically with the extraction of inert materials¹⁶ which constitutes a serious environmental threat to the conservation of the coastal zones and protection of the marine living resources. A license is required for any extraction activity and a detailed surveillance and control scheme is foreseen based on the right of any citizen to denounce an infraction to the law.

A.3.2 The fisheries legislation

A.3.2.1 Brief description of the main relevant fisheries legislation

The fisheries legislation of São Tomé and Príncipe is mainly defined by Law 9/2001¹⁷ (FL) which is a recent legal instrument reflecting a holistic approach towards the conservation and management of the marine living resources.

The EEZ was for the first time defined in 1978 and later defined by Law 1/98¹⁸ which currently defines the maritime waters under jurisdiction of São Tomé and Príncipe

Many aspects of the FL required further regulation with regard *inter alia* to distinguishing criteria between industrial and artisanal fisheries, operating rules of the registry system, fishing licenses, Fund for Fisheries Development and Fund for Artisanal Fisheries Development.

The non-existence of a fisheries regulation represents a serious constraint of the actual legal regime, leaving many fundamental issues unregulated and resulting in a weak MCS system. A draft of the fisheries regulation is presently being discussed among the different stakeholders but it was not possible to gather information on the status of the process. In any case the actual version of the draft, to which the consultants had access, still leaves unregulated many aspects of the law.

¹⁴ Law 10/99 from 31.12.1990, DR n.º 15.

¹⁵ Law 11/99 from 31.12.1990, DR n.º 15.

¹⁶ Decree 35/99 from 30.11.1999, DR n.º 12.

¹⁷ Fisheries and fisheries resources law, adopted in 31.12.2001, by DR 8.

¹⁸ Adopted in 31.03.1998, by DR 3.

A.3.2.2 Conservation measures

According to the maritime waters legal regime, São Tomé and Príncipe exercises the rights conferred by international laws and conventions within the EEZ and, *inter alia*, the sovereign rights over the exploitation, conservation and administration of the natural resources (living and non-living) as well as the exclusive jurisdiction over the activities of investigation and economic exploitation of the zone.

The FL deals with the conservation, exploitation and management of the marine resources under Chapter II and establishes the legal regime for fisheries planning under Chapter III.

Chapter II establishes the general principle that anthropogenic activities may not jeopardise the ecosystem balance, cause damage or pollution to the coastal zones or marine environment, rivers and lakes, or contaminate immediately or progressively the fisheries resources (and humans). Within this approach a very innovative rule is set regarding environmental damage, according to which all activities that may have direct or indirect negative impact in the aquatic and coastal environment are strictly forbidden. This includes dumping of petrol or other toxic products in the EEZ, coastal zones, rivers or lagoons, abandoning at sea of damaging objects or fishing with non-authorised gears. It further assents the need to subject to EIA any activities that may have a negative impact in the ecosystem balance. Non-compliance with these rules constitutes an environmental infraction which the FL classifies as “very serious”, when the infraction causes effective damage of the ecosystems or habitats, or “serious” when the damage caused is restorable.

Regarding fisheries planning, Chapter III establishes that the uses and conservation of the fisheries resources shall be defined under multi-annual management instruments, the so called fisheries management plans. They are reportedly being developed by the MADRP on proposal of the DP in consultation with public and private stakeholders, including other institutions from the African region with the aim of harmonising the management plans. The plans are to be approved by Council of Ministers and include identification of the main fisheries and their status, definition of management measures as well as the licensing program, including the activities that may be undertaken by foreign fishing vessels.

To date no management plans have been adopted. The new fisheries regulation however defines some conservation measures regarding *inter alia* mesh size, prohibitions of certain fishing gears and catch minimum weight and size.

The creation of a fishing vessels registry as well as the definition of its operating rules are foreseen under Chapter III, to be defined by regulation, but have not been included in the draft fisheries regulation.

A.3.2.3 Fishing Licenses

The FL distinguishes the different types of fisheries in accordance with their purpose (subsistence, commercial, investigation and recreational) and prescribes that the distinguishing criteria between artisanal and commercial fisheries are to be defined by regulation. However they are not covered by the draft regulation. Fishing vessels are classified as national, foreign and foreign based in São Tomé and Príncipe

The attribution of licenses is made subject to the general principle of taking into account the specificities of the endemic species and the need to safeguard the biological diversity within an integrated and sustainable development approach.

Fishing licenses are issued annually and may be renewed for equal periods, are not transferable and can be revoked or suspended for management purposes or in cases of serious infractions or recidivism. The draft regulation has added the infringement or violation of the fisheries law as a general cause of suspension or revocation of the license.

In accordance with the general principle, subsistence fisheries do not require license. The attribution of licenses for national fishing vessels is subject to the payment of fees to be defined by regulation which has not yet been adopted.

A separate chapter deals exclusively with foreign fishing vessels stating the general principle that all fishing vessels authorised to fish in the maritime waters of São Tomé and Príncipe are subject to national legislation. Except for foreign vessels based in São Tomé and Príncipe, or others expressly authorised by the fisheries sector, foreign fishing vessels can only operate under an international agreement with the flag or register State, or organisations representing them. The international agreements shall include rules on identification of the type of fishing vessel, fishing zones, financial contribution and the obligation of respecting the national

legislation. The issuing of fishing licenses and rights is subject to the payment of financial contributions which are fixed by the international agreements or negotiated via protocol between the vessel master and MADRP. There is no published scale of fishing license fees.

In the exceptional circumstances of foreign fishing vessels operating without an agreement, they may be required to deposit a guarantee in order to ensure full compliance with the fisheries legislation. Again the level of guaranteed payment is not specified in the current or draft legislation.

Except for artisanal fishing vessels, all the others shall keep the license on board at all time as well as a log book for registry of all fisheries activities and permanently display the identification elements. The form of the logbook is to be defined by regulation (not adopted yet) but will reportedly be annexed to the draft regulation. For the appropriate management of the fisheries resources the Minister of Fisheries may subject certain categories of fishing licenses to additional requirements regarding the fishing type and method, the fishing zone, catches allowed and restriction of by-catch.

Furthermore, and in accordance with international law, foreign fishing vessels are obliged to declare their entry and exit from the maritime waters of São Tomé and Príncipe. However, communication with the DP regarding their geographical position and their catches is difficult due to the lack of operational radio room in the DP and the fact that few EU vessels appoint São Tomé and Príncipe agents. The catch declaration form is to be defined by regulation and while in unauthorised fishing zones, foreign fishing vessels shall keep their gear stowed. Presently foreign fishing vessels can operate without appointing a local agent but this will be required in the future under the draft regulation.

A.3.2.4 Penalty scheme for infringements

Chapter VI of the FL defines the rules for enforcement of the fisheries legislation defining the surveillance officers and setting the principle of several and joint liability between the captain and master of the fishing vessel.

As a general rule the infringement scheme may result in the application of fines or accessory sanctions depending on the type of infraction. The amount of the fine is fixed taking into account the type of infraction, and the technical and economic characteristics of the fishing vessel, as well as the type of fishing activity and the economic benefits obtained from the illegal activity. The accessory sanctions may include seizure in favour of the State of the catches, gears, fishing vessel or its equivalent value, suspension or revocation of the fishing license as well as suspension of the State financial support for operations in third States waters.

Unlicensed fishing is punished with both fine and accessory sanction. For national vessels the fine varies between 100 000 US\$ and 150 000 US\$ and seizure of the catches found on board. In case of recidivism the accessory sanction may include seizure of fishing gear. For foreign vessels the amount of the fine is increased to a minimum of 200 000 US\$ and a maximum of 500 000 US\$ and seizure of the catches and fishing gear.

Lack of cooperation with the surveillance officers, submission of false information or documentation, destruction of evidence constitute, serious offences and the amount of the fine varies between 500,000 US\$ and 800,000 US\$. When the fishing activity takes place during closed season, in reserved/forbidden zones, uses illegal meshes or explosives/toxic substances, the fine may accumulate with seizure of catches and fishing gear.

In case of recidivism the amount of the fines duplicates and the catches, and gears or other instruments used to practise the offence may be seized. There is recidivism when, during the 12 months following the condemning decision, the FL is violated again by the same agent.

The sharing of the amounts resulting from the fisheries sanctions is established by law: 40% for the treasury; 30% for the Fund for Artisanal Fisheries Development, 15% for port authorities and the remaining 15% as an incentive for the surveillance agents. Another provision deals with the sharing of the amounts of environmental sanctions allocating 20% for the Fisheries Development Fund. In all the legislation assessed no reference was found, however, to the creation and operation of either of these Funds. This raises the issue as to how the relevant portion of the fines are to be allocated.

The competent authorities which may fix fisheries sanctions are the Director of DP, up to the amount of 500,000 US\$ and the Minister of Fisheries for penalties superior to that amount.

An FAO/FAD intervention project was proposed in 1995 to support the strengthening of the legal framework for fisheries with a view to defining more precisely the allocation of fishing zones for the different fleet sectors and define comprehensively the legal framework for the fishery sector. This was never launched.

A.3.2.5 Foreign fishing

The Government of São Tomé and Príncipe signed a bilateral reciprocal fisheries agreement with the Government of Angola in May 1994. This is still in force. The agreement provides for 6 Angolan vessels to fish for tuna in São Tomé and Príncipe EEZ and for two São Tomé and Príncipe demersal trawl vessels to fish within the Angola EEZ. The agreement also provides for scientific and research collaboration. The consultants were unable to determine the extent to which fishing opportunities provided by the agreement have been utilized.

A new draft São Tomé and Príncipe - Angola FA was signed by both parties in May 2003. This would maintain the Angolan access for 6 tuna vessels, in return for access to Angolan waters for 3 São Tomé and Príncipe line fishing vessels, all concessions granted on a reciprocal basis with license fees set at 15% of the catch value. License conditions were 20 days notice of license application, submission for inspection at designated ports, carrying 4 crew/vessel from the counterpart nation, and purchase of fuel and other inputs from the counterpart nation. The agreement also included training of 10 STP nationals in Angola fisheries institutions and scientific cooperation. The agreement was submitted to the São Tomé and Príncipe Parliament in 2004, which refused to ratify it. Its future status is uncertain.

In general, with respect to foreign fishing relations, due to lack of effective capacity, São Tomé and Príncipe has negligible means to ensure that national economic and regional fishery management interests are sustained.

A.3.2.6 International and regional agreements in relation to fisheries

With regard to international conventions São Tomé and Príncipe has been a contracting party to the United Nations Law of the Sea Convention since 01.11.1987 but has not ratified the Agreement relating to the implementation of Part XI of the Convention¹⁹. Neither has it ratified the Agreement for the Conservation and Management of Straddling and Highly Migratory fish stocks.

It is also a contracting party to the International Convention on Tonnage Measurement of Ships, which entered into force in 1982, and to the International Convention for prevention of pollution from ships and subsequent amendments, not being a party to its Protocol.

Furthermore, São Tomé and Príncipe is a Party to the Convention on the Conservation of Migratory Species of Wild Animals and has signed the multilateral Memorandum of Understanding, from 01 July 1999, concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa. Under the MoU signatories have agreed to adopt measures for the conservation and strict protection of marine turtles at all stage of their life, review and adapt legislation and exchange scientific and legal information. A comprehensive Conservation Plan was concluded in 2002 aimed at addressing the issue of marine turtle by-catch in industrial fishing operations through a monitoring and protection network for nesting and feeding sites.

São Tomé and Príncipe is a member of the International Commission for the Conservation of Atlantic Tunas (ICCAT), becoming a party to the Convention in 1983 and subsequently accepted the Paris Protocol (in 1984) and the Madrid Protocol (in 1994). It is a member of the tropical tuna panel. It also participates at the Conference of Ministers of Fisheries from Portuguese Speaking Countries created in 1995 with the aim of developing cooperation among its members in the fisheries sector.

At the regional level the Treaty with the Republic of Equatorial Guinea approved in 26 June, 1999 defines the maritime boundaries between the two States.

¹⁹ Part XI of the Convention was adopted on 28 July 1994 and entered into force on 28 July 1996. It regulates deep seabed mining activities.

In 2001 São Tomé and Príncipe celebrated a Treaty with the Federal Republic of Nigeria establishing the joint development in the EEZ areas of both States of petroleum activity, fishing activity and all other activities for the exploration and exploitation of other mineral or living resources in the defined zone.

São Tomé and Príncipe is a member of the Committee for the Eastern Central Atlantic Fisheries (CECAF), established in 1967 to promote programmes of developments for the rational utilisation of fisheries resources through various means. It is also a member of the Regional Fisheries Committee for the Gulf of Guinea (COREP).

São Tomé and Príncipe is not a party to the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement) which entered into force in April 2003.

São Tomé and Príncipe participates in the Ministerial Conference on Fisheries Cooperation between African States bordering on the Atlantic (grouping 22 countries from Morocco to Namibia).

São Tomé and Príncipe is not a member of the Committee for Inland Fisheries of Africa nor of the CCAMLR and the CCSBT.

A.3.2.7 National policy in relationship with its international commitments

São Tomé and Príncipe Flagged vessels

Until the end of 2002 at least 5 São Tomé and Príncipe flagged vessels were observed to “*contravene regulatory measures laid down by regional or sub-regional fisheries management organisations or arrangements:*” (<http://www.fiskeridir.no/sider/list.html>). Four of these vessels were fishing in the CCAMLR region (South Atlantic) and one in NAFO/NEAFC (North Atlantic), to all of which organisations the EU is a contracting party. One vessel’s activities resulted in NAFO sending a letter to the DP São Tomé and Príncipe drawing attention to its standing requests to non-contracting parties. Although the Norwegian data indicate São Tomé and Príncipe vessels fishing in CCAMLR area, no Patagonian toothfish exports are declared to the EU. This could indicate that product is declared as “frozen saltwater fish” in order to evade catch declarations required in line with Council Regulation (EC) No 669/2003 of 8 April 2003 amending Regulation (EC) No 1035/2001 establishing a catch documentation scheme for *Dissostichus* spp.

The activities undertaken by this fleet appeared to be:

- a) jigging for Ilex squid in South Atlantic
- b) demersal trawl in North Atlantic
- c) demersal trawl in South Atlantic
- d) long line for shark/swordfish

Total production of these São Tomé and Príncipe flagged vessels is not known. Some products were transhipped to the EU market. Eurostat registered exports from São Tomé and Príncipe to the EU are assumed to be entirely due to landings from São Tomé and Príncipe flagged vessels. This is considered to be a reasonable assumption since the species are all North and South Atlantic species. Eurostat import data on fishery products of São Tomé and Príncipe origin shows that these vessels supplied cod, squid and demersal fishes to a value of €8.4 million in 2000, falling to €0.6 million in 2002. Note that in 2000 and 2001 all of the imports were registered to Portugal. In 2002 90% was registered to Spain, the balance to Portugal. In 2003 direct exports recorded were nil. It is not known whether this is due to a genuine change in supply pattern (due to vessels re-flagging to avoid the import ban on products of São Tomé and Príncipe origin) or due to false declaration of origin.

EU vessels

Under new national draft regulations presently under consideration, all industrial fishing vessels will be subject to the following requirements.

- Fishing zone: beyond 12 nautical miles;
- Minimum GRT: > 100;
- Autonomy: 20 days;
- Previous registry: required at the port authority;
- Marking rules: comply with rules to be fixed under Annex III;
- Fisheries Legislation: respect FL and have a copy on board
- Log book: fill form to be defined under Annex II;
- Monitoring: communicate by fax or radio vessel's position and catches on board every 3 days and notify of their intention to enter or leave the São Tomé and Príncipe maritime waters 3 hours before;
- Flag: vessel required to fly the flag of registry at all times;
- Inspection: comply with instructions to visit a place for inspection;
- Surveillance: accept and comply with the instructions of the surveillance officers;
- Meshes: sizes to be fixed by Annex IV and comply with sizing rules
- Specimens: minimum size and weight to be fixed under Annex V;
- Protected Species: express prohibition of marine mammals catch
- Infringement or violation of the fisheries law as a general cause of suspension or revocation of the license.

In addition foreign industrial fishing vessels will be required to appoint and keep a local agent based in São Tomé and Príncipe who is legally empowered to represent them in dealings with the DP. Only Annexes III and V have been drafted at this stage. Annex III establishes rules on "specifications for identification of vessels" and more specifically deals with the following:

- Art. 1º: identification marks are constituted by the number supplied by the International Union for Telecommunications and shall be displayed at all times;
- Art. 2º: placing of the marks in a way that ensures they will never be hidden by the fishing gear or be damaged during fishing.
- Art. 3º: Technical specifications: type and size of letters and numbers which depends on the length of the vessel (superior to 25 m: 1.0 m; between 20 and 25 m: 0,8m)

Annex III: Sets minimum sizes for all species.

Ministry of Agriculture, Rural Development and Fisheries

In 1999 the Ministry of Agriculture and Fisheries was replaced by the Ministry of Economy, including commerce, industry and tourism sub-sectors. Following Government restructuring in 2002 it again became an autonomous structure, the Ministry of Agriculture, Rural Development and Fisheries (MADRP). The Ministry of Agriculture, Rural Development and Fisheries (MADRP) is currently responsible for the development and implementation of fisheries policy.

The main MADRP directorates are those related to planning, finances and administration, livestock, forests and fisheries. The lack of technical staff and budgetary resources means that many activities are oriented towards projects financed by international co-operation. For example, agricultural inputs are often supplied by a variety of foreign donors, NGO's and their projects. For several years prior to 2003, the AfDB supported a major livestock project (Projecto de Apoio ao Desenvolvimento Pecuário) focusing on organization and development of livestock and sanitary services.

CIAT (Centro de Investigação Agronómica e Tecnológica) is an agriculture research institute which was originally founded to study cocoa and coffee in the colonial era. CIAT has benefited from financial and technical assistance from France and other donors. CENFOPA (Centro de Formação Profissional Agrícola),

is an agricultural training and education centre which has had trilateral aid from the Government, USA and Portugal and addresses technical training of personnel working in the state farms. This centre is largely unused at present due to lack of financing. There is no agriculture college in São Tomé and Príncipe and higher training must be obtained abroad.

Rural extension has been provided over several years by the PNAPAF project²⁰, whose role is very important given the near total lack of experience of smallholders in various phases of agricultural production and management. Another project that was finished last year (PAMEA), with Portuguese co-operation was aimed at small and medium size agricultural enterprises.

All these projects try to avoid the emphasis given in the past to research and extension on cocoa and to focus on agricultural diversification. However, without such donor-driven projects, the capacity of the Ministry to function independently remains limited. No projects appear to have addressed the core problems of the lack of institutional capacity within the Ministry.

A.3.3 Directorate of Fisheries

The Directorate of Fisheries (DP), headed by the Director, is the organ responsible for implementation of the fisheries policy of the Ministry.

The DP comprises of a Director and 8 full-time staff. A further 6 staff are employed on temporary contracts. The main functional departments are:

- Statistics
- Quality control
- Licencing of foreign fishing
- Small scale fisheries
- Administration and finance

There is no formal policy unit for designing and directing studies. There is no formal MCS function.

Of the full-time staff, four have degrees, two of which are in marine biology. The remainder have undertaken mid-level vocational training in either industrial fisheries or marine biology in Cuba. Apart from the DP there are no other research or executive agencies of government concerned with the fishery sector.

In common with other governmental institutions in São Tomé and Príncipe, the DP is extremely weak in terms of its ability to undertake strategic analysis and effectively plan, implement and monitor its basic functions. This is the prime reason for the dismal rate of progress in terms of upgrading inspection and certifications systems for exported fishery products and for the lack of effective targeted actions under the EU Fisheries Agreement.

²⁰ Currently the PAPAFA Project.

Table 22: Staff employed by Direcção das Pescas

No. Of staff	Position	Level	Annual Total Payment	
			Dobra	Euro
1	Director		7,315,688	687.67
1	Technical Person 2nd class	21	7,315,688	687.67
2	Technical Person 3rd class	20	14,099,325	1,325.34
6	Technical assistant 2nd class	13	31,124,925	2,925.74
5	Technical assistant 3rd class	12	25,272,375	2,375.60
1	Technical Auxiliary 1st class	10	4,655,438	437.61
2	Technical Auxiliary 2nd class	9	9,044,850	850.22
1	Official Administrator 1st class	10	4,655.438	437.61
1	Driver 3rd class	3	3,591,338	337.59
20			107,075,064	10,065.06

Official salaries, as indicated in the staffing budget in Table 22 are low even by regional standards. The Director earns under €700/year and the Senior Administrator €340/year.

A.3.4 Budgetary provisions for fisheries

The budget system in STP comprises an annual program (budget or OGE21) and a tri-annual Public Investment Program (PIP). Every income item (e.g. fishing incomes such as compensation, target actions or licenses) should be registered in the OGE and every investment included in the PIP. According to public administration procedures in STP, only expenditures included in the annual budget and/or PIP (investment) can be authorized.

Government spending on fisheries is indicated in Table 23.

²¹ Orçamento Geral do Estado

Table 23: DP Programmed Budgets 2003 and 2004.

Code	Item	Programme			
		Dobras		Euros	
		2003	2004	2003	2004
01.00.00	Staff costs	102,650,400	121,588,900	10,367.69	11,429.36
01.01.00	Full time permanent staff	96,840,000	111,865,000	9,780.84	10,515.31
01.01.01	Wages	96,840,000	107,065,000		
01.01.08	Costs for attending conferences etc	0	4,800,000	0.00	451.20
01.02.00	Bonus Variable	0	3,300,000	0.00	310.20
01.02.05	Other bonus	0	3,300,000	0.00	310.20
01.03.00	Social Security Charges	5,810,400	6,423,900	586.85	603.85
01.03.04	Social Security	5,810,400	6,423,900	586.85	603.85
02.00.00	Goods and Services	88,345,033	74,502,533	8,922.85	7,003.24
02.01.00	Hard Goods	6,000,000	7,845,033	606.00	737.43
02.01.03	Office equipment	3,500,000	2,845,033	353.50	267.43
02.01.05	Other hard goods	2,500,000	5,000,000	252.50	470.00
02.02.00	Costs	19,000,000	21,000,000	1,919.00	1,974.00
02.02.02	Fuel	10,000,000	10,000,000	1,010.00	940.00
02.02.07	Office stationery	4,000,000	4,000,000	404.00	376.00
02.02.08	Transport	5,000,000	7,000,000	505.00	658.00
02.03.00	Services	63,345,033	45,657,500	6,397.85	4,291.81
02.03.01	Installation Charges	36,000,000	28,000,000	3,636.00	2,632.00
02.03.01.01	Water and Energy	35,000,000	27,657,500	3,535.00	2,599.81
02.03.01.02	Others	1,000,000	1,000,000	101.00	94.00
02.03.02	Servicing of equipment	9,000,000	6,500,000	909.00	611.00
02.03.04	Computer servicing	5,000,000	0	505.00	0.00
02.03.06	Communications	9,345,033	7,500,000	943.85	705.00
02.03.08	Representation of Services	4,000,000	3,000,000	404.00	282.00
06.00.00	Other Charges	12,500,000	13,000,000	1,262.50	1,222.00
06.01.00	Training	10,000,000	10,000,000	1,010.00	940.00
06.04.00	Diverse costs	2,500,000	3,000,000	252.50	282.00
06.04.04	Other costs	2,500,000	3,000,000	252.50	282.00
06.04.04.01	Reserved costs	2,500,000	0	252.50	0.00
06.04.04.02	Other costs	0	3,000,000	0.00	282.00
	TOTAL	203,495,433	209,091,433	20,553.04	19,654.59

The entire state budget allocation for the DP for 2004 is shown in Table 23. The amount is €19.654, with just over half allocated to staff costs. All of the costs are for non-operational expenses, i.e. to sustain the offices and staff of the DP. There is no allocation for fisheries activities such as policy and biological studies, fisheries management, or infrastructure. As a result the state budget is inadequate to maintain even the most basic level of functionality.

It is notable that the budget does not reflect the funds allocated for targeted actions under the EU/STP FA (€255.000 for each of the two years indicated in the table). There is no legal impediment to prevent these amounts providing the operational budget for some of the key functions of DP, by being included in the DP budgeted by the Treasury/MADRP. This appears to be a missed opportunity to substantially upgrade the level of activities.

A.3.5 Scientific research

There is no fisheries scientific research institute in STP. The Direcção das Pescas does not have any research unit or human resources capable, from the scientific point of view, to undertake fisheries research. Links with foreign Universities or research institutions are also weak.

The Direcção das Pescas does not have an organised library of the reports/books/statistics undertaken. São Tomé and Príncipe authorities have not been able to get a substantial level of scientific or research assistance from other countries. The limited research given to the country has not been coordinated or utilised for the national benefit, and is more driven by the research agendas of the institutions. There are no records, reports or data available to support fisheries policy decisions.

Direcção das Pescas has a statistical unit, staffed by one person, which is the only structure conducting surveys of the artisanal fisheries. There is in place a statistical data collecting system for artisanal fisheries, although this is only mobilised when funds are available from external projects. The last complete survey was in 1997, with extrapolations based on number of canoes being used to calculate catches since then.

There is no comprehensive evaluation of the status of fishery resources and potential fishing opportunities or stock assessment of fishery resources in São Tomé and Príncipe. The only resource potential data which is successively mentioned in the few reports available refers to a Russian survey developed in 1983 and 1986. The results of this are no longer publicly available.

Although some small pieces of scientific work have been produced by the Universities of Algarve and of Azores these have not been done with the assistance of the local authorities. In 1997, a research cruise was proposed by a research team from IPIMAR of Portugal, but no funding could be obtained and the work did not take place.

Some valuable work is performed by the NGO Marapa, in terms of a turtle conservation programme, which includes the identification and count of turtles according to species, tagging, egg count etc. Data is sent to the Central Regional Programme – Kudu – in Gabon. However in São Tomé and Príncipe no scientific analysis is made of the data generated by this work.

A.3.6 Fisheries monitoring control and surveillance

MCS activities and enforcement capacity in the EEZ is limited. There are no budgetary resources and no means specifically allocated either from the Direcção das Pescas or from the Maritime Authority. In terms of vessels, the Maritime authority has 5 semi-rigid out-board motor vessels of 5m each. The DP has used targeted action funds from the 1999/2002 Protocol to refurbish a fast motor launch which will carry a crew of 8. This is expected to be operational in mid-2004. However there is no operational budget available for its operation and there are no plans made as to how this will be managed in collaboration with the Maritime Authority. The Direcção das Pescas is installing a vessel radio communication station. This is expected to be functional in mid-2004. The Portuguese Air Force operates a twin engined surveillance aircraft based in São Tomé. This was reported to have been used once for a training overflight of the EEZ to identify fishing vessels. No contraventions were spotted. The potential exists for further such flights in the future should finance become available.

No DP staff member has any specific experience or training in MCS activities and enforcement of legislation. There is apparently little understanding of how to develop and operate an MCS systems and associate enforcement of legislation. There are no action plans or joint activities performed between the authorities ultimately responsible for MCS activities – the DP and Maritime Authority of the STP Navy. Neither is there any protocol or coordination established between these authorities. There is no participation in regional MCS programmes.

A.3.7 Sanitary inspection and controls for export

São Tomé and Príncipe has not met the health conditions laid down for third countries in Directive 91/493/EEC on health conditions for the production and placing on the market of fishery products for human consumption. The country is not on List 1 or 2 of Commission Decision 97/296/EC “drawing up the list of third countries from which the import of fishery products is authorised for human consumption” (as

amended). Therefore, since mid-1998 (when bilateral export arrangements were terminated) it has not been able to export fishery products to the EU.

Despite this, some EU imports from São Tomé and Príncipe are reported in Eurostat data for 2001 and 2002 (to Spain and Portugal) but not 2003. Such exports are believed to have originated from São Tomé and Príncipe flagged vessels operating in the international waters of the North and South Atlantic.

Support to strengthen the Competent Authority (the Inspection and Sanitary Control Section of the DP) was delivered by the Centre for Development of Enterprises (European Development Fund). Advisory missions were conducted in 1999, 2002 and 2003 (Contract 422.2/425/02 Dossier São Tomé and Príncipe 9902/06/FI). This comprised advisory missions followed by training of three inspectors in 2002 and additional technical assistance in 2003 to support the upgrading and revision of national legislation, development of inspection manuals and advising on the strengthening of laboratory capacity. The lack of laboratory capacity and the difficulties in employing mainland or EU laboratories remains a barrier to the development of a fish export trade.

DG SANCO will undertake an inspection mission later in 2004, on condition that:

- New legislation is in place
- The DP submits a list of São Tomé and Príncipe flagged vessels and describes the inspection arrangements
- The new laboratory is properly equipped, staffed and commissioned
- Fish landing facilities are suitably upgraded

So far the Competent Authority has been unable to provide the necessary guarantees to DG SANCO regarding the organisation of the health controls and the laboratory provision. There is only weak understanding of the requirements by the staff of the DP. The CDE assistance, whilst targeted adequately, has been insufficient to overcome the institutional limitations. In the consultants' opinion only the first of the above conditions is likely to be met in 2004. There are plans to include São Tomé and Príncipe in a regional component of the EDF Funded Project "Strengthening Fisheries Products Health Conditions in ACP/OCT Countries", with an indicative allocation of €946,700 over two years. This project is likely to start in late 2004.

Since São Tomé and Príncipe has not met the health conditions required by Directive 91/493/EEC São Tomé and Príncipe flagged freezer vessels are prohibited from supplying the EU market. As a result of this disincentive to sail under the São Tomé and Príncipe flag it is reported by the DP that some (or possibly even all) of the vessels registered in 2001 have re-flagged to countries which meet the health conditions. However at least 5 São Tomé and Príncipe vessels are currently operating, some with European beneficial owners as indicated in Table 15. It is suspected that they supply the EU market via an establishment in another third country. In future, if and when São Tomé and Príncipe meets the health conditions set out in Directive 91/493/EEC, there will be no disincentive for such vessels to operate under the São Tomé and Príncipe flag. The provision of a current list of São Tomé and Príncipe flagged freezer vessels and a description of the inspection arrangements is one of the conditions place by DG SANCO of the European Commission for meeting the health conditions defined in EU Directive 91/493/EEC.

In the meanwhile the lack of compliance will continue to represents the major barrier to the future development of the fishery sector. This continues to effectively prevent private sector investment related to:

1. Development of high value fishery product exports from the existing artisanal fishery (such as demersal fish species, air freighted fresh to the EU market)
2. Extension and development of the national fishing fleet to exploit the large pelagic fish resources within the EEZ (tuna, swordfish etc) currently accessed by foreign fishing vessels
3. Landing and shore-based processing of fish caught by the foreign vessels fishing within the EEZ

We regard the health conditions issue as the single most significant constraint to development of the São Tomé and Príncipe fishery sector.

A.3.8 Recent donor activity in fisheries

A.3.8.1 History

Donor activity in fisheries development has been greatly reduced in recent years. Taking as an example, the 1989 Round Table (PIP 1988-92), the fisheries programme for São Tomé and Príncipe was expected to involve several major donors spending up to 46.8 million USD over five years, distributed among six important projects:

- Artisanal Fisheries I (FIDA, Japan and Germany)
- Laboratory of Marine Biology (Canada)
- Community Centres (Canada)
- Artisanal Fisheries II (FED)
- Naval infrastructures at Neves (FED, Italy and France)

The majority of these donors stopped their activity or reduced it in a considerable way. The weaknesses of institutional capacity and the lack of a sound underlying strategy meant that all programmes underperformed and were eventually cancelled or withdrawn.

A.3.8.2 International Fund for Agricultural Development / Agence Française de Développement

IFAD supported two major artisanal fishery development projects. The first 1984-1990 concentrated on extending the fishery by supply of fishing gear, engines and vessels. The second project (1990 to 1998) focused on activities to improve productivity and economic yields from the fishery, for example through improved catch utilisation and marketing. The objectives here were to: i) increase the well being and income of the artisanal fishermen and the saleswomen ii) contribute to the formulation of a rational sector policy, and iii) develop autonomous fishermen organisations and to establish a financing mechanism which would assure the sustainability of inputs supply.

IFAD and AFD are currently supporting the “*Participatory Smallholder Agriculture and Artisanal Fisheries Development Programme*”. The project objective is the diversification of agricultural production, the development of infrastructures for improving roads and farmers' housing, family livestock breeding activities centred upon small animals, pigs and poultry and support for small-scale fishing in order to increase the domestic market's food supply. The project follows on from previous IFAD interventions in the small scale fisheries sector. The intervention matrix is shown in Table 24.

Table 24: IFAD Donor Programme in STP

Project Name	Total Project Cost (USD Million)	Loan Amount (SDR Million) ¹	Project Type	Status	Approval Date
Participatory Smallholder Agriculture and Artisanal Fisheries Development Programme ²	13.45 ³	7.95	Flexible Lending Mechanism	Ongoing	26-04-01
Second Artisanal Fisheries Development Project	3.51	1.10	Fisheries	Closed	12-12-90
Artisanal Fisheries Project	2.10	2.02	Fisheries	Closed	11-09-84

¹SDR 7.95 million (equivalent to approximately USD 9.97 million) on highly concessional terms

² IFAD. 1999. *Democratic Republic of São Tomé and Príncipe Participatory Smallholder Agriculture and Artisanal Fisheries Development Programme, Inception Paper, Appendix I, Participatory Socio-Economic Analysis*. Rome.

³Total programme costs are estimated at USD 13.45 million, of which USD 1.45 million will be provided by French Ministry of Foreign Affairs (MAE), French Development Agency (AFD).

Activities have been performed mainly through the ONG MARAPA. These have included the following:

- training of mechanics of outboard motors
- development of environmentally friendly canoes, more seaworthy
- development of micro-credit schemes
- development of FADs (supported by the French Agency until 2002)
- salt production in Neves

A.3.8.3 Agence Française de Développement

Marapa was also supported directly by the Agence Française de Développement in its work with fisheries communities, designing and field testing of smaller individual solar dryers to replace the traditional outdoor drying method. This work is being continued with support from the Service for Cooperation and Cultural Action (also funded by the Government of France) which began in January 2003. This work will extend the technology developed to the rest of São Tomé and Príncipe. Fishing communities (6) will also benefit from a social development project in respect to the organisation of a volleyball championship.

A.3.8.4 Sustainable fisheries livelihoods project (DfID/FAO)

DfID supported a gender-oriented community project for the Angolares population during 2003. Beneficiaries were two groups of women fish sellers (NGOPA and MENGAI) and the GIEPPA fisheries association. The programme targeted the organisation and management of their fish marketing system. Two freezers were supplied for fish preservation and the project also investigated the use and management of solar dryers and launched an adult literacy programme in fisheries communities.

A.3.8.5 Centre for Development of Enterprises

Support to strengthen the Competent Authority (the Inspection and Sanitary Control Section of the DP) was delivered by the Centre for Development of Enterprises (European Development Fund). Advisory missions were conducted in 1999, 2002 and 2003 (Contract 422.2/425/02 Dossier STP 9902/06/FI). The activities were described in section A.3.8.

A.4 FISH STOCKS AND FISHERIES INTERACTIONS

A.4.1 Target stock sustainability

The main direct environmental issues associated with fisheries activities in São Tomé and Príncipe waters were examined. The key issues can be summarised as:

- Cumulative fishing pressure on highly migratory stocks of principal target species
- The catch of sharks from the surface long-line fishery

These issues are examined in more detail in the following sections.

A.4.1.1 Tuna resources

The evaluation of the stock status of tuna and tuna like species is complicated because of the migratory character of the different species. For this reason, the estimation of the stock status and potential is made at the level of the Atlantic Ocean. ICCAT is the international organisation (with headquarters in Madrid) responsible for collating catch information, commissioning research and estimating the stock status of tuna and tuna-like species. ICCAT uses this information to formulate recommendations to member governments in order to ensure a sustainable exploitation of the species concerned.

The main species of interest which are caught in targeted fisheries in the São Tomé & Príncipe EEZ are the yellowfin tuna, the skipjack tuna, bigeye tuna, and swordfish. Sharks also form an important secondary target. The following assessment of the stock status for these species is based upon a recent review²² undertaken by FAO on the high seas stocks in the FAO 34 (CECAF) region taking into account ICCAT data up to and including 2001.

Atlantic yellowfin tuna (*Thunnus albacares*)

Introduction: Yellowfin tuna is a wide-ranging species distributed mainly in the tropical and subtropical oceanic waters where they form large schools. The sizes exploited by commercial fisheries range from 30 cm to 170 cm FL (fin length). Juveniles form mixed schools with skipjack and juvenile bigeye and are mainly limited to surface waters, while larger fish are found in surface and sub-surface waters. The main spawning ground is the equatorial zone of the Gulf of Guinea, with spawning occurring from January to April. Juveniles are generally found in coastal waters off Africa. Research to date indicates a single stock for the entire Atlantic.

Catches and fishing effort: Yellowfin catches in the East Atlantic as a whole reached a historical high in 1990 (157,112 tonnes) but have since followed a generally declining trend, falling to 95,033 tonnes in 2000, but increasing significantly in 2001 to 115,911 tonnes (see Table 26 overleaf). The overall relative contributions of the various gear types have remained similar since the mid-1980s. In the east Atlantic, purse seine catches have represented nearly 80% of the landings on average with about 15% being taken by pole and line and about 5% by longline. Since 1991 purse seine fleets have developed a fishery that targets schools associated with artificial floating objects. FADS provide an important increase in catches of skipjack, juvenile bigeye and to a lesser extent increases in catches of juvenile yellowfin and by-catch, extending the fishing grounds westward to 30°W and south of the equator. The eastern tropical Atlantic purse seine nominal effort in terms of both number of boats and total carrying capacity has decreased over the last decade, with catches dropping from around 100,000 tonnes to just over 70,000 tonnes per annum in 2000, but rising again in 2001. This reflects different trends, with a relatively large decrease for the European and associated fleets (from 70 to 44 boats), partially compensated for by an increase from 0 to 10 purse seiners for the Ghanaian fleet. The pole and line fishery remained stable for both European and associated fleets (15-20 boats) and Ghanaian fleet (25-30 boats). Although the nominal effort has decreased, taking into account the potential changes in efficiency of these fleets due to changes in technology and fishing methodology, the effective effort is assumed to have remained relatively stable between 1999-2001. Purse seines still account for around 75% of all yellowfin catch.

²² Huntington, T.C. (2003): Review of Information on the Status of Fish Stocks and Fishing Activities in the High Sea Areas of the Eastern Central Atlantic Ocean. Internal Report to FAO Rome, May 2003. pp 57

Stock status: Fishing effort in 1999 was close to the maximum sustainable yield for the whole Atlantic of around 152,000 tonnes and in 2001 it was slightly above.

In 1993, the ICCAT recommended “that there be no increase in the level of effective fishing effort exerted on Atlantic yellowfin tuna, over the level observed in 1992”. Although the overall nominal effort has declined since the early 90’s, current estimates suggest that total effective effort has remained relatively stable or has only slightly declined since 1992. The estimate of MSY based upon the equilibrium models range from 144,600 to 147,300 MT; the point estimate of MSY based upon non-equilibrium model was 152,200 MT (current catches were 158,800 MT in 2001 and 137,400 MT in 2002). Yield-per-recruit analyses indicate that an increase in fishing effort is likely to decrease the yield per recruit, suggesting that stock is close to fully fished. The data also indicate that reductions in fishing mortality on fish less than 3.2Kg could result in substantial gains in yield per recruit. ICCAT have not implemented TAC for yellowfin.

An ICCAT assessment of the stock in 2000 indicated the parameters shown in Table 25.

Table 25: Summary of ICCAT Stock assessment of yellowfin tuna in 2000

Current (2001) yield		158,800 tonnes
MSY		144,600-152,200tonnes
Relative biomass	B1999/BMSY	103%
Relative Fishing Mortality	F99/FMSY	88-116%
ICCAT management recommendations in force		3.2Kg. Min. Size; fishing effort not to exceed 1992 level; closed areas/season for FAD's

Since reported yellowfin landings appear to be somewhat above the MSY level estimated during the 2000 assessment and fishing effort and fishing mortality may be in excess of the levels associated with MSY. ICCAT recommends that effective effort does not increase beyond the current level. A minimum size recommendation is in place (3.2kg).

Table 26: Yellowfin Tuna Catch in the East Atlantic Area (1992 - 2001)

		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Gear	Purse seine	99,532	92,129	90,152	87,598	89,156	78,364	77,668	77,582	72,081	88,105
	Baitboat	15,095	18,483	15,658	13,516	13,734	13,912	17,478	19,056	13,009	19,886
	Other surface	2,509	2,081	1,905	1,854	1,946	2,029	1,554	1,469	1,632	1,735
	Longline	3,903	4,107	8,503	7,955	8,567	5,964	8,036	7,675	8,311	6,185
	Sub-total	121,039	116,800	116,218	110,923	113,403	100,269	104,736	105,782	95,033	115,911
Country	Spain	49,902	40,403	40,612	38,278	34,879	24,550	31,337	19,947	24,681	30,937
	France	33,964	36,064	35,468	29,567	33,819	29,966	30,739	31,246	29,789	32,211
	Portugal	195	128	126	231	288	176	267	178	194	3
	Ghana	9,331	13,283	9,984	9,268	12,160	16,504	17,807	28,328	17,010	30,642
	Russian Fed.	1,862	2,160	1,503	2,936	2,696	4,275	4,931	4,359	737	-
	Taiwan	1,554	1,301	3,851	2,681	3,985	2,993	3,643	3,389	4,014	3,407
	Other	24,231	23,461	24,674	27,962	25,576	21,805	16,012	18,335	18,608	18,711
	Sub-total	121,039	116,800	116,218	110,923	113,403	100,269	104,736	105,782	95,033	115,911
TOTAL	121,039	116,800	116,218	110,923	113,403	100,269	104,736	105,782	95,033	115,911	

Source: ICCAT (2002)

Skipjack tuna *Katsuwonus pelamis*

Introduction: Skipjack tuna is a wide-ranging species forming schools in the tropical and subtropical waters of the Atlantic, Indian and Pacific Oceans. They spawn opportunistically throughout the year in vast areas of the Atlantic Ocean. Skipjack growth is variable and seasonal, and substantial differences in growth rates have been reported between different areas. Skipjack is a species that is often associated with floating objects, both natural objects or diverse fish aggregating devices (FADs). These have been used extensively since the early 1990s by purse seiners and pole and line vessels (during the 1991 to 2001 period, about 36% of skipjack were caught with FADs).

The introduction of FADs has been implicated in the substantial change in schooling and migratory behaviour which has occurred, leading to a reduction in the number of free schools of mixed species. Skipjack caught with FADs are usually associated with small yellowfin (20%) and with small bigeye (17%) and also with other small tuna species. A comparison of size distributions of skipjack between periods prior to, and after, the introduction of FADs shows that in the East Atlantic, there has been an increase in the proportion of small fish of these species in the catches as well as a decline in the total catch in recent years in some areas.

Stock status: Skipjack catches are shown in Table 27. The traditional view is that there are two distinct management stocks, one in the East Atlantic and another in the West Atlantic, separated at 30°W. However there is emerging evidence that skipjack stocks appear to be more regionalised and relatively independent of each other. Resource management therefore should take into account a much greater local dynamic. In the ICCAT 2003 report the concept of “viscosity” (a low number of individuals moving between areas) is discussed and should be a factor to be taken into account when assessing skipjack stocks. A stock may be called viscose if there has been a decline in a localised segment of the stock due to over-fishing of that component.

Given that only a small proportion of the individual stocks appear to undergo large migrations, ICCAT goes on to suggest that smaller management units could be considered and in this context has identified that there is a “possible scenario of local over-fishing in the Equatorial area of maximum fishing concentration on FAD's

The last assessment on Atlantic skipjack was carried out by ICCAT in 1999. A two stage assessment is currently underway, with the first research cruise implemented in 2001, and the next one planned for 2004 (personal communication, Luis de Menezes, São Tomé). The state of the Atlantic skipjack stock show a series of characteristics that make the stock extremely difficult to assess. However some estimates have been made by ICCAT based on fisheries indices and a generalized production model. On an overall level, there are signs that catches are too high, although this may not be true for all the eastern stock. However there is a possible decline in the yield of the stock following the introduction of FADs and it could be considered that MSY estimates are too preliminary to be used as a measure of stock status. Uncertainties in the underlying assumptions for the analyses prevent definitive conclusions regarding the state of the stock. However, the results do suggest that there may be over-exploitation within the FAD fishery, although it is not clear to what extent this applies to the entire stock. Based on this assumption, maintaining high concentrations of FADs would reduce the productivity of the overall stock.

In the three years 1997, 1998 and 1999, implementation of a voluntary ‘Protection Plan for Atlantic Tunas’ agreed upon by the Spanish and French boat owners in the usual areas of fishing with objects, has resulted in a reduction in the skipjack catches associated with FADs. Following this in 1999, ICCAT made a recommendation to establish a closed area/season limiting the use of FAD's, between 1 November until 31 January of the following year, in the equatorial area defined by; Southern limit: 4° South; Northern 5° North; Western limit 20° West; Eastern limit African coast (see Figure 5). The objective of the recommendations (which was adopted by Council Regulation 1936/2001) is to protect juvenile bigeye tuna. but it also impacts on others tuna. The average skipjack catches by purse seine during Nov.1997-Jan. 1998 by was reduced by 68% compared to the average catches before the moratorium (ICCAT report 2002-2003).

Table 27: Skipjack Catches in the East Atlantic (1992 - 2001)

		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Gear	Purse seine	84,880	119,966	105,061	103,631	86,720	70,853	70,282	90,459	76,099	64,154
	Baitboat	35,660	31,699	37,876	33,709	31,936	38,356	41,451	41,325	30,547	44,437
	Other surface	1,449	1,028	311	308	323	138	930	288	1,162	1,252
	Longline	3	2	10	3	7	47	85	42	48	54
	Sub-total	121,992	152,695	143,258	137,651	118,986	109,394	112,748	132,114	107,856	109,897
Country	Spain	53,319	63,660	50,538	51,594	38,538	38,513	36,008	44,520	37,226	30,954
	France	21,890	33,735	32,779	25,188	23,107	17,023	18,382	20,344	181,183	16,593
	Portugal	7,477	5,651	7,528	4,996	8,297	4,399	4,544	1,810	1,302	2,167
	Ghana	18,967	20,225	21,528	18,607	19,602	27,667	34,150	43,460	29,950	43,340
	Russian Fed.	1,110	540	1,471	1,450	381	1,146	2,086	1,426	374	-
	Panama	8,719	13,027	12,978	14,853	5,855	1,300	572	1,308	2,287	-
	Other	10,510	15,857	16,436	20,963	23,206	19,346	17,006	19,246	144,466	16,843
	Sub-total	121,992	152,695	143,258	137,651	118,986	109,394	112,748	132,114	107,856	109,897
TOTAL	121,992	152,695	143,258	137,651	118,986	109,394	112,748	132,114	107,856	109,897	

Source: ICCAT (2002)

Bigeye tuna *Thunnus obesus*

Introduction: The geographical distribution of bigeye tuna is very wide and covers almost the entire Atlantic Ocean between 50°N and 45°S. Spawning takes place in tropical waters when the environment is favourable. Young fish form schools mostly mixed with other tunas such as yellowfin and skipjack tunas. These schools are often associated with drifting objects, whale sharks and sea mounts. This association appears to decline as they grow larger. Circumstantial evidence, such as the time-area distribution of fish and movements of tagged fish, suggests an Atlantic-wide single stock for this species although ICCAT suggest that the possibility of other scenarios, such as north and south stocks, should not be disregarded.

Stocks: Catches of bigeye tuna in the ICCAT region are shown in Table 28. ICCAT have recently conducted a new stock assessment for this important tuna species (see ICCAT *Report on Bigeye Tuna Year Program Activities SEC/2002/013* for latest results). The range of MSY estimates obtained from production models was 79,000-105,000 tonnes. Estimates obtained from other models ranged from 91,000 to 112,000 tonnes. The production model estimated that the total catch was larger than the upper limit of MSY estimates for the years between 1993 and 1999 causing the stock to decline considerably, followed by a levelling off of the biomass in recent years as total catches decreased. These results also indicate that the current biomass is about 10-20% below the biomass corresponding to MSY and that current fishing mortality is about 15% higher than the rate that would achieve MSY. ICCAT projections indicate that the biomass of the Atlantic stock will not decline further with constant catches of 100,000 tonnes, which is very close to the reported catch of 96,482 tonnes for 2001 (source: 2002 ICCAT Report). Increases in biomass are expected with catches of 95,000 tonnes or less. and further declines in biomass are expected with catches of 105,000 tonnes or more.

As with yellowfin tuna, ICCAT has recommended that a minimum size regulation of 3.2 kg be imposed on bigeye tuna. Many of the equatorial fisheries still catch small (i.e. <3.2 kg) fish, especially the equatorial pole and line and purse seine surface fleets, and fish of less than 3.2kg are believed to represent over 50% of the total catch. The ICCAT recommendation is for 15 % tolerance, in number, of undersized fish per landing. ICCAT also recommended that catches in 2001 were limited to the average catch of 1991 and 1992 for the major fishing nations whose 1999 catch was larger than 2,100 tonnes. This sets a combined catch limit of 86,500 tonnes per year which applies to Spain, France, Portugal, Japan, Ghana the PR China and Taiwan. In 2001 the combined catch of these countries was 13,000 tonnes lower than the limit. Despite this ICCAT remains concerned that fishing effort still remains too high, and has suggested that a TAC of 100,000 tonnes or less should be considered. However for the time being there is no TAC set.

Table 28: Bigeye Tuna Catches in FAO Area 34 (1992-2000)

		1992	1993	1994	1995	1996	1997	1998	1999	2000
Gear	Purse seine	17,116	30,636	31,525	24,799	26,503	18,413	15,557	20,330	16,661
	Baitboat	13,462	12,215	17,937	20,545	17,080	16,461	16,847	19,820	10,297
	Other surface	214	278	685	317	389	185	157	253	209
	Longline	374	25,053	29,862	30,288	33,740	27,956	28,275	37,488	30,609
	Sub-total	31,166	68,182	80,009	75,949	77,712	63,015	60,836	77,891	57,776
Country	Spain	13,590	6,120	21,703	17,443	15,074	6,806	5,518	7,103	7,384
	France	6,430	12,478	11,863	8,317	8,563	5,791	5,235	5,462	5,610
	Portugal	-	-	63	-	-	-	-	-	-
	Ghana	2,866	3,577	4,493	5,517	5,804	7,430	13,252	11,460	5,586
	Taiwan	4,188	6,675	8,173	6,992	9,889	8,107	4,996	7,889	6,617
	Other	4,092	39,332	33,714	37,680	38,382	34,881	31,835	45,977	32,579
	Sub-total	31,166	68,182	80,009	75,949	77,712	63,015	60,836	77,891	57,776
TOTAL	31,166	68,182	80,009	75,949	77,712	63,015	60,836	77,891	57,776	

Source: ICCAT CATDIS Database (2002)

As mentioned there is now a closed area/season for the use of FAD's established (see

Figure 5). Although the moratorium covers the São Tomé and Príncipe EEZ, the period coincides with the end of the tuna fishing season in São Tomé and Príncipe and therefore the measure does not impact significantly on the EU vessels operating under the FA.

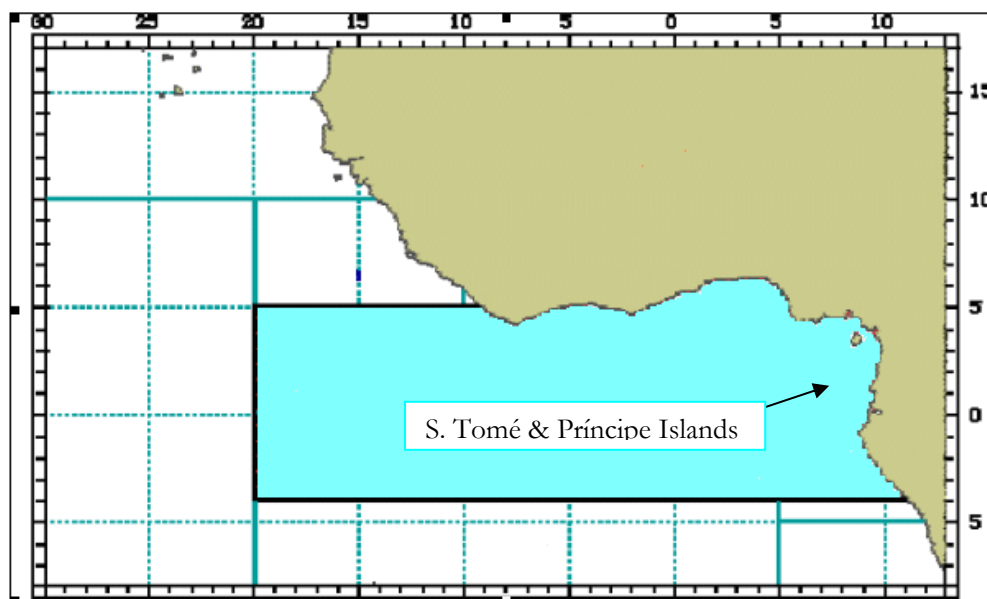


Figure 5: Area of the Atlantic Centre East Moratorium to fish over FAD's

A.4.1.2 Atlantic swordfish (*Xiphus gladius*)

Introduction: Swordfish are distributed widely in the Atlantic Ocean and Mediterranean Sea. Swordfish are typically caught on pelagic longlines at night when they feed in surface waters. They are found in the colder northern waters during summer months and all year in the subtropical and tropical areas. Known spawning areas are located in the warm tropical and subtropical waters, where swordfish spawns throughout the year in different localized areas displaying a regular seasonal pattern.

For management purposes ICCAT identifies three separate Mediterranean, North and South Atlantic stock units. These stock units are supported by recent genetic analyses, with the boundary between Northern and Southern stocks for stock assessment established at 5°N. Although the precise boundaries between stocks are uncertain, and mixing is expected to be high in the boundary zones, fishing in the STP EEZ principally targets the southern stock of this species.

Fisheries: Directed longline fisheries from European countries have operated since the late 1950s or early 1960s. The South Atlantic catch was relatively low (generally less than 5000 tonnes) before 1980. Since then, landings increased continuously through the 80's and 90's to a peak of 21,780 tonnes in 1995. The increase in landings was in part due to progressive shifts of fishing effort to South Atlantic, primarily from the North Atlantic, as well as from other waters. Catches have fallen since this time, mainly due to further shifts in fishing patterns and the possible emergence of IUU fishing.

In this fishery, the EU fleet accounts for about 40-50% of catches, followed by Brazilian fleet (about 20-25%). Asiatic longline fleets which target tunas, also catch significant amounts of swordfish, although this is not the primary target species. Catches of swordfish by these fleets are shown in Table 29.

Table 29: Catches (in MT) of swordfish South Atlantic, 1993-2002 (ICCAT)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
EC-Spain	6,974	7,937	11,290	9,622	8,461	5,832	5,758	6,388	5,789	5,741	73,791
EC-Portugal	0	0	380	389	441	384	381	392	393	380	3,139
EU – Total	6,974	7,937	11,670	10,011	8,902	6,216	6,139	6,780	6,181	6,121	76,931
Brazil	2,013	1,571	1,975	1,892	4,100	3,847	4,721	4,579	4,082	2,910	31,690
Chinese Taipei	846	2,829	2,876	2,873	2,562	1,147	1,168	1,303	1,149	1,073	17,826
Japan	5,256	4,699	3,619	2,197	1,494	1,186	775	788	694	814	21,522
Others	853	2,593	1,640	1,179	1,377	1,439	2,503	2,058	1,973	2,651	18,267
Total	15,942	19,629	21,780	18,152	18,435	13,835	15,306	15,508	14,079	13,569	166,236

In 2003/2004 there were 61 EU longline vessels licensed for Atlantic fisheries in African waters, of which 6 were Portuguese and 55 Spanish. The number of non-EU longline vessels is not known.

Stock status: There is considerable uncertainty in the data for the South Atlantic swordfish stock assessment. Contradictory CPUE trends from target and by-catch fisheries have not allowed ICCAT to generate reliable estimates of MSY and biomass trends. In recent years there has been a change in the longline gear used by many Spanish vessels including moving from traditional multifilament to monofilament lines, representing an increase in efficiency. There are concerns over the possibility of IUU fishing. Given these reasons, and the relatively recent and rapid expansion of the fishery, ICCAT has therefore recommended that catches should not increase beyond the level of the past few years (14-15000 tonnes). However no MSY is set and there is no TAC indicated. ICCAT sets a minimum size of 125cm (lower jaw fork length), with a 15% catch tolerance (or a 119cm LJFL if there is discard evaluation).

A.4.1.3 Sharks

Introduction: Longline fisheries in the tropical Atlantic are also associated with target catches of blue shark (*Prionace glauca*) and mako shark (*Isurus oxyrinchus*) and a bycatch of of silky shark (*Carcharinus falciformis*) and the great white shark (*Carcharodon carcharias*). As with most sharks these species are viviparous, with low fecundity, and thus highly vulnerable to over-fishing. Sharks often have a close stock-recruitment relationship, long recovery times in response to over-fishing and complex spatial distribution. Conservation and management of sharks are impaired by the lack of accurate data on catch, effort, discards, and trade data, as well as limited information on the biological parameters of many species and their identification

Fisheries: EU surface longliners pursue fishing methods which specifically target swordfish, and the mako and blue sharks. Of these the last two represent a substantial component of the landed catch of the surface longline segment, comprising some 75-85% of the catch weight and about 55-60% of the catch value²³. High value fins, livers (as a source of oil and squaline) are the main sources of revenue. Shark should therefore be regarded as a target species in these surface longline fisheries, including in that of São Tomé & Príncipe.

Catches: Increase in effort and yield of shark catches has led to concern over the consequences for the populations of some shark species in several areas of the world's oceans. Sharks are caught by a number of fleets from diverse countries, yet little has been done to assess the impact of this potentially large removal of individuals from the population.

The main species of concern are the blue shark and short-fin mako shark. There is some data on by-catch of these, principally by the Spanish surface long-line fleet provided to ICCAT. ICCAT Document SCRS/01/049 provides preliminary scientific estimates of shark catches of the Spanish surface longline fleet targeting these species and swordfish in 1999.

The document reports that, in terms of weight, all landed catch of shark accounted for 74% of the total landings of the fleet in the Atlantic, of which 95.4% was composed of large pelagic sharks. The Portuguese longline catches indicates a catch ratio of 2.92 blue sharks to 1 swordfish and 0.406 short fin mako to 1 swordfish in the North Atlantic. The Japanese fleet does not report shark catches, or include them in "Others" (3% of total catch). It is likely that suitable species are "finned" and the lower value remains discarded. Table 29 shows a summary of the estimated minimum catch rates of shark by surface longliners in the Atlantic Ocean.

Table 30: Estimated minimum catch rates in EU surface longliners targeting swordfish and shark in the East central Atlantic

Species	Catch rate/1000 hooks
Blue shark	285.7
Mako shark	40.43
Swordfish	50.5

Source: analysis of catch records from 32 EU longline fleet, Cape Verde in 2002 (assumes one set of 1500 hooks per fishing day)

Data from observer programmes on long line vessels in the ICCAT area also provides some information, but this is not collated in a readily accessible form. Table 31 shows that there some 897 reports filed in the 18 years 1982 to 2000, of which 60 were from EU vessels.

²³ based on catch reports of Spanish longliners fishing in the Cape Verde EEZ in 2002/2003.

Table 31: Number of reports of shark catches to ICCAT by country (1982-2000)

Flag	Number of reports	Number of reports
Brazil (Incl. Charters)	95	95
Canada	102	102
Cote Divoire	25	25
EC. (Ireland)	2	60
EC. (Portugal)	6	
EC. (Spain)	48	
EC. (UK)	4	
Japan	24	24
Mexico	26	26
Trinidad	30	30
U.S.A.	412	412
UK. (Bermuda)	24	24
Others	99	99
TOTALS	897	897

One of the difficulties with respect to management of the shark resource within the ICCAT Framework is that the standard ICCAT reporting form used in recent years does not specifically require shark catches to be recorded except as a generic “other” category. Recent modifications to the form have addressed this omission, but seem not to have been fully implemented at fleet level. Member State logbooks do however have this requirement, but may not always distinguish between different species of shark. ICCAT has only recently required that reports from members should declare shark catches. There is some valid concern that the traditional fishers of this resource have under-declared or not declared catches

Stock assessment: There is only limited data made available on landings and discards of blue and mako sharks, and no data made available on associated effort. The landing data available were submitted by some countries to ICCAT and only covered the period 1986-2000. There are no catch-at-age or catch at size data available. Consequently, there is at present insufficient data to perform quantitative fisheries stock assessment for this specie, even the simpler surplus production approaches.

Extensive tagging data from NMFS of USA²⁴ and the CFB of Ireland²⁵ shows that there is a single stock of blue shark in the North Atlantic. Meanwhile recent literature sources have compiled and analysed some CPUE data sets for the North West Atlantic that show a considerable decline in blue shark abundance indices. Simpfendorfer et al²⁶, showed that males have declined approximately 80% between the middle-1980 and the early 1990s. Baum et al. (2003) presented an analysis of logbooks data for US pelagic longline vessels targeting swordfish and tuna in the North West Atlantic, where blue shark abundance index showed a 60% decline during the period analysed (1986-2000) and suggest density-dependent habitat selection.

The great white shark figures on the IUCN red list as vulnerable and is an Appendix III Species for Australian waters. It is expected that a better assessment of its status would lead to its classification as endangered and the great white shark is currently proposed for addition to CITES Appendix II. No other shark species in this region are covered by CITES Appendices.

Management recommendations; ICCAT, through the Standing Committee on Research & Statistics (SCRS) is conducting an assessment in 2004 of Atlantic pelagic sharks focusing on blue and shortfin mako shark. In the ICCAT Data Preparatory Meeting for Atlantic Shark Stock Assessment²⁷ ICCAT Contracting Parties (inc. São

²⁴ Koher et.al.1998

²⁵ Fitzmaurice et al., see ICES CM 2003/G:09 Report of Working Group on Elasmobranchs

²⁶ ICES CM 2003 (G:09 Report of Working Group on Elasmobranchs)

²⁷ Halifax, Canada, September 11-14, 2001

Tomé & Príncipe and the EU) were encouraged to submit species-specific shark catch statistics including estimation of shark catch, dead discards and size data with an emphasis on porbeagle, blue and short-fin mako sharks. It recommended that ICCAT Contracting Parties develop and conduct observer programs for their own fleets to collect accurate data on shark catches by species (including discards). It also recommended that Contracting Parties encourage release of live sharks, minimise discards by requiring retention on board of sharks from which fins are removed and develop and conduct observer programs for their own fleets to collect accurate data on shark catches by species (including discards). Importantly the document also called for no increase in targeted fishing for porbeagle, blue and short-fin mako sharks. Following this EC Regulation 2002/0186 (Proposal for a Council Regulation amending Regulation (EC) No 1936/2001 of 27 September 2001 laying down control measures applicable to fishing for certain stocks of highly migratory fish) specifically requires that "Member States shall transmit to the ICCAT Executive Secretariat in electronic form for scientific purposes, data on catches and effort as defined by ICCAT. In particular estimates of discards of dead porbeagle, shortfin mako and blue sharks." However these are all target species and discards are likely to be nil, so technical regulations setting detailed implementation procedures have not been introduced.

The EU has also moved to protect sharks from excessive exploitation through the practice of "finning". Council Regulation (EC) No 1185/2003 of 26 June 2003 on the removal of fins of sharks on board vessels. The Regulation prohibits the removal of shark fins on board EU vessels and vessels fishing in Community waters. Finning may however be permitted on specially licensed vessels where they have demonstrated a capacity to utilise the entire shark, on condition that all parts of the fish are landed and full records of catch weights are kept.

FAO has implemented the International Plan of Action on Conservation and Management of Sharks, and encouraged member nations to submit and update National Plans of Action on Sharks. IPOA-SHARKS is voluntary, and has been developed within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d) and the Precautionary Approach. In September 2001, São Tomé & Príncipe, together with Gambia, Guinea, Guinea Bissau, Mauritania and Senegal, formulated a Sub-regional Plan of Action for sharks²⁸. In the 12th Meeting of the Conference of the Parties of CITES (held in Santiago-Chile 3-15 Nov. 2002) it was agreed that "that a lack of progress in the development of the FAO IPOA-Sharks is not a legitimate justification for a lack of further substantive action on shark trade issues within the CITES forum, the CITES Secretariat were instructed to raise with FAO concerns regarding the significant lack of progress in implementing the IPOA-Sharks and to urge FAO to take steps to actively encourage relevant States to develop NPOA-Sharks, and to urge FAO COFI and Regional Fisheries Management Organizations to "take steps to undertake the research, training, data collection, data analysis and shark management plan development outlined by FAO as necessary to implement the IPOA-Sharks".

Shark catches by EU vessels should be declared on the appropriate catch declaration records submitted to ICCAT. However the standard reporting forms as presented in the Annex to the Protocol, do not specifically list shark, and only have a single column for declaration of "Others specific species". In the absence of specific instructions it appears that many fishers do not declare shark catch, or if they do, they are only declared generically. There is concern that the catch of sharks is therefore not being correctly declared in line with the ICCAT recommendations. ICCAT has recently revised (in 2003) standard reporting forms to specifically address this point, and new reporting requirements should be specified in any new FPA.

A.4.1.4 Demersal fish resources

Stock status

There is no current information available concerning stock status of demersal species. The only data available is in relation to Russian surveys conducted in 1983 and 1986. These indicated a potential of 1,500 tonne/year of demersals for São Tomé Island and 2,000 t/year for Príncipe. Based on current levels of exploitation, the demersal fish stocks appear to be fully or slightly over exploited. It is noteworthy that demersal fish species from São Tomé & Príncipe can be deepwater species, which are usually highly vulnerable to intensive fishing, being slow growing and of low fecundity.

²⁸ IUCN 2002. Report on Implementation of the International Plan of Action for Sharks (IPOA – Sharks): paper submitted for discussion at the 18th. CITES Animals Committee meeting, Costa Rica, 8-12 April, 2002. IUCN Species Survival Commissions Shark Specialist Group (SSG) and TRAFFIC

A.4.1.5 Deepwater crab fishery

Introduction

Deepwater crabs are a benthic resource found widely distributed amongst the Atlantic, Pacific and Indian Oceans and the Mediterranean, usually present on the continental slope at depths ranging 100m to 2800m. Deepwater crabs of São Tomé & Príncipe belong to the family *Geryonidae*, which included (in 2001) three genera; *Geryon* (with 2 species), *Zariquieyon* (1 specie) and *Chaceon* (with 22 species). Since 1992 seven more species have been discovered.

Three of the species provide fisheries of commercial value – Northwest Atlantic (*Chaceon quinquedens* e *Chaceon fenneri*) and Southwest Africa (*Chaceon maritae*). *Chaceon sanctaebelenae* is also exploited in some localities. The deep sea red crab (*Chaceon maritae*) is widely distributed along the West African coast. It occurs on the slope of the continental shelf from Namibia northward to Ivory Coast. It is found on soft mud substrates at depths of 300 to 900 m. The species present in São Tomé & Príncipe are provisionally identified as *Chaceon sanctaebelenae* and *Chaceon gordonae* and are caught at depths up to 1000m

Stock status

Until now few scientific studies have been made on this resource. There are no surveys in respect to relative abundance and distribution. A short research study in July 2004 by University of Algarve identified the species. More work on stock assessment is planned but it is dependent on obtaining research funding. In the meanwhile there is no data on stock status. Neither are we aware of the extent to which the STP stocks are separate from those exploited for example in Angolan or Namibian waters.

One STP vessel (the Delfim) exploits this resource, both in the STP EEZ and it is believed, elsewhere in the region. In Angola there is one enterprise (with one ship) also exploiting this species. It is using Japanese style beehive traps on longlines. In addition the crab is a significant by-catch of the deep sea shrimp trawling. Catches in Angola averaged 1200 tons per year in 2000 – 2002. A targeted trawl fishery is also pursued in Namibia. Total catches (Namibia and Angola) reached 10.000 tonnes in the early 80s. They currently fluctuate around 4000 tonnes. The stock in these countries is considered to be over-fished and the fishery for *C. maritae* in the Southwest African coast had a rapid decline in the 1970s, falling from 17 fishing vessels and 2 mother-ships to only 2 fishing vessels in a period of only 3 years. (Beyers & Wilke (1980) in Pires, 2001).

Management recommendations

Deepwater crabs are slow growing animals with slow sexual maturation and a long life (15 and more years). In general the benthic communities of deepwater are highly vulnerable to intensive fishing. Armstrong (1990) (in Pires 2001) suggests that they may have highly irregular recruitment patterns, making for difficult management of a sustainable fishery.

Little work has been done on these stocks and no management recommendations are established. Any experimental exploitation in the region should therefore be conducted along with a stock assessment and monitoring exercise.

A.4.1.6 Small pelagic fish stocks

Introduction

The small pelagic fisheries comprise mainly two species of sardine; the round sardinella (*Sardinella aurita*) and the flat sardinella (*Sardinella maderensis*) are apparently exploited and shared by São Tomé and Príncipe, Congo, Gabon and Angola. In addition there are smaller stocks of two species of mackerel scad (*Decapterus spp*) which form an important proportion of the small pelagic catches by the artisanal fleet of São Tomé and Príncipe. The sardine resource is also exploited by Angola. Most of the available data is derived from Angolan research.

Stock status

The round sardinella (*Sardinella aurita*) forms schools in coastal waters from inshore to the edge of the shelf. It is strongly migratory often rising at the surface at night and dispersing. The flat sardinella (*Sardinella maderensis*) also forms schools and shows a clear North-South migrations related to the seasonal upwelling. There is thought to be a single shared stock for each species.

Because the spawning of the sardinellas occurs in the northern part of its range, close to the São Tomé and Príncipe and Gabonese EEZs, there is effectively a sequential fishery with only adults being exploited in Angola while juveniles may form an important part of the catch in Gabon and Congo, and potentially in São Tomé and Príncipe. In Angola the round sardinella used to provide the bulk of the catch. However in the late 1990s the proportion changed and *Sardinella maderensis* is now the major species. The stocks are said to be healthy.

Acoustic surveys in the northern shelf of Angola indicated during 1985-1989 a decline in the biomass of small pelagics (sardinella and horse mackerel). The trend has dramatically reversed during the 1990s and the current biomass level now exceeds 500,000 tonnes. High biomass values for both sardinellas were also recorded in the South Gabon - Congo region, 135,000 tonnes in 1994. These estimates indicate a considerable increase in biomass compared to previous survey results, confirming the trends observed in Angola. Small pelagic stocks were therefore considered under-exploited, although since then fishing of small pelagics in Angolan waters is reported to have intensified, with a focus on horse mackerel (*trichurus trecae*).

Russian survey expeditions of 1983 and 1986 suggested a potential of around 1,500 tonnes a year of pelagic resources for São Tomé Island and 7,000 tonnes a year for Príncipe making a total of 8.500 tonnes a year of pelagics for São Tomé & Príncipe. However the stock assessment was not disaggregated by species.

Management measures

In 2003 the industrial pelagic trawl fishery in Angola was closed for three months (March to May), mainly due to observed depletion of the horse mackerel (*Trichurus trecae*). It is to remain closed for the whole of 2004. The purse seine fishery is allowed to continue to operate.

A.4.2 Overview of stock status and utilisation potential in the São Tomé and Príncipe EEZ

A.4.2.1 Tunas

In terms of migratory stocks of large pelagic fish exploited in São Tomé and Príncipe waters, management policy should take account of the wider stock situation in general and ICCAT recommendations in particular.

According to ICCAT, most of the commercial tuna stocks are now more or less fully exploited across the Atlantic. Bigeye tuna is considered subject to excessive effort, especially of juveniles, and it has TAC's and minimum sizes set by ICCAT; ICCAT recommendations for a seasonal moratorium on the use of FADs by purse seiners apply, and are followed by EU vessels within the São Tomé and Príncipe EEZ. However the season does not correspond with the main fishing season in this area and the impact is minimal. Yellowfin tuna is close to fully exploited and has minimum size recommendations in place and a recommendation that fishing effort should not increase over the 1992 level. Although there are no TAC levels set, increases in fishing power of purse seiners have given rise to concern, which may indicate that a slight reduction in vessel numbers may be necessary to meet management objectives. There is some evidence that some local populations of skipjack tuna from the equatorial area are over-fished (ICCAT 2003) although this is not thought to apply to São Tomé and Príncipe.

A.4.2.2 Swordfish

With respect to the South Atlantic stock of swordfish, there is concern over the rapid increase in catches in the 1990s, a suspected level of IUU fishing, and recent improvements in fishing efficiency, which indicate the need for a precautionary approach. The stock is subject to a management recommendation by ICCAT that catches do not increase beyond the current level of 14-15,000 tonnes/year. There is no TAC established, but there is a minimum catch size laid down. There should be no increase in effort on these stocks.

A.4.2.3 Blue and mako shark

There is a lack of reliable data on which to base a definitive stock assessment in relation to the main commercial shark species. There is evidence of a significant decline in the abundance, particularly of blue shark, where there is considered to be a single Atlantic stock. Overall, the poor reporting of the EU longline fleet in general, and of shark catches in particular provides insufficient basis for resource management decisions. Given the evidence of declining abundance a precautionary approach is therefore advisable, with a reduction of targeted fishing effort highly desirable.

A.4.2.4 Demersal fisheries

There is a lack of data on which to base stock availability decisions. Indications are that the demersal fish stocks are fully or slightly over exploited. However, most artisanal fishing does not reach beyond 200m depth and some modest expansion of effort by the artisanal fishery may be foreseen with improved gears.

A.4.2.5 Deepwater crab fisheries

Deepwater crab stock status is thought to be good, the stocks being only lightly exploited in recent years by a very small number of artisanal vessels. The lack of information (including uncertainty over the species) emphasises the need for scientific studies on this resource, which should be conducted in parallel with any increase in level of exploitation, especially by industrial vessels.

A.4.2.6 Small pelagic fisheries

Sardinella species are not specifically targeted in São Tomé and Príncipe EEZ at present. The resource would potentially provide live bait for a pole and line fishery. The sardinella exploited in Angolan waters are thought to be part of the same stock and are subject to limited management measures, although the most recent stock assessments indicate a healthy condition²⁹. A modest level of exploitation associated with a pole and line fishery is considered to be sustainable.

A.4.2.7 Overall resource availability

The summary of the resource availability in São Tomé & Príncipean waters is shown in Table 12

The large pelagic resources of tuna and swordfish are considered to be fully exploited. Blue and mako sharks appear to suffer from unsustainable levels of fishing mortality and a reduction in effort may be indicated, although more data is required for a specific assessment. According to what little evidence is available there is no potential for increasing exploitation of demersal fish resources. However the deepwater crab fishery is only lightly exploited by artisanal fishers in one region. The small pelagic fisheries are hardly exploited at all by the São Tomé & Príncipe artisanal sector, and would seem to have some potential for bait supply for pole and line vessels.

²⁹ Instituto de Investigação Marinha (Angola) indicates an annual TAC of 120,000 tonnes in 2004, with catches in the region of 50-60,000 tonnes/annum

Table 32: Summary of MSY and average catch (1997 – 2001) and unexploited potential for São Tomé & Príncipe fish resources

Resources	Potential	Average catch 1997-2001	Under-exploited opportunities
Tonnes			
Large pelagic fish resources (whole ICCAT area)			
• Yellowfin	110,000	115,911	NIL (should keep fishing effort of 1992; no quotas)
• Skipjack (Eastern stock)	n/a	108,897	NIL (population in the São Tomé and Príncipe area seems to be stable)
• Bigeye	100,000	100,000	NIL (with TAC)
• Swordfish	Not known	12,860	NIL (ICCAT recommendation no increase: may be subject to IUU fishing)
• Sharks	Not known	Excessive	NIL (significant depletion of main target species)
Small pelagics			
• Sardinella	8,500	0	8.500
• Demersal fishes	3,500	4,000	NIL (needs resource identification followed by stock assessment)
• Deep water crab	Not known	0	Resource thought to be sensitive – exploratory fishing should always be accompanied by research.

A.4.3 Non-target catch issues

A.4.3.1 Incidental catch of Marine mammals

Bycatches of marine mammals can be relatively frequent in purse-seine fisheries targeting skipjack and yellowfin. For example, ICCAT quotes that in 2001 2,075 marine mammals were caught (along with 137 sea turtles and 35,123 sharks and rays) in purse seine gear in the Eastern Pacific Ocean. However, in contrast to the Pacific, the western side of the Atlantic Ocean, there is little literature regarding cetacean by-catch in the Eastern Central Tropical Ocean. However incidence is thought to be less. For this reason ICCAT does not publish quantitative estimates of mammal bycatch and the consultants are not aware of any studies in this region.

A.4.3.2 Incidental catch of Seabirds

Very little is known about incidental mortality of seabirds currently caused by pelagic longlining in the Atlantic Ocean and Mediterranean Sea. ICCAT has established a Sub-Committee on By-Catch and a Shark Working Group but apparently does not collect data on mortality of seabirds. Some authors do consider longline fishing in some regions to be a threat to 22 species of seabirds that are currently listed as globally 'threatened' according to IUCN criteria (BirdLife International 2000). These species includes 17 species of Albatrosses, one Giant Petrel and four Petrels (all of the genus *Procellaria*). The 22 globally threatened seabirds breed on

territories in southern latitudes and most species (19) occur south of 30°S. Two threatened species occur in the North Pacific Ocean and one species is confined to the tropical Pacific Ocean. These seabirds have been recorded as incidental bycatch in 28 fisheries from 14 different nations, but not including any fisheries as far north as São Tomé and Príncipe or neighbouring countries. The impact of surface longliners on the sustainability of these species of seabird populations is therefore not considered to be significant in the São Tomé and Príncipe region.

A.4.3.3 Incidental catch of marine turtles

The consultants have identified the turtle bycatch in surface longline fisheries as an important environmental issue associated with fishing in São Tomé & Príncipe waters. This is considered in more detail in the following sections.

The main species of sea turtles found in the West Central Atlantic Ocean and suffering from an interaction of industrial commercial fisheries are as follows:

The Leatherback Turtle (*Dermochelys coriacea*)

The Leatherback has a wide distribution. In the Atlantic it is distributed between 70°N to 50°S and all along the African coast. São Tomé and Príncipe provides a nesting area. The leatherback is the largest living turtle, weighing up to 800kg. Leatherbacks are the most pelagic of turtles and feed in the open ocean. At sea, they can become entangled in longlines, resulting in injury or drowning. In 1982 there were an estimated 115,000 adult female leatherbacks existing worldwide with roughly half of them nesting in western Mexico. In recent years however, the number of nesting leatherbacks has been declining at an alarming decline. Recent estimates put the global number of nesting females at about 1,500 only (Spotila et al. 2000).

Loggerhead Turtle (*Caretta caretta*)

The loggerhead turtle is oceanic and distributed throughout equatorial coastal waters, occupying a wide variety of habitats. Recent estimates put the global number of nesting females at about 1,500³⁰ (the same as the leatherback), and little is known of the life cycle.

Other marine turtles implicated in bycatch of surface longline fishing and which nest in the W.African region are the Hawksbill Turtle (*Eretmochelys imbricata*), the Atlantic Green Turtle (*Chelonia mydas*) and the Olive Ridley (*Lepidochelys olivacea*).

Turtle bycatch in surface longline fisheries

In some parts of the world turtles are still hunted both for food and for their shells. However commercial fishing poses a significant threat to turtles, through incidental capture in a range of fishing gears, including demersal trawls, gill nets and longlines. Typically turtles become trapped in the fishing gear and drown or get picked off by sharks.

A number of studies have implicated pelagic longline fishing in turtle mortality and have attempted to measure bycatch rates. Ferreira et al (2001) measured an average bycatch rate of 0.27 turtles/1000 hooks in the Azorean surface longline fishery (with seasonal rates up to three times greater than this). Pinedo and Polacheck (2003) showed bycatch rates averaging 1.48 turtles/1000 hooks in the Brazilian EEZ (34% of sets had at least one turtle bycatch). A Mediterranean study by Carreras et al (2003) showed that surface longliners caught on average 4.7 loggerhead turtles per month. Lewison et al (2004) assessed global turtle bycatch rates derived from observer programmes applied in the fleets of 13 countries, including those fishing in the Gulf of Guinea and Azores in the Atlantic, and determined a global average bycatch rate of 0.17/1000 hooks for loggerhead turtles and 0.03/1000 hooks for leatherbacks. They showed that bycatch rates were higher in the Atlantic and Mediterranean than in the Pacific basin. Turtle bycatch rates in the Pacific were shown by Crowder and Myers (2001) to be higher in longline fisheries targeting swordfish (thought to be due to the shallower set and use of light sticks).

There is therefore emerging evidence that surface longlining results in significant mortality of leatherback and loggerhead turtles in the Atlantic fisheries, and that shallow set longlines might be more damaging in this respect. Whilst there is no specific data on bycatch of turtles in the STP EEZ fishery, there is clear evidence

³⁰ Lewison et al. 2004

of this interaction in similar fisheries in adjacent waters. The critically endangered leatherback turtles nest on several Sãotomean beaches and there are no reasons to expect that such a degree of interaction would not be evident in the STP EEZ. There is justifiable concern that the surface longline fishery in the EEZ impacts on this population.

Stock status

Data on turtle population in the Atlantic African coast is relatively scarce compared to other regions such as the Pacific region. Globally, all 5 of the above mentioned species of turtle are listed by IUCN on the Red List of Endangered Species. Leatherback and Hawksbill turtles are regarded as critically endangered (Table 33).

Table 33: Endangered species of marine turtle

Critically Endangered Species 1	Endangered Species 2
<i>Dermochelys coriacea</i> (Leatherback)	<i>Caretta caretta</i> (Loggerhead)
<i>Eretmochelys imbricata</i> (Hawksbill)	<i>Chelonia mydas</i> (Atlantic Green)
	<i>Lepidochelys olivacea</i> (Olive ridley)

Source: (2003 IUCN Red List of Threatened Species) by the International Union for the Conservation of Nature and Natural Resources.

Notes 1: A taxon is “critically endangered” when it is facing an extremely high risk of extinction in the wild, as defined by reduction of at least 80% over the last 10 years (or three generations). 2. A taxon is “endangered” when it is not critically endangered but is facing a very high risk of extinction in the wild, as defined by reduction of at least 50% over the last 10 years (or three generations).

Conservation and management measures in São Tomé and Príncipe

Populations of *C. mydas*, *L. olivacea*, *E. imbricata*, *C. caretta* and *D. coriacea* have been observed in São Tomé and Príncipe, although the loggerhead (*C. caretta*) is reported to be rare. Based on data from the NGO MARAPA, a minimum of 17 leatherback turtles are estimated to nest in São Tomé and Príncipe each year. Principal nesting seasons are shown in Table 34. Projecto Tato operated by MARAPA has carried out complete coastline surveys, regular monitoring of significant nesting beaches and of turtle captures at sea. It undertakes nest relocation in protected hatcheries as well as running awareness campaigns among locals, students, tourists, government officials and tortoiseshell artisans. Incubation results of the project on 2 beaches are shown in Table 35. Despite this work, the biological and ecological condition of the turtle populations in São Tomé and Príncipe is still poor. Although funding for Projecto Tato was ended in 2001, conservation efforts have been continued by the NGO MARAPA, which built two new egg hatcheries at the end of 2002.

Table 34: Nesting seasons of the turtles in São Tomé and Príncipe

	Atlantic Green <i>C. mydas</i>	Olive Ridley <i>L. olivacea</i>	Hawksbill <i>E. imbricata</i>	Loggerhead <i>C. caretta</i>	Leatherback <i>D. coriacea</i>
Nesting season	July – February	August -December	August - February	July - December	September -February

Table 35: Incubation results of Turtle populations in 2 beaches of São Tomé and Príncipe in 1999

	Atlantic Green <i>C. mydas</i>	Olive ridley <i>L. olivacea</i>	Hawksbill <i>E. imbricata</i>	Leatherback <i>D. coriacea</i>
Eggs collected	24,204	26,036	5,644	1,769
Hatched	20,638	20,831	3,699	1,029

Source: Project Tato, implemented by ECOFAC (Fretey and Caruso, 1999)

There are no conservation measures in place which address turtle interactions with marine fisheries in this region.

International Conservation and management measures

The oceanic nature of the species concerned, and the international dispersal of longline fishing effort suggests that effective protection for loggerheads and leatherbacks will require coordinated international action. Within the African regions, the Abidjan Turtle Conservation Convention was established in 1999 through a Memorandum of Understanding under the Convention on the Conservation of Migratory Species of Wild Animals. Signatories include São Tomé and Príncipe. Although Canary Islands (Spain) and Azores and Madeira (Portugal) are included within the invited range of states, neither have signed nor ratified the Convention. A first meeting was held in Nairobi in 2002. This meeting established a regional conservation plan for sea turtles meant to apply to all the countries ranging from the Straits of Gibraltar to the Cape of Good-Hope. Under the Convention each country should present measures for the conservation and protection of turtles at all stages of their life cycle. Sea turtle conservation initiatives are underway in other Convention countries, including Morocco, Mauritania, Democratic Republic of the Congo, Angola and Namibia. However, the level of implementation within the African region is known to be weak.

A marine turtles monitoring and conservation project was launched in 2004 as a joint venture between the Instituto Canario de Ciencias Mariñas and the Cape Verde Instituto Nacional de Desenvolvimento das Pescas, with funding by Interreg IIIB Cohesion Funds and other NGO sponsors. The project will track turtles using satellite technology as a means to better understanding of migratory and breeding habits, and document their abundance on Cape Verdean beaches.

Experimental work at the University of Azores is in the process of assessing the possibility of gear modifications and changes in surface longline fishing practices which can reduce sea turtle bycatch on longlines. Possible technical measures include circle hooks, use of mackerel bait and leaded swivels. However more practical work and multinational efforts are required before bycatch mitigation measures can be implemented.

The continued decline in abundance of critically endangered species of sea turtles suggest that there is serious risk of extinction for some populations. This warrants the application of the precautionary principle as applied to endangered species management, suggesting that it is justifiable to apply measures to reduce or eliminate this significant source of turtle mortality.

A.4.3.4 Indirect Interactions

It has been suggested that the removal of predatory fish such as sharks and tunas may result in an increase in the numbers of un-fished prey species, thus allowing fishers to harvest more. Predation is recognised as a key structuring process in aquatic ecosystems but empirical evidence suggests it is wrong to assume most predator-prey relationships are tightly coupled. Many simplistic models of predator prey interactions fail to recognise other factors, such as prey switching, ontogenetic shifts in diet, cannibalism and the diversity of species in marine ecosystems. In tropical coral reef systems, where the species diversity is relatively high and there are large numbers of keystone species, the removal of piscivorous target species does not seem to result in a corresponding increase in the abundance of their prey (Jennings *et al.* 1995 and Jennings and Polunin. 1997). However the removal of a wide range of top predators (both sharks and tunas), within a relatively limited geographical area, may have significant, but as yet unknown consequences.

Although there is very little data on the subject of seabirds, there is some evidence that high levels of fishing pressure on top predators such as tunas and sharks may lead to a proliferation of small pelagic fish species. As noted by Dunn (1995)³¹ such an imbalance may not be beneficial to surface feeding seabirds (notably terns and shearwaters).

³¹ Dunn, E (1995). Global Impact of Fisheries on Seabirds. A paper prepared by Birdlife International for the London Workshop on Environmental Science, Comprehensiveness and Consistency in Global Decisions on Ocean Issues. RSPB, Sandy Lodge, UK pp27

A.5 PAST AND CURRENT EC PROTOCOLS

A.5.1 Evolution of the fisheries protocols

The Framework Agreement governing fisheries relations between the republic of São Tomé and Príncipe and the EU was adopted by Council Regulation No.477/84 of 21 February 1984. The current protocol is the 7th three-year protocol to be agreed. The current protocol commenced on the 1 June 2002 and will run until the 31 May 2005. The evolution of the protocols operated under the fisheries agreement is shown in Table 36.

Table 36: The evolution of the protocols operated under the fisheries agreement

	Period covered	Type of protocol	Total financial contribution (€)	Targeted actions (€)	Targeted actions (%)
1	01/06/84 - 31/05/87	Tuna	540,000	0	0
2	01/06/87 - 31/05/90	Tuna	1,875,000	450,000	24
3	01/06/90 - 31/05/93	Tuna	2,175,000	535,000	25
4	01/06/93 - 31/05/96	Tuna	2,175,000	525,000	24
4	01/06/96 - 31/05/99	Tuna	2,175,000	375,000	17
6	01/06/99 - 31/05/02	Tuna	1,912,500	956,250	50
7	01/06/02 - 31/05/05	Tuna	2,250,000	880,000	39

A.5.2 Main Features of the current protocol

The current protocol of the São Tomé and Príncipe - EU Fisheries Agreement was adopted by Council Regulation EEC No.2348/2002 of 19 December 2002. It runs from 1 June 2002 to 31 May 2005. It has just completed its second year. A summary of the main provisions compared to the previous protocol is shown in Tabel 37.

Table 37 - 2000/02 and 2002/04 Protocols

	1999/2002	2002/05
Average Annual cost		
Total:	€637,500	€750,000
Targeted Actions:	€318,750	€310,000
Untargeted:	€318,750	€440,000
Fishing Opportunities		
<i>Pole and line</i>		
Catch Limitation	n/a	n/a
Max N° Vessels	7	2
Size Limitation	n/a	n/a
License fee/ ^a	€25/tonne tuna	€25/tonne tuna
Min License Fee	€625	€625
<i>Tuna Seiners</i>		
Catch Limitation	n/a	n/a
Max N° Vessels	36	36
Size Limitation	n/a	n/a
License fee/ ^a	€25/tonne tuna	€25/tonne tuna
Min License Fee	€3,750	€3,750
<i>Surface Longliners</i>		
Catch Limitation	n/a	n/a
Max N° Vessels	33	25
Size Limitation	n/a	n/a
License fee/ ^a	€25/tonne tuna	€25/tonne tuna
Min License fee	€1,375 (>150GRT) €1,000 (<150GRT)	1375
<i>Deepwater crab</i>		
Catch Limitation	n/a	n/a
Max N° Vessels	n/a	3 (1 year only)
Size Limitation	n/a	<250 GRT
License fee/ ^a	n/a	€42/GRT per quarter
Min License fee	n/a	n/a
MCS		
	Boarding and inspection	Boarding and inspection
Transshipment		
	No mentioned	No mentioned
Employment		
	6 São Tomé and Príncipe fishers to be employed	6 São Tomé and Príncipe fishers to be employed
Observers		
	Tuna vessels on request of São Tomé and Príncipe	All crab vessels Tuna vessels on request of São Tomé and Príncipe
Fishing zones		
	All EEZ	EEZ excluding JDZ (São Tomé and Príncipe /Nigeria)

w/l - without limit/^a The license fee is payable by the vessel operators

The protocol provides for EU vessels to fish within the EEZ of São Tomé and Príncipe, outside the 12 mile limit and excepting the Joint Development Zone subject to the Nigeria/São Tomé and Príncipe Treaty effective in 2001. Article 2 of the current Protocol to the Fisheries Agreement between the Community and the Democratic Republic of São Tomé and Príncipe fixes the level of financial compensation at €2,250,000 over the three years. Out of this amount, the Protocol foresees €550,000 (year one), €382,500 (year two) and €382,500 (year three) for the financial compensation. It also foresees €370,000 (year one) and €255,000 for each of years 2 and 3 for targeted measures in support of the São Tomé and Príncipe fisheries sector specified in Article 4 of the Protocol. In addition, the Commission shall also provide financing of €50,000, in the first year, for an evaluation study on deep-water crab. The financial compensation available is summarised in Table 38.

Table 38: Financial compensation

Year	Compensation €		
	Compensation	Targeted actions	Total
1	555,000	370,000	925,000
2	382,500	255,000	637,500
3	382,500	255,000	637,500
TOTAL	1,320,000	880,000	2,200,000 ¹

¹ plus €50.000 for deepwater crab study

The fishing opportunities are defined in Article 1 of the Protocol as:

Freezer tuna seiners	36 vessels
Pole and line tuna vessels	2 vessels
Surface longliners	25 vessels

In addition, for deep water crab, there is provision for a 12 month period of experimental fishing by up to 3 vessels under 250 GRT during the first year of the protocol.

The amounts paid by the vessel owners are fixed in the Annex to the Protocol. The license fees for the tuna vessels are €25 per tonne of tuna caught within São Tomé and Príncipe's waters. The licenses are delivered after advance payments of €3,750 for tuna seiners, €1,375 for surface longliners and €625 for each pole and line tuna vessel. The deepwater fishing vessels targeting crab shall pay a quarterly fee of €42 per gross registered ton per year.

The total financial compensation of €1,320,000/three years represents the amount that is paid in exchange for the fishing opportunities made available to the Community fleet, to cover an annual catch of 8,500 tonnes. Catches in excess of this quantity are to be compensated at the rate of €75/tonne.

Specific sections of the Annex to the Protocol requires statements of catches from vessel owners, makes provision for inspection and monitoring by São Tomé and Príncipe, provides for the taking on board of observers at the request of São Tomé and Príncipe authorities, requires reporting by vessels entering and leaving the zone, requires by-catches to be made available and provides for up to 6 São Tomé and Príncipe fisherman to be employed onboard EU vessels.

A.5.3 Activities under the protocol

The summary of licenses taken up and fishing activities undertaken for the first two years of the 2002-2005 protocol is shown in Table 39

The key features of the operation of the Protocol are:

- Pole and line and experimental fishing opportunities have not been taken up
- The number of tuna seiner licenses drawn has remained at around 26 to 28/annum of which 16 to 17 appear to be utilised.
- The number of surface longline licenses drawn has increased from 11 to 12 under the last Protocol to 16 or 17 under the current.
- A lack of catch declarations disallows any meaningful analysis of the activity of the surface longline segment.

- Catches by the some of the purse seine fleet exceeded the reference level in the first year of the current protocol.
- The fleet dependency on this Agreement is low, with average (declared) catches per license drawn being under 300 tonnes (for purse seiners) and about 1 tonne (for surface longliners). This will reflect on the impacts of the Agreement.

Table 39: Summary of licenses taken up and fishing activities undertaken for the first two years of the EU- São Tomé and Príncipe Fisheries Protocol 2002-2005

SECTOR/ COUNTRY	2002/2003							2003/2004							Current agreement		
	No. Licenses			Catch (tonnes)		Fees Received €		No. Licenses			Catch		Fees received €		Ref catch	Total catch	License
	Available	Drawn	No. vessels fishing	Available	Actual	License	Addit- ional	Available	Drawn	No. vessels fishing	Available (t)	Actual (t)	License	Addit- ional	Tonnes	(t)	fee €
Tuna seiners																	
France	18	14	10	2,100	5,939	52,500	108,250	18	14	9	2,100	1,011	52,500	4,000	150	2,700	3,750
Spain	18	12	6	1,800	1,475	45,000	18,225	18	14	8	2,100	296	52,500		150	2,700	3,750
SUBTOTAL	36	26	16	3,900	7,414	97,500	126,475	36	28	17	4,200	1,307	105,000	4,000		5,400	
Pole and line																	
Portugal	2	0	0	0		0	0	2	0	0	0		0		25	50	625
SUBTOTAL	2	0	0	0	0	0	0	2	0	0	0	0	0			50	
Longliners																	
Spain	20	11	n/a	605	43	15,125	0	20	14		770	2.5	19,250		55	1,100	1,375
Portugal	5	5	n/a	275	n/a	6,875	n/a	5	3		165		4,125		55	275	1,375
SUBTOTAL	25	16	n/a	880	43	22,000	n/a	25	17	0	935	0	23,375	0		1,375	
TOTALS	63	48	17	4,780	7,457	119,500	126,475	63	49	14	5,135	1,307	128,375	4,000		6,825	0

Source; License data - DG Fisheries European Commission; Catch data; declarations by EU vessels, from DP, São Tomé and EU Delegation, Libreville; license income – consultant estimates based on license and catch data

Note: "Available" = no. of license opportunities specified in the FA; "Drawn" = no. of licenses taken up; No. vessels fishing = no. of vessels using drawn licenses (declaring catches); Reference catch = catch/vessel corresponding to minimum license fee; "Total catch" = total catch corresponding to full utilisation of fishing opportunities; "License fee" = annual minimum license fee/vessel

A.5.3.1 Fishing opportunities utilised

Table 40 shows the fishing opportunities utilised in 2002/03 and 2003/04 and compares the rates with the three years under the previous protocol. Take up rate of the licenses has continued to be high for the tuna purse seine fleet, at about 75% of fishing license opportunities, drawn by both French and Spanish vessels.

No pole and line fishing opportunity has ever been taken up during the course of this agreement. The greatest change over time is in respect of the surface longliners. Utilisation rates have increased significantly in the current protocol, mainly due to the uptake of licenses by Portuguese longliners (opportunities un-utilised under the previous protocol). More Spanish longliners have also taken licenses, so that some 68% of these fishing opportunities were drawn in 2003/2004.

Despite some discussion between the Commission and the São Tomé and Príncipe authorities, licenses for experimental crab fishing have not been issued. The deepwater crab species in Angola and Namibia are pursued by trawl vessels. The seabed topography in STP is not well mapped, but is thought to be generally unsuitable for trawling, requiring specialised gear for pot fishing. There is some conflicting evidence as to whether or not there is a demand for these opportunities, although non-EU vessels are fishing this resource within the region.

Table 40: Number of fishing licenses available drawn and utilised by EU vessels fishing under the EU- São Tomé and Príncipe fisheries protocol (1999-2004)

SECTOR/COUNTRY	1999/2000			2000/2001			2001/2002			2002/2003			2003/2004		
	Licenses			Licenses			Licenses			Licenses			Licenses		
	Available	Drawn	%	Available	Drawn	%	Available	Drawn	%	Available	Drawn	%	Available	Drawn	%
Tuna seiners															
France	18	14	78	18	15	83	18	15	83	18	14	78	18	14	78
Spain	18	12	67	18	15	83	18	15	83	18	12	67	18	14	78
SubTotal	36	26	72	36	30	83	36	30	83	36	26	72	36	28	78
Pole and line															
France	7	0	0	7	0	0	7	0	0	2	0	0	2	0	0
SubTotal	7		0	7		0	7	0	0	2	0	0	2	0	0
Longliners															
Spain	28	12	43	28	11	39	28	12	43	20	11	55	20	14	70
Portugal	5	0	0	5		0	5	0	0	5	5	100	5	3	60
SubTotal	33	12	36	33	11	33	33	12	36	25	16	64	25	17	68
TOTALS	76	38	50	76	41	54	76	42	55	63	42	67	63	45	71

Source of license data: European Commission, DG Fisheries License Unit

It should be noted that there is a difference between the drawing of a license and the actual utilisation of the fishing opportunity which it presents, as indicated in Table 40. In 2002/2003, of the 26 purse seine licenses drawn, 17 of the vessels either did not submit a catch declaration (most of the 17) or submitted declarations of zero. In 2003/2004, 14 purse seiners bought licenses but did not submit a return. In the case of purse seiners this non-utilisation of licenses appears to represent those vessels which did not enter the São Tomé and Príncipe EEZ. The average dependency of licensed purse seine vessels on the FA is 4.7% (i.e. the Fisheries Agreement supplies 4.7% of annual catch of licensed vessels).

In the case of longline vessels only 2 catch declarations (for 2003/2004) under the current protocol are available on file in the EU Delegation in Libreville. There are no catch declarations available in the DP in São Tomé. The average dependency of the longliners is 0.3%.

A.5.3.2 Catches declared

Catches declared by the surface longliners are summarised in Table 18. The EU purse seiners declared catches of 7,414 and 1,307 tonnes in São Tomé and Príncipe waters in 2002/2003 and 2003/2004 respectively. In the purse seine fleet the reference quantities are 150 tonnes of tuna/license issued. This was exceeded by 8 French and 3 Spanish vessels by a significant margin in 2002/2003, resulting in these vessels making additional license payments of €25/tonne. In 2003/2004 only three (French) vessels exceeded the reference quantity.

Despite purchasing licenses in both years, only two catch declarations from the surface longliners were available to the consultants, the DP or the European Commission. Some data on 2002 catches was presented to the consultants by the European Commission and collated by the Ministry of Fisheries (Spain).

A.5.3.3 License income received

Over the two years the Government of São Tomé and Príncipe is estimated to have received €378,350 in advance license payments by vessels (Table 41). Since some tuna purse seine vessels declared catches over the reference quantity (150 tonnes per year) supplementary license payments estimated to be €130,475 have also been paid by vessel operators. Since the annual catch has not exceeded 8,500 tonnes, no additional payments are due from the Community. The annual average license payments v«by each purse seiner are €6,166 and €1,375 for each surface longliner.

Table 41: Estimated STP license income from the 2002/2205 Protocol

	€				TOTALS
	Purse seine License	Additional	Longliner License	Additional	
2002/2003	97,500	126,475	22,000	0	245,975
2003/2004	105,000	4,000	23,375	0	132,375
TOTAL	202,500	130,475	45,375	0	378,350
MEAN	101,250	65,238	22,688	0	189,175
Mean payments	166,488		22,688		189,175
Av.No vessels	27		17		
Av annual license	6,166		1,375		

Source; consultants estimates based on DG Fish license data and STP /EU Delegation (Gabon) license payment records

A.5.3.4 Financial compensation received

The Commission has paid all three tranches of compensation payments; €555,000 on 03 March, 2003, €382,500 on 21 May 2003 and €382.500 on 24 May, 2004. No payments have been made in respect of targeted actions under the current protocol, but the Commission has indicated its readiness to transfer these funds should a properly formulated request be made and the required information be received regarding the utilisation of targeted action funds under the previous protocol. A summary of the estimated financial value of the protocol is provided in Table 42, indicating that to date the current protocol has resulted in an estimated gross income of €1,726,350 to São Tomé and Príncipe.

Table 42: Estimated total income to São Tomé and Príncipe of the EU- São Tomé and Príncipe Fisheries Agreement for 2002/03 and 2003/04

Year	Receipts €				
	Compensation	Targeted actions ¹	License	Additional license	TOTAL ¹
2002-2003	555,000	0	119,500	126,475	800,975
2003-2004	382,500	0	128,375	4,000	514,875
TOTAL	1,320,000	0	247,875	130,475	1,726,350

¹ No targeted action payments have been made due to non-receipt of a plan detailing the measures. Total therefore excludes targeted action funds

A.5.4 Implementation of Specific Dispositions

A.5.4.1 Issue of licenses

In the main part, licensing and license fee advance and balance payment procedures appear to work satisfactorily for both the São Tomé and Príncipe DP and the vessels owners. It is clear that most tuna seiners and surface longliners intending to operate in the region purchase licenses at the beginning of the fishing season (in June) so as to have the facility to fish within the São Tomé and Príncipe EEZ should this be required. A significant proportion of the tuna seiner licenses purchased appear to be unused (i.e. vessels purchase a license but do not enter the São Tomé and Príncipe EEZ).

A.5.4.2 Scheduling of payments

The Agreement was adopted by the Council (Regulation 2348/2002/ of 9 December 2002). The first compensation payment of €555,000 under the current protocol was due on 31 December 2002, but failure by the São Tomé and Príncipe authorities to provide correct bank account information meant that the payment was not received by the Central Bank of São Tomé and Príncipe until 3rd.March, 2003. The second and final payments were received on time.

A.5.4.3 Payment of sums for targeted actions

The issue of the delayed targeted action payments relates to both the 1999/2002 and the current protocols.

Targeted action payments (the second and third of three payments) under the 1999/2002 Protocol were withheld by the Commission pending receipt of the obligatory reporting of the activities and outputs from the first instalment of fund. and request for the remaining funds. An initial report and request of the São Tomé and Príncipe is dated 23rd January 2002 and received by the Commission on 5th.February 2002. On 21 February 2002 the Commission sent a fax to the Delegation, requesting complementary information from the Sao Tomé authorities concerning the scientific and technical programmes, the strengthening of the surveillance system. the institutional support and the support to the artisanal fleet. On 4 April 2002 the Commission received, via the Delegation in Gabon the requested complementary report from the Sao Tomé authorities, signed by the Minister of Economy. Given the above mentioned information and explanations, DG FISH considered it possible to pay the remaining funds for targeted actions under the previous Protocol. The 2nd and 3rd instalments of the targeted actions were paid on 13 May 2002. The Commission requested

complementary information on the utilisation of the 2nd and 3rd instalment on 2 October 2003. Despite several reminders, the Commission only received the answer on 14 April 2004 and deemed it not sufficient. A letter to the Minister of Fisheries, requesting further complementary information and suggesting closer cooperation with the *Ordinateur National*, and an eventual deduction of non-justified amounts in the next instalment and a programming of the targeted actions under the present protocol (unused so far), was sent on 28 April 2004. The Director for Fisheries stated during a meeting on 14 May 2004 that the missing information would be sent as soon as possible. This has not yet been received (July 2004).

With respect to Targeted Actions under the current protocol, the Protocol requires that the Government of São Tomé and Príncipe should define “the measures and annual amounts allocated thereto”. An “Activity Plan 2004” was submitted on 13th January 2004 more details are provided in Section A.5.5.. No response from the Commission has been seen by the consultants, but the plan is considered to be insufficient in detail as a basis for targeted actions payments (it does not specify the financial amounts). Until now therefore no payment for Targeted Actions under the current protocol has been made.

A.5.4.4 Reporting on targeted actions

The poor standard of reporting by São Tomé and Príncipe DP on the use of targeted action funds and the results obtained is a matter of concern for the Commission. Obtaining satisfactory reports on the use of funds was drawn-out and in the end produced results of questionable validity. The São Tomé and Príncipe authorities clearly resent what is perceived as an unjustifiable external interference in sovereign matters. Evidence representing the real application of funds is incomplete.

A.5.4.5 Catch Declarations from purse seiners

Many catch returns received by the DP from the purse seine fleet indicate a zero catch. This results in accusations from the DP that EU vessels are not declaring their catches. However, from a more detailed analysis it appears that declarations of zero catch in the EEZ are made by some EU vessels even when they have undertaken no fishing in the EEZ. The Agreement requires that “*a fishing log... shall be kept for each fishing period spent in São Tomé & Príncipe waters. It shall be filled in even when no catches are made*”. This is clear in the case of the French vessels, whose declaration forms also indicate the number of days in the EEZ (in such cases zero). On many of the forms submitted by the Spanish vessels there is no such indication, only a declaration “*no catches made in São Tomé & Príncipe EEZ*”. This is in contravention of the Protocol which requires a statement “*outside São Tomé & Príncipe EEZ*” to be entered on the form. Therefore it is not clear whether they are declaring zero catch in the São Tomé & Príncipe EEZ because they have not been in the EEZ, or because they have been in the EEZ and have caught nothing. Since there are no structured EEZ entry and exit records in the DP with which to cross check the catch declarations (due to lack of a functioning radio room), this situation results in confusion and accusations of under-declaration. There is a need to remind Member States of the specific requirements indicated in the Protocol for completion of the catch declaration forms, which should in future indicate whether the declaration relates to the São Tomé & Príncipe EEZ or not.

A.5.4.6 Catch Declarations from surface longliners

An additional problem identified by the consultants is the apparent lack of catch declarations from the surface longline fleet in the documents reviewed so far. Catch returns from only two vessels were available for this sector during the period 2002-2004. The latest realistic catch data is available for 2001. It is improbable that the same vessels would, over several years, repeatedly buy licenses for São Tomé and Príncipe EEZ and not enter the EEZ at all. It appears that either there is an error in transmitting the forms to São Tomé and Príncipe or that the fleet fails to meet its catch reporting obligations under the protocol.

Either way there is an apparent lack of compliance with the requirement to deliver catch reports to the São Tomé and Príncipe authorities within the time period stipulated by the FA. There is a strong suspicion that actual fishing effort and catches under the FA are substantially greater than evidenced by the catch records delivered. The reporting failures undermine a more precise assessment of the environmental impacts of this sector. Surface longline catch declaration forms are also inadequate in terms of the collection of data to assess the fisheries and environmental impacts of the fishery, a matter which is considered in more detail later in the report.

It is notable that the DP has, without question, renewed licenses for longline vessels which have apparently repeatedly failed to meet the reporting requirements, both in previous agreements and within the first two years of the current agreement. The DP would be within their rights to withdraw licenses or refuse to issue new licenses to the vessels concerned.

A.5.4.7 Shore based investment in São Tomé & Príncipe

The current protocol is perceived by the São Tomé and Príncipe DP to have created no investment or added value in São Tomé and Príncipe. However there is a recognition of the potential for development of an export trade based on demersal and tuna fisheries, the main barrier to this investment is not a failure on the part of EU investors but the lack of compliance with EU health conditions. This prevents São Tomé and Príncipe producers and processors from supplying product to the EU market. Until this barrier is removed, the São Tomé and Príncipe /EU FPA can never be a instrument for stimulating inward investment. However, the São Tomé and Príncipe Competent Authority (the DP) is making positive albeit slow progress towards meeting the requirements of the EU legislation.

A.5.4.8 Deepwater experimental crab fishing

Despite an apparent wish to do so on the part of both the EU and São Tomé and Príncipe DP, there has been no issue of licenses for the exploratory fishery for crab. Until now no EU vessel owners have applied directly to the São Tomé and Príncipe DP for a license to be issued under the agreement. Given that the fishing opportunities were not taken up as foreseen during the first part of the Protocol, the Commission has requested the possibility of using these opportunities during the final part of the Agreement. It is noted that one STP vessels (with a Spanish beneficial owner) is licensed to fish for crab in STP waters, suggesting that there is a demand for these fishing opportunities.

A.5.4.9 Pole and line fishing opportunities

No pole and line fishing opportunities have been taken up by EU vessels. The specific reason for this is not known. One possibility is that such vessels require a supply of live bait. Although São Tomé & Príncipe has stocks of suitable sardinella, these are presently not exploited by the local fleet and bait supplies may be limited.

A.5.4.10 Inspection and monitoring

The São Tomé and Príncipe DP currently has no capacity for inspections and monitoring at sea and no monitoring or inspection activities on EU vessels fishing under the protocol have been conducted. The DP will soon take delivery of a re-furbished patrol vessel which will provide the capacity for sea-borne patrols. However there are no national funds budgeted for the operational costs, and in the absence of the budgeted targeted action funds for this purpose being disbursed (€130,000 over the 3 years) there is little likelihood of such activities taking place.

A.5.4.11 Bycatches

No bycatches are landed in São Tomé and Príncipe by the EU fleet. There are no landing facilities at present and EU vessels do not make regular visits to the islands. In future, there may exist an improved possibility for landing and utilisation of bycatch when the refurbished port facility at Neves is commissioned.

A.5.4.12 Observers

The São Tomé and Príncipe authorities have not been able to place observers or crew onboard any vessels during the course of this or previous protocols. The São Tomé and Príncipe Authorities have requested the Commission to arrange for observers and crew to be taken onboard. However according to the Protocol this should be arranged between the São Tomé and Príncipe authorities and the vessel owners directly. It appears that DP has not requested the vessel masters, owners or their agents. The DP does not have capacity to communicate directly with vessels operating in the EEZ.

Furthermore since no EU vessels currently use São Tomé and Príncipe port facilities for any purpose, no agents are appointed making communication with vessels difficult. It should be noted that there is no requirement either under the current FA or São Tomé and Príncipe legislation for EU vessels to appoint an

agent in São Tomé and Príncipe. Draft regulations currently in the approval process will require the appointment of agents with full legal representational rights.

Implementation of an observer programme is unlikely to be effectively addressed until the São Tomé and Príncipe DP acquires the capacity to communicate directly with the vessels, both by radio (a radio room is in the process of being installed) and through appointed agents.

A.5.4.13 Hiring of crew

Placing São Tomé and Príncipe crew on EU vessels at the request of the DP is also difficult for the same reasons. However, some 20-25 São Tomé and Príncipe nationals are reported by vessel agents in São Tomé and Príncipe to be employed as deckhands on board EU longliners operating in the region. Not all are operating in the STP EEZ.

A.5.4.14 Use of services

As noted above EU vessels rarely visit São Tomé and Príncipe ports due to a lack of facilities and regular supplies of fuel. However the re-construction of the fishing port facility at Neves (with Spanish technical assistance) is likely to make a significant difference to this situation.

A.5.5 Legal Aspects

The Main elements of the FA that are in accordance with the current fisheries legislation³²:

- Reporting rules: under the FA these are established in accordance with the ICCAT model. The FA requires that fishing logs are filled when in the EEZ, even when no catches are made. It grants the São Tomé and Príncipe authorities the right to suspend the license in case of non-compliance with these rules. This is line with the FL.
- Inspection and monitoring: these are generally in accordance with Art. 49° of FL;
- Fishing zones: are defined by the FA as prescribed under Art. 30° of FL;
- Entering and leaving: obligation of communication as established under Art. 37° FL.

Main elements of the FA that are not in accordance with the current fisheries legislation:

- Licenses: are issued for each vessel and valid for a period of one year in accordance to Art. 22° of FL. Under the FL renovation is automatic whilst under the FA an annual re-application is required;
- FA does not include revocation or suspension of fisheries licenses for management reasons as prescribed by Art. 26° of FL;
- FA does not include a liability clause of the Flag States for activities undertaken by vessels flying their flag which is expressly required by Art. 30° of FL with regard to international agreements;
- FA subjects surveillance activities to previous notification (48 hours) to the EU delegation which may limit their scope and effectiveness

A.5.6 Use of the Financial Compensation

A.5.6.1 Application

The application of the pure compensation component (€1.32 million) of financial compensation is at the discretion of the Government of São Tomé and Príncipe as per Article 2 of the Protocol. The application of the funds for targeted actions is determined by the Protocol as set out in Table 43.

³² The main obligations are to i) apply for and pre-pay fees for licenses 20 days in advance ii) return catch records when in the EEZ iii) submit to inspection and monitoring iv) receive observers on request v) inform the STP authorities of entry and exit to the fishing zone vi) make bycatches available vii) sign-on STP seamen viii) use STP services wherever possible

Table 43: The application of the funds for targeted actions

Activity	Amount available (€)		
	2002/2003	2003/2004	2004/2005
Scientific and technical programme	50,000	40,000	40,000
Surveillance inspection in the EEZ	50,000	40,000	40,000
Institutional support to DP	50,000	40,000	40,000
Study grants and training	40,000	30,000	30,000
Contributions and expenses with regard to RFOs	35,000	35,000	35,000
Aid for small scale fishing	145,000	70,000	70,000
Total	370,000	255,000	255,000

In addition to the above the Community also shall make available €50.000 for an evaluation study for the deepwater crab.

Until the present time no structured application for funds has been received, none of these funds have been disbursed and no targeted actions have been implemented.

A new set of proposals for the use of the Targeted Actions funds under the current protocol are in the process of preparation. The consultants have reviewed the Government of São Tomé and Príncipe draft proposals for targeted actions which comprise the following projects:

Table 44: Government of São Tomé and Príncipe draft proposals for targeted actions

Targeted Action	€
Strengthening sanitary systems for fishery products	100,000
Fishery Information system	74,000
Inspection and Control within the EEZ	91,200
Identification of commercial species	72,683
Acquisition and adaption of vessels for medium range fishing	61,075
Crab study	76,278
Construction of fisheries delegation. Príncipe	16,014

The amounts and activities proposed do not correspond to the targeted actions specified in the Protocol. Although all of the inferred objectives of these projects are probably sound, none of the proposals are based on a clear strategic analysis of the fishery sector, its strengths and weaknesses, opportunities and threats. There is no specific recognition of the strategic importance of export to the EU market as an engine for sector development. All of the projects have poorly described objectives and the activities are not adequately targeted. Means are hardly described at all and where they are they do not always relate to the activities. There are no workplans or schedules of inputs. There is no assessment of feasibility or recognition of assumptions. Budgets are not justified. There is confusion with respect to the role of government in the fishery sector, in relation to the development of commercial infrastructure and private sector activities. The São Tomé and Príncipe DP intends that the proposals will shortly be submitted formally to the Commission. In the consultants' opinion none of the proposals form a satisfactory basis for the disbursement of targeted action funds.

The consultants also reviewed previous actions under the 1999/2002 Protocol. It was not the purpose of the mission to undertake a full audit. However a number of observations are made below with respect to the Targeted Actions under the 1999/2002 protocol and described in the reports of 23rd January 2002 and 15th January 2004.

Table 45: Targeted Actions under the 1999/2002 protocol

Targeted action described in formal report	Consultants Observation (June 2004)
Laboratory equipment and rehabilitation	Some work completed but not functioning
Socio-economic study	Study results not available
Transfers to GIEPPA (Artisanal Fishers and Sellers Group)	Confirmed by GIEPPA
Motors and upgrading of MCS patrol vessel	Much work completed. Launch due July 2004
Statistical surveys	Undertaken but not sustainable
Contribution to MARAPA	Confirmed by MARAPA
Installation of radio room	Some work completed but not functioning
Payments of dues to Regional fisheries organisations (COREP and ICCAT)	No evidence of COREP activity

It is apparent that the management of the targeted actions is weak, with many of the funded activities halted or progressing only slowly³³. At present the targeted action component of the agreement serves no constructive purpose. The inclusion of this component in future agreements should therefore be considered.

A.5.6.2 Destination accounts

Article 2 of the current protocol requires that the annual financial compensation be paid to the Public Treasury of São Tomé and Príncipe. Article 4 requires that the annual amount for targeted actions be paid into an account nominated by the DP, with management of funds subject to a protocol between the DP and the Public Treasury. The Protocol does not specify the destination accounts for license payments by vessel owners.

The Commission has paid three tranches of compensation payments; €555,000 on 3/3/2003, €382,500 on 21 May, 2003 and €382,500 on 24 May, 2004. The financial compensation payments were made to the account of the Central Bank of São Tomé and Príncipe at the Banco Comercial Português (BCP) Lisbon Branch. Account No. 279 331 677. All financial compensation payments were correctly marked for destination account “*Tesouro Publico (Cuadro Acordo de Pesca São Tomé and Príncipe / CE)*”. No payments regarding targeted actions have been made under the current protocol.

Formal notice of advance payments for fishing licenses by vessel owners is required for the issue of the fishing license. Fishing vessel owners also pay balances due on fishing license fees for catches above the vessel reference quantity. All but 3 fishing license payments by vessels owners under the current Protocol were made to the Central Bank of São Tomé and Príncipe for destination account “*Tesouro Publico (Cuadro Acordo de Pesca São Tomé and Príncipe / CE)*”. The three payments for destination account “*Pesca e Desenvolvimento Banco Intercional de São Tomé and Príncipe*” are shown in Tabel 45.

All three payments appear to be by the same vessel owner.

³³ The Commission has forwarded its comments and suggestions in view of launching the transfer of these funds. By August 2004 there was no answer from STP. The Commission states that it is ready to launch the payment as soon as it has received the obligatory programming of the targeted actions and the requested information on the report of the use of the previous funds for targeted actions.

Table 46: Direct payments of license fees by fishing vessel owners into DP managed accounts

Vessel names	Date	Amount €
Montefrisa Nueve	11/7/2003	6,900
Montefrisa Nueve	3/7/2003	3,750
Montefrisa Nueve Amadabra Uno Amadabra Dos Montecelo Kurtzio Maxikorta	29/4/2004	22,500

A.5.6.3 Budgetary provision for FA funds

The state budget for the DP in 2003 and 2004 is shown previously in Table 23. No consolidated budget was available to the consultants. The DP budget in 2003 was DBS203.495.433 (approximately €19,071) and in 2004 it was DBS 209.091.433 (approximately €19.596). It is apparent that there is no provision for allocation of any FA funds to the activities of the DP. There are no specific budgetary allocations or expenditures foreseen which relate to the targeted actions. Furthermore there is no income shown from license funds received by the DP, although some license payments, including EU vessels as noted above, are paid directly into a DP managed account. No information was available on the destination accounts for income from issue of fishing licenses to non-EU vessels.

All of the EU- São Tomé and Príncipe Fishery Agreement funds can therefore be regarded as off budget at the level of the DP, in that the income due to the DP under the Protocol is not included within the state budgetary allocation to fisheries. This implies that any such income which is received by the DP, does not have to be accounted for by the standard budget audit procedures.

A.5.6.4 Expenditure controls

Interviews with Treasury officials suggest that until 1999, incomes related to foreign fishing vessels (licenses fees) were placed directly into the bank account of DP, which used it in a more or less autonomous fashion. DP management of funds suffered from criticisms of lack of accountability and expenditures without budget authorisation. The situation has gradually changed since 2000, so the EU financial contributions and most license fee receipts are placed in the Central Bank Public Treasury account. Only the Treasury can authorise related expenditures. However some license fees continue to be placed in a DP account. There is no protocol between the DP and Treasury which governs the management of license and FA income.

According to the Public Treasury (DGTP) in 2002/2003 fisheries expenditures were as shown in Table 47. It appears that these funds represent the disbursement 2002/2003 of the targeted action funding received under the 1999/2002 Protocol. In 2003 it was noted that an amount of US\$407,817 was transferred directly from Public Treasury account into the DP's account (destination account "Pesca e Desenvolvimento Banco Intercional de São Tomé and Príncipe", a commercial account) upon a Government decision, presumably at the instruction of the Minister. The Public Treasury does not know how and when this amount was really used since there is no audit undertaken. The amounts and activities do not correspond with the reports submitted by the DP to the European Commission. Disproportionally large contributions to COREP, high expenditure on vehicles, transfers for unspecified projects and subsidies for the Ministers office are all unexplained. The patrol vessel refurbished at public expense is reported to be in private ownership.

Table 47: Transfers of funds from the public treasury account to the DP

Year	Date	Description	Amount
			€
2002	02 October	Contribution to COREP	41,842.78
	03 October	Training	1,300.96
	11 October	Vehicle purchase (1)	64,944.16
	21 October	Projects at DP	53,224.49
	07 November	Subsidy for MADRP (Minister cabinet)	7,342.27
2003*	14 January	Boat engine	25,496.23
	17 January	Statistics	23,658.43
	18 January	Fuel	18,032.44
	29 January	Contribution to COREP	40,790.39
	29 January	Contribution to ICCAT	12,237.12
	03 April	Vehicle purchase (3)	1,922.58
	22 April	Boat equipment	11,766.89
	05 June	Subsidy for fishermen	4,861.83
	03 July	Boat equipment	13,027.03
	20 December	Subsidy for MADRP (Minister cabinet)	9,387.50
Total			329,835.09

Source: DGTP, GoSTP

There is no formal agreement (protocol) between DP and Public Treasury as required by the Protocol. Also DP investment planning is not presented in PIP in a coherent and global way. Current PIP includes internal and external financing of different DP investments for 2003 (artisanal fisheries, fishing infrastructures at Neves, institutional building, fisheries equipment etc) but it is not possible to associate incomes and investment expenditures to different financing sources. In conclusion, understanding the fisheries budgetary and financial management systems remains difficult. The system is inefficient, lacks transparency, defined procedures and accountability.

B – EVALUATIONS

B.1 SWOT ANALYSIS OF THE FISHERY SECTOR

The following table illustrates the strengths, weaknesses, opportunities and threats facing the São Tomé and Príncipe fishery sector.

Table 48: Strengths, weaknesses, opportunities and threats facing the São Tomé and Príncipe fishery sector.

<i>Strengths</i>	<i>Weaknesses</i>	<i>Opportunities</i>	<i>Threats</i>
Resources			
Productive ecosystem	Highly seasonal production cycle	Development of crustacean. demersal & small pelagic fisheries	Excessive development of fishing effort on demersal and crustacean stocks
Diverse range of stocks of commercial interest including demersal. crustacean. tuna and small pelagic fish	Absence of data on most stocks except tuna and swordfish		Regional depletion and/or extinction of turtles and sharks due to surface longline fishing by foreign vessels
Good stock assessment data on large pelagic fish	Lack of specific data on shark fishery and the bycatch impacts on turtles within the EEZ		
Institutional framework			
Institutional basis for fisheries administration exists within MADRP.	Fisheries not recognized as important by the National Indicative Programme or international donors.	Strengthened fisheries administration will improve national benefits derived from the fishery sector through export-led development	Fisheries development becomes unsustainable due to lack of fisheries resource management capacity.
Modern Fisheries Law (FL) reflecting international developments. conservation. management and environmental impacts; evidentiary provisions- presumptions of fact and law included	Under-qualified and understaffed fisheries administration	Adoption of fisheries regulation will improve sustainability of national fisheries by establishing link between issuing license and conservation of species	Low government salaries and lax financial controls and accountability continue to undermine institutional basis for management
Integration of environment and conservation of MLR in other policies	No fisheries statistical and research capability nor resulting management measures	Financial incentives for surveillance agents will reduce vulnerability to corruption and improve enforcement	Continued lack of donor interest will result in maintained sector stagnation.
	Competent Authority for sanitary controls not recognised by EU	Oil revenues will provide adequate funding for strengthening of fisheries management and development functions of GoSTP.	Continued operation of the São Tomé and Príncipe flag of convenience undermines EU market access
	FL from 2001 has not been regulated yet; Draft regulation does not cover important elements - e.g: fishing vessels registry; marking; gear limits; distinguish between industrial/artisanal fisheries; surveillance of fisheries activities. set license fees etc etc.		

<i>Strengths</i>	<i>Weaknesses</i>	<i>Opportunities</i>	<i>Threats</i>
	Weak legal basis for MCS system; lack of requirement for fisheries management plan. log books. catch declarations.		
	Weak budgetary controls and lack of public accountability		
	Minister's discretionary powers: competence to establish additional conditions for licenses. fix high penalties (> 500 000 US\$) and any accessory sanctions and decide on the destiny of seizure catches		
	Weak MCS and enforcement capacity in EEZ		
Fishing			
Strong culture in local communities of fishing and fish consumption	Artisanal sector decapitalised due to lack of viable market	Increased yields and profits due to improved marketing contribute to poverty alleviation	Continued lack of investment due to inadequate management and lack of access to international markets
	Lack of access to international markets limits financial inputs for development.	Supplementary income from bait supply to and bycatch from foreign fishers	Environmental impacts on turtle and sharks reduce or eliminate surface longlining opportunities
	Poor communication and control with foreign fishers; lack of employment and other benefits (supply of inputs)	Provision of services for foreign vessels will encourage beneficial interactions.	
	No national industrial fishery capacity to exploit offshore resources	Extension of small scale fishery to access offshore large pelagic resources	
	Lack of infrastructure for fish landing and vessel services (for both small scale and foreign fleets)		
	Established links with foreign fishing fleets bring no national benefits.		
Distribution			
Good range of species with high demand on international markets	Lack of compliance with sanitary controls prevents access to international markets	Improved sanitary controls will open export markets and source of finance for development	Oil sector development raises value of Dobra reducing competitiveness of fish exports and stimulating imports
Local market with propensity for fish consumption.	Poor condition of national infrastructure (landing sites. roads. ice supply. cold storage) limits development of internal and external markets.	Increased incomes from oil revenues will provide funds for new distribution infrastructure and stimulate national demand and prices to fishers.	
	Weak local market demand (no weighing. pricing. quality differentials)	Market development will fund private sector investment in infrastructure and processing for added value.	

B.2 EX-POST EVALUATION

The evaluation criteria are focused on the basis of the indicators and evaluation methodology developed under the study by Oceanic Developpement (2003).

B.2.1 Added Value and employment impacts

B.2.1.1 Community Impact

Added value

The direct and indirect up- and down-stream value added attributed to the EU fishing effort and catches within the São Tomé and Príncipe EEZ, along with employment and other economic impacts, is shown in Table 40. Upstream VA includes supply of vessel fishing gear and other inputs. Downstream VA is based on estimates of value added in tuna cannery operations (on the assumed basis that overall 30% of the tuna catch of EU purse seiners in West Africa is processed in Cote d'Ivoire and Senegal, and 70% in the EU). Annex 3 shows details of the calculations made in arriving at the results presented in the Table.

Table 49: Annual estimated direct and up- and downstream value added and employment impacts arising from EU fishing vessels fishing in the São Tomé and Príncipe EEZ

Scenario	Actual				
Segment	Surface Longline	Seiners	Pole and Line	Crab	Total
N° vessels licensed	16.5	27.0	0.0	0.0	43.5
Dependency %	0.3	4.7	0.0	0.0	
Value Added					
Direct EC VA (€)	11,847	815,678	0	0	827,526
Upstream EC VA (€)	13,498	770,580	0	0	784,077
Downstream EC VA (€)	1,075	2,249,146	0	0	2,250,221
DirectSTP VA (Operations) (€)	29,700	0	0	0	29,700
Upstream STP VA (inc license fees) (€)	22,688	166,488	0	0	189,175
Downstream STP VA (€)	0	0	0	0	-
Total EC VA (€)	26,420	3,835,404	0	0	3,861,824
Total STP VA (€)	52,388	166,488	0	0	218,875
Employment	Full time equivalent				
EC Crew	0	16	0	0	17
Downstream EC Jobs	0	283	0	0	284
Upstream EC Jobs	1	28	0	0	29
STP Crew	8	0	0	0	8
Upstream STP Jobs	0	0	0	0	-
Downstream STP Jobs	0	0	0	0	-
Total EC Employment	1	328	0	0	329
Total STP Employment¹	8	0	0	0	8
Fleet Segment Catches					
Total Tonnes	22	4,361	0	0	4,382
Total Value (€)	44,161	3,741,745	0	0	3,785,906
License Fees					
License Fees Paid	22,688	166,488	0	0	189,175
per tonne	1,055.2	38.2	-	-	43.2
as % of catch value	51.4	4.4	-	-	5.0

Scenario	Actual				
	Surface Longline	Seiners	Pole and Line	Crab	Total
Compensation Estimate					
Catch (tonnes)	22	4,361	0	0	4,382
Catch Value €/year	44,161	3,741,745	-	-	3,785,906
Contributions €/year ²	88,645	348,132	3,223		440,000
License fees received €/year	22,688	166,488	0	0	189,175
Price (Comp plus license) €/t	5,178	118	-	-	144
Price % of catch value	252	14	-	-	17

¹ not all 20-25 STP crew jobs on EU vessels are associated with this Agreement

² could increase by €293,333 if TA funds were paid

Overall it is estimated that the EU value added attributable to the São Tomé and Príncipe FA has averaged €3,861,824/annum, of which 21% is direct, 20% upstream and 58% downstream. More than 99% of the VA is derived from the purse seine fishing, principally due to the apparent low rate of utilisation of surface long line opportunities (0.3%).

Supplies to Market

Estimated supplies to the EU market are shown in Table 50 indicating that the FA supplied a total of 4,883 tonnes of fishery products (landed weight) to the EU market, at an average price of €864/tonne. Over 82% of the product comprised tuna for cannery supply, with more or less equal proportions of yellowfin and skipjack tuna. There are no exports from the territory of São Tomé and Príncipe to the EU.

Of this production, the output of the surface longliners enters the EU market directly. Tuna from the purse seine fleet may enter the EU market for processing (canning) or be processed in Cote d'Ivoire or Senegal (for subsequent export sale to the EU market). Catch levels therefore reflect the overall quantity ultimately supplied to the EU market, being on average 4,382 tonnes per year, valued at first sale at €3.8 million. The majority of the supply (both volume and value) comprises yellowfin and skipjack tuna. These supplies represent about 1.5% of the global tuna supply.

Table 50: Fishery products supplied to the EU market from the São Tomé and Príncipe EU/FA.

Species	Av. Price €/tonne	Av. Annual Supplies (tonnes)		Value €
		Freezer-seiners	Surface longliners	
T. maccoyi (bluefin tuna)	870	610	0	530,700
T. albacares (yellowfin tuna)	980	1,766	-	1,730,680
T. obesus (bigeye tuna)	800	131	-	104,800
X. gladius (swordfish)	6,300		2.5	15,750
I. audax (stripe marlin)	4,200		0	0
K. pelamis (skipjack)	740	1,810	-	1,339,400
Blue and mako shark	1,495		19.0	28,405
Others species	822	44	-	36,168
TOTALS	864	4,361	21.5	3,785,906

Community employment

Employment due to the fishing in the São Tomé and Príncipe EEZ comprises direct employment of EU crew on board, and employment in up and downstream activities. Note that some downstream processing of tuna takes place in Côte d'Ivoire and Senegal, and some in the EU, and employment multipliers are therefore allocated between them as follows:

Overall tuna	0.093 FTE/tonne
Cd'I/Senegal	0.028 FTE/tonne
EU	0.065 FTE/tonne
Other processing	0.0093 FTE/tonne

Downstream employment multipliers used in this calculation are based on:

a) for tuna sector, the data used in the Final Report of the evaluation of the impact of specific measures adopted in favour of the fisheries sector in the Outermost Regions. Megapesca, Portugal January 2002 (European Commission, Directorate General for Fisheries).

b) for other sectors the Final Report of the Regional socio-economic studies on employment and the level of dependency on fishing; Lot No.23 Coordination and Consolidation Study, DG Fisheries, European Commission; Final Report. Megapesca Lda. January 2000

The employment due to the Agreement for tuna purse seiners and longline vessels is shown in Table 51. In the purse seine sector, the agreement contributes some 16 FTE EU nationals in direct employment on board. Upstream jobs are estimated at 28 (based on IFREMER data) but this data is old (mid-1990s) and the figure was not confirmed in the study. Downstream the FA accounts for 284 FTE EU employed in fish processing (plus an additional 122 jobs in Côte d'Ivoire/Senegal).

Table 51: Employment summary due to the Agreement for tuna purse seiners and longline vessels

Sector	Employment		
	Longline	Purse seine	Total
EC Crew	0	16	17
São Tomé and Príncipe Crew	9	0	9
Upstream EC Jobs	1	28	29
Downstream EC Jobs	0	283	284
Total EC Employment	1	328	329
Total São Tomé and Príncipe Employment	9	0	9

In the longline sector, due to the extremely low apparent dependency the Agreement accounts for <1 EU FTE job in fishing. The Agreement supports about 1 upstream dependent job and <1 FTE employed in EU based fish processing sector. Due to the low level of apparent utilisation the EU employment impacts, from the surface longline component, are insignificant. In total the FA creates 329 EU FTE employed.

B.2.1.2 Impact on São Tomé and Príncipe**Added value**

Referring to Table 49 the total average value added per annum accruing to São Tomé and Príncipe from the current agreement is estimated to be €218,875 (representing 5% of the total value added created). More than 86% of the São Tomé and Príncipe VA is due to the license fee. Some 9 fishers are linked to the Protocol and their income is estimated to contribute the balance of approximately €29,700 of added value to the São Tomé and Príncipe economy.

Supplies to Market

There are no supplies to the São Tomé and Príncipe market which are directly attributable to the EU fishing under the EU/ São Tomé and Príncipe Protocol.

São Tomé and Príncipe employment

A reported 20-25 São Tomé and Príncipe fishermen are employed in the EU surface longline fleet operating in West African waters. This corresponds to approximately 1 per vessel drawing a license under the FA in 2003/2004 (17 vessels). As noted below about half of this employment is considered to be independent of the FA. Nine of these are jobs are therefore attributable to the EU/ São Tomé and Príncipe Agreement.

The DP is unaware of this employment, which is arranged through STP Maritime Agents. About half of the jobs are thought likely to continue irrespective of the renewal of the FPA, providing that the fleet continues to operate in the region. The employment of these nationals is therefore considered to be 50% linked to the FA.

B.2.1.3 Impact in other third countries

Tuna caught by French and Spanish vessels fishing in the São Tomé and Príncipe EEZ under the FA is frequently transhipped in Côte d'Ivoire. The Côte d'Ivoire and Senegalese canning sectors receives some of this material for processing, although the quantities delivered to Senegal are relatively much smaller. The Specific Convention on Côte d'Ivoire indicated that at fleet level some 14% of Spanish and 44% of French vessels tuna catches in the West Africa region are processed in Abidjan (overall 31%). On this basis a portion the downstream VA attributable to tuna catches in São Tomé and Príncipe EEZ can be allocated to Côte d'Ivoire. This is estimated to be about €1,010,486. The tuna catches attributable to the EU fleet catching in the São Tomé and Príncipe EEZ account for some 83 FTE positions in tuna canning in Cote d'Ivoire and/or Senegal.

B.2.2 Cost-Benefit Analysis

The analysis of costs and benefits is presented in Table 52 from the point of view of São Tomé and Príncipe, the European Community and the EU Fishery sector.

In this table the license income corresponds to the license fees received from EU vessel owners, irrespective of the utilisation of the license. EU administrative costs (commission and Member State) are nominally indicated at €77,000/annum (corresponding to one FTE administrative grade salary plus social costs). STP Administrative costs are estimated at 50% of the state budgetary allocation to fisheries. Financial compensation from the EU is allocated across the different segments on the basis of the value of the catch.

Table 52: Summary of costs and benefits attributable to the EU/ São Tomé and Príncipe Fisheries Agreement.

Segment	Actual Scenario				
	Surface Longline	Seiners	Pole and Line	Crab	Total
São Tomé and Príncipe Benefits					
Compensation (€) ¹	88,645	348,132	3,223	-	440,000
Direct VA(€)	29,700	-	-	-	29,700
Indirect VA (inc. licenses) (€)	22,688	166,488	-	-	189,175
Total STP benefit (€)	141,032	514,619	3,223	-	658,875
São Tomé and Príncipe Costs					
Admin (€)	4,116	6,736	-	-	10,852
MCS/Observers(€)					
Catch Value (=EC Direct VA foregone) (€)	11,847	815,678	-	-	827,526
Total STP Costs (€)	15,964	822,414	-	-	838,378
São Tomé and Príncipe Net Benefits					
Net STP Benefit (€)	125,069	-307,795	3,223	0	-179,503
GoSTP gross rent (%)	252	14	-	-	17
STP gross economic rent (%)	319	14	-	-	17
Upstream employment	0	0	0	0	0
Direct employment	8	0	0	0	8
Downstream employment	0	0	0	0	0
Total employment	8	0	0	0	8
EC Benefits					
Direct VA (€)	11,847	815,678	0	0	827,526
Upstream VA (€)	13,498	770,580	0	0	784,077
Downstream VA (€)	1,075	2,249,146	0	0	2,250,221
Total Community VA (€)	26,420	3,835,404	0	0	3,861,824

Segment	Actual Scenario				
	Surface Longline	Seiners	Pole and Line	Crab	Total
EC Costs					
Admin (€)	29,207	47,793	-	-	77,000
Financial compensation (€)	88,645	348,132	3,223	-	440,000
Others (€)	-	-	-	-	-
Total EC Costs(€)	117,852	395,925	3,223	-	517,000
EC Net Benefits (€)					
Net EC Benefit (€)	-91,431	3,439,479	- 3,223	-	3,344,824
Cost Advantage (%)	0.22	9.69	-	-	7.47
Upstream Employment	1	28	0	0	29
Direct employment	0	16	0	0	17
Downstream employment	0	283	0	0	284
Total employment	1	328	0	0	329
EC Fisher Benefits					
Catch Value (€)	44,161	3,741,745	0	0	3,785,906
EC Fisher Costs					
License fees paid (€)	22,688	166,488	0	0	189,175
EC Direct labour	8,478	666,009	0	0	674,486
STP Direct labour	89	0	0	0	89
Other operating and investment costs (€)	9,537	2,759,579	-	-	2,769,116
Total EC Fisher Costs (€)	40,792	3,592,075	0	0	3,632,867
Before tax profits (€)	3,369	149,670	-	-	153,039
profit as % of Catch value	7.6	4.0	-	-	4.0

¹ Average value over 3 years of the protocol

B.2.2.1 São Tomé and Príncipe Costs and Benefits

Total benefits accruing to São Tomé and Príncipe from the FA are estimated to be €658,875/annum. All but 4.5% of this value is attributed to income in the form of license fees and compensation payments; 78% of the total is due to the purse seine fishery, and 21% due to the surface longliners. Costs to São Tomé and Príncipe are in the form of administration (estimated at 50% of the annual DP budget) and the opportunity cost for the catch value added foregone³⁴. Overall the total cost of the FA to São Tomé and Príncipe is estimated at €838,378 with net cost of €179,503. In respect of surface longliners only, São Tomé and Príncipe accrues a net benefit of €125,069 due to the cost of licenses received being greater than the (declared) catch value given. Gross rent (value of compensation and license income as a proportion of catch value) is 16.6% and gross economic rent only slightly larger at 17.4% (since most of the benefits are in the form on compensation and license payments). Only 9 full time crew jobs are thought to be dependent on the FA, but dependency on the FA could be less than assumed.

Note that the added value calculations presented are based on actual catches and effort in the EEZ reported by those vessels which drew a license. For the surface longline segment, the level of dependency calculated on this basis was 0.3%, and for the purse seine segment 4.7%. The low utilisation rate indicated for the longline segment appears to represent a lack of catch reporting rather than low catches in the EEZ (only 2 catch reports were available plus some collated data), and the interpretation of this section should reflect this. An alternative interpretation may be considered; that each licensed vessel is as dependent on the São Tomé and Príncipe FA as those vessels which did report. Assuming a catch rate equal to reporting vessels, this would suggest that the FA would generate landings valued at €728,657, and license fees would represent 5.0% of landed value. This would seem to provide the necessary incentive for repeat purchase of licenses and is considered to be a more likely interpretation. The main impact, should this interpretation be true, would be to increase the São Tomé and Príncipe costs of the FA (since the catch value and therefore loss of value added is correspondingly higher), to a net cost of about €363,136.

B.2.2.2 EC Costs and Benefits

The São Tomé and Príncipe FA impacts more widely on the EC, with benefits in direct employment, upstream and downstream sectors. Total Community value added is about €3.9 million, of which 20% is upstream, 21% direct (in fishing) and 58% in downstream processing (almost all of which is in the tuna canning sector). Community costs are in the form of administrative costs (based on an annual cost of €77,000 per agreement) and the financial compensation paid by the Community on behalf of the industry (in this case excluding any target action payments). The overall analysis indicates a net EU benefit of €3.3 million (and 329 full time jobs). In fact the longline sector shows a cost to the Community of €91,431. This is because of the apparent low average catch across licensed vessels (well below the reference catches used as the basis for compensation calculations), causing license fees to be in excess of declared catch values. Overall the cost advantage to the Community (benefits received to cost incurred) is 7.5%.

B.2.2.3 EC fishers Costs and Benefits

The EU fishery sector benefits from the São Tomé and Príncipe FA to the extent of catches valued as €3.8 million/year in return for costs incurred of €3.6 million including license fees paid to São Tomé and Príncipe. Profits in fishing are estimated at €153,039/year, 98% of which is due to the purse seine tuna sector which, although less profitable than the longline fishery (4% of catch value cf. 7.6% for longlining), is pursued at a significantly higher level of activity. Although some tuna is

³⁴ An alternative approach would be to consider that there is no cost to STP due to value added foregone, on the basis that this fish would not have been caught if the agreement were not in place.

processed in Côte d'Ivoire or Senegal, it is subsequently supplied to the EU consumer, who benefits from supplies of 4,382 tonnes of fish from this FA.

It is assumed that the value added by the EU vessels is a cost to São Tomé and Príncipe, although another point of view is that this value would not be generated were it not for the presence of the EU fleet.

B.2.3 Environmental Impacts

B.2.3.1 Target Stock Sustainability

Table 53 shows the level of fishery resource utilisation by EU purse seine vessels fishing under the EU/ São Tomé and Príncipe FA in relation to the regional and oceanic stocks of which they are part. It compares the declared catches of the EU vessels fishing in the STP EEZ with the total catches by all nations of the stock of which the STP catches form part.

EU yellowfin tuna catches under the agreement are estimated to comprise 1% of the total ICCAT catch. The stock is not subject to a TAC, but there is a size limitation. The FA has little impact on the overall level of exploitation and appears to have had no significant negative impact on the sustainability of the Atlantic yellowfin stock.

EU bigeye tuna catches under the agreement are estimated to comprise 0.1% of the total ICCAT catch. The stock is exploited above optimal levels and some of the fishing nations are subject to a catch limit based on 1991/92 exploitation rates. There is also a size limitation. Due to extremely low level of catches of this species by EU vessels in this EEZ (due mainly to fact that the species is not specifically targeted and due to the implementation of the FAD moratorium) the FA has negligible impact on the overall level of exploitation. At the current level of exploitation overall catch levels appear to have had no negative impact on the sustainability of the Atlantic bigeye tuna stock.

EU skipjack tuna catches under the agreement are estimated to comprise 1.5% of the total ICCAT catch of this species. The stock is not subject to quota and there is no evidence that the regional stock is excessively exploited. The FA has little impact on the overall level of exploitation. The FA has had no significant negative impact on the sustainability of the Atlantic skipjack tuna stock.

EU swordfish catches under the agreement are estimated to comprise 0.04% of the catches of the southern swordfish stock reported to ICCAT. The management recommendation is for no increase in catch levels above the current levels. There is also a size limitation. Even if there is an under-declaration of catches and effort by the surface longliner fleet, the FA has only small impact on the overall level of exploitation. Furthermore since the current exploitation levels are considered to be sustainable the FA has had no significant negative impact on the sustainability of the Atlantic swordfish stock.

Table 53: Contribution by catches of EU vessels in the region of São Tomé & Príncipe to all ICCAT catches of large pelagic fishes

Area	EU catch in São Tomé and Príncipe EEZ		Catches by all nations in ICCAT area	
Year	2000-2004 annual average		2001	
Species	tonnes	% of all ICCAT	Total	EU
			tonnes	
Yellowfin	1,621	1.0	157,269	63,824
Skipjack (East Atlantic)	1,661	1.5	109,897	49,714
Bigeye	120	0.1	96,482	16,476
Swordfish ¹	5.5	0.04	14,079	6,181

¹Southern stock only (below 5°N)

The EU surface longline fleet in the São Tomé & Príncipe EEZ also targets shark³⁵. The main species of shark caught are the blue shark and the short finned mako. There is a small bycatch of silky shark and great white (currently proposed for addition to CITES Appendix II). The quantities are not considered to be significant. As noted earlier there are considerable problems related to the catch reporting of sharks from this segment. Assuming that non-declaring longliners exhibit the same catch rates and compositions as those declaring catches, the impact of the FA on these species is estimated in Table 54 both in terms of an assumed activity level within the EEZ, and annual catches based on an assumed 220 fishing days per year.

Table 54: Estimated shark catches by EU surface longliners licensed to fish in the STP EEZ

Species	Estimated mortality ¹ (tonnes)	
	São Tomé & Príncipe EEZ ²	Annual ³
Blue shark (tonnes)	77.8	1,556
Mako shark (tonnes)	11.0	220

¹ based on catch rates determined from aggregated catch records in Table 16

²Assumes 16.5 longliners each fishing for 11 days in STP EEZ

³based on nominal effort of 220 fishing days/year

³⁵ There is an argument to consider shark as the primary target since data on catches from this fleet segment (Cape Verde 2002) indicates swordfish accounts for 12% of the catch volume and 36% of the value, whilst shark accounts for 88% of volume and 64% of the value

The shark catch of this fleet in São Tomé & Príncipe waters cannot be determined due to the inadequate catch reporting from the longline segment. Even if records had been submitted, they would not have helped assess impacts since the reporting forms do not reflect the relative importance of shark. Given the lack of stock assessment data, it is not possible to directly assess the significance of these quantities on the long term sustainability of the populations of these species. However, the reported decline in abundance of blue and mako shark based on long line surveys in other regions of the Atlantic, suggests that there is a good case at this stage for a precautionary approach which aims to reduce the impact of long line fishing in the São Tomé & Príncipean waters on these species.

B.2.3.2 Non-Target Catch Issues

Impacts of purse seine fishing

Lack of data on bycatch rates of marine mammals in purse seining operations in the eastern Atlantic prevents a quantitative assessment of the impacts of the FA. Some bycatch of marine mammals (along with turtles and sharks) is inevitable, but this does not necessarily mean mortality. Good fishing practices can reduce purse seine fishing mortality of non-target species to a minimal level.

Impacts of longline fishing

Of greater concern is the impact of surface longliners on the loggerhead and leatherback turtle populations. There is evidence from the studies reported in Section 4.3 that turtles are susceptible to bycatch mortality from interaction with surface longliners operating in the region. Although there is no specific data on the interaction within the STP EEZ, São Tomé and Príncipe possesses well documented turtle breeding beaches for several endangered and one critically endangered species. There is a strong possibility that surface longliners operating in the STP EEZ catch turtles, and this could also include gravid females heading towards STP nesting sites. In the absence of better data there is also case on this basis, for considering precautionary removal or reduction of the longline fishing effort in this region.

B.2.3.3 Indirect Interactions

No significant indirect interactions related to the fishing activity under the São Tomé & Príncipe FA are identified by the consultants.

B.2.4 Economic evaluation

B.2.4.1 Effectiveness

Community fisheries sector

The 2002/2005 EU/ São Tomé & Príncipe FA has provided fishing opportunities which permit the deployment of an average of 27 tuna seiners and 16.5 surface longliners over the first two years of its operation. However these vessels also fish substantially in other EEZs and in international waters. and the level of dependency on this specific FA is relatively low, being 4.7% in the case of the purse seine fleet and 0.3% in the case of the longline fleet. In the latter case actual dependency is thought to be higher, but there is inadequate catch and effort reporting by this segment to permit a more realistic assessment. The Agreement has been ineffective in stimulating the development of the deepwater crab and pole and line fishing opportunities.

In the deployed fleet, direct employment for EU fishers is secured for 17 EC crewmen and an estimated 29 upstream and 284 downstream jobs. Note that some of the downstream employment and value added accrues to Côte d'Ivoire (estimated to be 31% of the processing employment

generated). The added value attributable to the Community totals €3.9 million. In terms of supplies to market, the agreement contributes 0.05% of the EU market. Although small the main impact is in relation tuna supply.

Development Investment

There has been only limited direct positive impact on national development of São Tomé & Príncipe. There is a substantial onshore investment in a renovated port facility, linked to the regional operations of the Spanish purse-seine fleet. The investment is not yet operational so there are no direct linkages as yet with the FA. Otherwise there has been no development of infrastructure, whether by national or foreign investors. There has been no modernisation or upgrading of the national fleet in a response to access the offshore resources, and no creation of fishing or processing companies.

One of the main reasons for the lack of investment is the barrier created by the lack of access to the EU market due to non-compliance with EU sanitary requirements. Had this barrier not existed then the consultants would have expected to see some significant developments during the course of the FA. The lack of recognition by the donor community of the importance of the fishery sector per se (despite the existence of other investment difficulties), and the health conditions problem as a developmental barrier, represents a signal failure to meet obligations.

Although a small number of fishers are employed on foreign vessels, these are mainly in the shrimp sector of other African countries. Only about 20-25 São Tomé & Príncipe nationals are employed on EU vessels and many of these would be employed irrespective of the FA. There has therefore been only a little additional employment (estimated at 9 crew) generated for São Tomé & Príncipe fishers. The FA has not contributed to the improvement of fish supplies to São Tomé & Príncipe, and therefore there has been no contribution to poverty alleviation and food security.

The weak institutional basis for fisheries management has meant that São Tomé & Príncipe has been unable to benefit from the targeted action finance available under the agreement. Difficulties experienced in justifying payments under previous agreements have highlighted the lack of managerial capacity and accountability in the public administration. Payments under the current agreement are most likely terminally delayed due to the inability of the São Tomé & Príncipe authorities to generate sound proposals for their utilisation. Even if funds could be released it is not certain that they would be applied to the defined purpose. Paradoxically, funds for much needed targeted actions to strengthen fisheries institutions cannot be applied because of the weakness of the same institutions.

The only benefit of any significance to São Tomé & Príncipe is the financial compensation and license fees, totalling an average of €629,175/annum over the life of the Protocol, which has contributed to the São Tomé & Príncipe national budget and balance of payments.

Promotion of Responsible fishing

The FA appears to have little impact to date on the promotion of responsible fishing. Funds from targeted actions under the previous protocol have been used to strengthen the control capacity of the DP, although the measures funded under the 1999/2002 Protocol (radio control room and patrol vessel) have yet to become operational. Operational effectiveness will in any case continue to be compromised by lack of adequate budgetary allocations for fisheries management and weak institutional capacity. Both of these issues will need to be addressed before any future FA can contribute towards tangible improvements in responsible fishing.

Furthermore there is a failure on the part of the EU fleet., Member States or Commission to ensure that catch declarations by the surface longline fleet are properly completed and communicated to the

São Tomé & Príncipe authorities. As a result, evaluation data for this sector is incomplete and only two catch declarations from this segment were seen by the consultants. A collated summary for Spanish vessels is available for the first year of the agreement. No summaries are available from Portuguese vessels. No action has been taken, either by the Commission or the São Tomé & Príncipe DP, against vessels which have not submitted individual catch returns. Given the critical nature of the shark catch and interactions with turtles (see below), and the need to improve catch and effort reporting in line with ICCAT recommendations, this continuing omission in the management of the FA, represents a failure in the commitment to responsible fishing.

Summary of Impacts

The table below summarises the economic and social impacts of the FA. In socio-economic terms the Agreement has slight positive impact on the EU and Côte d'Ivoire economies. It has not contributed towards social, economic and institutional improvements in São Tomé & Príncipe. The overall cost-benefit for the EU is strongly positive with a cost advantage ration of over 7. There are no significant São Tomé & Príncipe social or economic impacts associated with the agreement. For the São Tomé & Príncipe the overall cost benefit is slightly negative suggesting that the FA as it has operated during the last 2 years is not in the São Tomé & Príncipe interest. The overall assessment is that there is a failure to capitalise on the potential benefits which the FA could deliver to São Tomé & Príncipe.

Table 55: Summary of the socio-economic impacts of the EU/ São Tomé & Príncipe FA 2002-2005

Sector/Stakeholder	Impact level
EU tuna fishing	+
EU surface longline	0
EU Tuna Processing	+
EU other processing	0
São Tomé & Príncipe Small scale fishing	0
São Tomé & Príncipe Processing	0
São Tomé & Príncipe Institutions	0
Other ACP country	+
EU Consumer	0

Key: +++ strongly positive; ++ positive; + slightly positive

---- strongly negative; -- negative; - slightly negative

0 neutral

B.2.4.2 Efficiency

Community fishery sector

The average annual cost to the Community of the fishing opportunities purchased in the first two years of this Protocol is €517,000 (comprising compensation and administration costs). In return the FA generated an average annual Community value added (direct and indirect) of €3.9 million and

supplies of fish valued €3.8million to the EU market. An estimated 329 Community jobs are sustained by the FA. The FA therefore appears to be moderately advantageous to the EU fishery sector.

The EU purse seine sector paid license fees averaging €166,488/year in return for annual catches of 4,361 tonnes tuna worth €3.74 million, suggesting a license fee rate of 4.4% of landed value, or €38.2/tonne. This is considered to be within a normal range. Although an average of 27 tuna vessels were licensed, on average only 14.5 were utilised each year. Each year fifteen or 16 vessels buying licenses did not deploy in the EEZ, suggesting that the cost of the licenses to the tuna operators is considered to be trivial in relation to overall operating costs, and its non-utilisation by half of the vessels more than compensated for by better catch rates elsewhere in the region³⁶. The São Tomé & Príncipe EEZ tuna yield to the EU fleet represents about 75% of the average annual catch of a single purse seine vessel. Given the limited dependency of the fleet on this FA, it would seem that the modest expenditures employed are efficiently utilised.

In respect of the surface longline opportunities, the average annual license fee payment was €22,688 by 16.5 vessels (representing 66% take up of license opportunities). Average annual reported catch from the licensed vessels was 21.5 tonnes worth €44,161. License fees of €22,688 account for 51% of catch value which appears to be unjustifiably high. On this basis the FA appears to be disadvantageous to the surface longline EU fleet. However, this assumes that vessels which do not report do not use the fishing opportunities they have purchased. Under such circumstances, it would seem unlikely that the same vessels would continue purchasing licenses for this EEZ. There is a justification for considering the alternative interpretation proposed above, that many more licensed longline vessels fish within the EEZ, than do report.

Investment in development

The conditions for the application of the compensation and targeted action funds present considerable difficulties, principally due to the lack of adequate budgetary controls within MADRP and the institutional weakness of the DP itself. There are signs that some of the targeted actions funds under the previous protocol have been applied to some of the projects described in the supporting documentation submitted subsequently to the Commission. However, there is no transparency in the disbursement of funds and no audit. The previous Protocol's targeted action funds cannot therefore be said to have generated value for money. All projects generated have been exclusively funded by the FA funds, and there has been no additionality in terms of associated projects and developments generated, nor of leverage in terms of generation of alternative means of finance.

No Targeted Action disbursement has been made under the current agreement and the proposals currently being considered by the DP are unlikely to be accepted by the Commission without substantial revision. One of the measures submitted for support repeats activities previously assisted by the CDE and scheduled for support by the EDF (ACP Strengthening of Health Conditions for Fishery Products), suggesting that were it to be approved as it stands there would be negative additionality. This is a significant loss of opportunity, since the health conditions issue is a major barrier to sector development. Technical assistance in this area is required but there is no effective programming of technical assistance funds, neither on the part of the beneficiary, nor the EU (whether under the EDF or the FA).

³⁶ Vessels buying licenses but not declaring catches were assumed not to fish in the STP EEZ for the purposes of the value added and cost benefit calculations. Their only contribution to the impact assessment is the license fee paid.

The FA has had no significant impact on sustainable livelihoods in São Tomé & Príncipe, contributing an estimated 9 crew positions linked to the EU fishing in the EEZ. The Agreement has not promoted the supplies of fish for consumption. On the other hand neither has there been any negative impact. There has been no demonstrable development of human capital as a result of the application of targeted action funds. No aspect of the Protocol has contributed towards development of social or financial capital. There is no employment generated by the FA. Refurbishment and development of physical deepwater fishing port infrastructure is currently underway at Neves supported by Spanish technical assistance. However this is considered to be only indirectly linked to the existence of the FA and until now has delivered no benefits.

On a macro-economic level the national GDP of São Tomé & Príncipe in 2004 is estimated to be Dbs491 billion (€46.3million) Fisheries represented 3.6% of GDP (in 2000), suggesting that in 2004 fisheries contributes some €1.67 million to GDP. The contribution of the FA, in the form of compensation and license fees, therefore accounts for some 1.5% of the national GDP and about 40% of the fisheries sector contribution to GDP. The financial contribution from the FA is not applied specifically to the fishery sector, and as a rent is considered to produce no additional added value.

Promotion of responsible fishing

There is no linkage between the FA and the promotion of responsible fishing, except insofar as a portion of the targeted action funds are potentially directed at this activity. However the approach to the inclusion of targeted actions in the protocol takes no account of the lack of institutional capacity for their utilisation, demanding a minimum level of project management skills not evident in the organisation. As a result there can be no progress towards improvements in responsible fishing within the current structure of the FA.

B.2.4.3 Relevance

Community fishery sector

The license utilisation pattern suggests that the FA exceeds the requirements of the EU fishery sector in terms of tuna purse seiners and surface longliners. Given that pole and line opportunities are not utilised at all, the FA appears to provide more fishing opportunities than are currently demanded by the EU fleet. The provision of the crab fishing opportunities has not been tested, mainly due to apparent lack of demand.

Investment in development

The benefits to São Tomé & Príncipe from the FA, in the form of compensation, license fees and limited crew employment accounts for €658,875 per annum, being about 17% of the annual value (€3.8 million) of the fishery products generated by the Agreement, or €144/tonne. This benefit level compares unfavourably with the 67% of value derived from the Angola Agreement and 35% from the Cape Verde Agreement. However the main reason for the difference is the relative lack of capacity to realise the potential benefits inherent in the FA. The consultants consider that the level of benefits could be increased substantially were São Tomé & Príncipe to, i) apply sanitary controls to fishery product exports (allowing export businesses to develop), ii) direct and manage development funds under targeted actions, iii) promote São Tomé & Príncipe crew employment on the EU vessels. and iv) attract catch and by-catch landings from the EU fleet.

As a result of the absence of these means, more than 99% of the fisheries activity added value generated by the FA falls outside São Tomé & Príncipe. Côte d'Ivoire (and to a lesser extent possibly Senegal) benefits substantially more than São Tomé & Príncipe through the share of the downstream

value added generated in tuna processing. By no means can this be regarded as an equitable allocation of benefits generated by the FA.

The National Indicative Programme³⁷ will provide €9.4 million under the 9th EDF (2002-2007) directed in large part (72%) at construction of road infrastructure, and €2.3 million for technical assistance and support for the EDF National Authorising Officer. The objective of the NIP is rural poverty alleviation through development of exports from private sector rural and agricultural enterprises. In this respect there is a degree of coherence with the NIP objectives and the FA can be considered highly relevant. However, in terms of the activities and the target sectors for development, neither the NIP nor for that matter national fisheries policy such as it exists, fully reflect the potential of the fishery sector to make a rapid and significant contributions to the objectives. The NIP recognises that weak governance and public sector management, particularly in relation to the project management process undermine the development process, yet targets the majority of interventions at road construction rather than addressing the governance issues which would allow São Tomé & Príncipe to derive benefits from the FA. A meaningful opportunity for the high degree of coherence and indeed synergy between the NIP and FA is therefore lost.

Promotion of responsible fishing

The FA promotes responsible fishing in two key aspects, generation of catch data for resource management decision making and direction of targeted actions at strengthening the fisheries management capacity of the São Tomé & Príncipe DP. The FA implementation delivers on these objectives only in respect of the tuna purse seine fishing opportunities, where catch reports can be said to be generated and delivered to a credible level. In respect of surface longline fishing and the targeted actions there is little contribution to Common Fisheries Policy Objectives of responsible fishing. In respect of the failure to act on the catch reporting omissions of this surface longline fleet, the FA has had a negative impact on this objective.

Some EU fishing vessels have, in the past, re-flagged under the São Tomé & Príncipe flag without there being a genuine link with the territory. Furthermore some of these vessels appear to have been implicated in IUU fishing in areas covered by NAFO, NEAFC and CCAMLR regional fisheries organisations of which the EU is a contracting party. The EU policy on flags of convenience is addressed in Communication from The Commission “Community action plan for the eradication of illegal unreported and unregulated fishing” (28.5.2002 COM(2002) 180 final). Without addressing specific control measures, maintaining support for the São Tomé & Príncipe fishery sector on the one hand, in the face of evidence for IUU fishing by São Tomé & Príncipe flagged vessels on the other could be regarded as a policy conflict, irrespective of the beneficial ownership of the vessels involved. The São Tomé & Príncipe re-flagging of EU vessels with the explicit intention of fishing outside the management measures implemented by RFOs to which the EU is a contracting party, albeit lawful, is clearly contrary to a central pillar of the CFP for responsible fishing. It constitutes a breach of Article 91 of the UNCLOS (to which São Tomé & Príncipe is a contracting Party) since there is no “genuine link” between the flag State and the fishing vessel sailing under that flag and it could be regarded as a violation of the flag state’s enforcement obligations for the protection of the marine environment, prescribed under Article 217 of UNCLOS..

The continuation of the facility for the São Tomé & Príncipe flag of convenience also undermines the re-establishment of exports of São Tomé & Príncipe origin products to the EU market, since the health conditions set out in EU directives require third countries to make provision for inspection of

³⁷ *Coopération São Tomé e Príncipe - Communauté européenne, Stratégie de coopération et Programme Indicatif National, SÃO TOME AND PRINCIPE – COMMUNAUTÉ EUROPÉENNE, 9^{ème} FED, 2002-2007*

vessels sailing under their national flag. In some cases this means that the Competent Authority must inspect vessels in foreign ports, an impossible task for the current organisation of the São Tomé & Príncipe Competent Authority. Although all fishing vessels have reportedly left the register, the continuation of the facility once exports are re-established will be likely to renew these compliance issues. There needs to be a guarantee that once market access is re-established, only fishing vessels with a genuine link with São Tomé & Príncipe will be registered and that such vessels will be subject to inspection in São Tomé & Príncipe.

B.2.4.4 Utility and Sustainability

Community fishery sector

The FA fishing license opportunities are taken up, on average, by 27 of the 34 EU tuna seiners, and 16.5 out of 62 EU surface longliners operating in the Atlantic in 2003/2004. The perceived utility of the FA is significantly greater for the purse seine sector. Pole and line and deepwater crab opportunities are not taken up. Although dependency based on volume of catch is low (see above) there is an argument that the fishing opportunities for tuna seiners make a small but significant contribution towards the economic sustainability of the EU fleet by providing access to the migratory tuna resources throughout the migration route. These benefits are enjoyed by the tuna fishing and processing sectors of France (Concarneau) and Spain (Galicia and the Basque country). The FA supports sustainable fisheries livelihoods elsewhere to much lower extent; there will be some marginal employment impacts due to long line fishing opportunities in Portugal (Aveiro) and Spain (Galicia). In terms of consumer impacts, the FA contributes 4.360 tonnes per annum of fishery products, representing an insignificant 0.05% of the fish consumed in the EU.

Investment in development

The targeted action component of the current FA is not utilised and therefore cannot be considered to contribute towards the sustainable development of the fishery sector in São Tomé & Príncipe. Due to the lack of clear programming and accountability, neither is it possible to identify the specific contribution to development due to targeted actions implemented under the previous protocol. This component of the FA therefore does not contribute towards sustainable development of the São Tomé & Príncipe fishing industry. Neither does it contribute towards poverty reduction. There are no substantive linkages between the activities undertaken under the FA and the national fisheries sector. There is no direct national contribution to development nor to poverty reduction nor fisheries livelihoods.

The FA has *potential* to contribute towards the sustainable development of the fishery sector. Landing and transshipment of catch, development of exports of fresh and frozen fish (large pelagic and bycatch) are foreseeable contributions, providing that the barrier to exports represented by lack of compliance with sanitary requirements is lifted. The existence of this barrier has prevented these benefits from being delivered and should be addressed in the design of future EU/ São Tomé & Príncipe fisheries relations.

Promotion of responsible fishing

According to ICCAT, the yellowfin and skipjack tuna resources targeted by the EU fleet in this region are considered to be fully exploited at sustainable levels. Swordfish is subjected to a recommendation for no increase in catches. Restrictions on skipjack fishing with FADs are in place as a management measure to protect bigeye tuna, which is thought to be exploited above optimal levels. These are implemented by EU vessels and the bigeye catches in the São Tomé & Príncipe EEZ are small.

The main impacts of concern are in relation to the impacts of the surface longline fishery on the marine environment, particularly blue and short fin mako sharks, and bycatch of leatherback and loggerhead turtles.

There is substantial concern that the fishing mortality of some shark stocks is, at an Atlantic level, in excess of sustainable levels. No species are endangered, but there is evidence of substantial population depletion. Lack of data currently prevents a more quantitative assessment of stock condition. We do not know whether non-declaring licensed longliners enter the EEZ. Assuming that they all exhibit the same EEZ catch rates and compositions as those which do declare catches, surface longlining under the FA appears to account for blue and mako shark mortalities of 78 and 11 tonnes respectively (as indicated in Table 54).

Loggerhead turtles are endangered and leatherback critically endangered (IUCN Red List). São Tomé and Príncipe provides important and well documented nesting areas for the leatherback turtle (amongst others) and there is justified concern that the surface longline bycatch has significantly impacted on the breeding population (as it has in other regions). Although there is no direct evidence of bycatches in the STP EEZ, there are clear reports of similar interactions in other parts of the Atlantic Ocean, and no reason to believe that they do not occur at similar rates in this region. The FA is likely to have a strongly negative impact in this area in terms of mortality of endangered loggerhead and critically endangered leatherback turtles in the São Tomé & Príncipe. The fleet level impacts throughout the region will be proportionately greater. The São Tomé & Príncipe FA has, if anything, therefore permitted the pursuit of irresponsible fishing practices, especially so considering the omissions in catch reporting from this segment.

The defects in catch reporting undermine a proper assessment of the environmental impacts. The non-submission of catch returns delivered to the Commission and the DP not only contravenes a specific provision of the Protocol, but may also be a breach of:

- ICCAT Resolution 1/11 on Atlantic Sharks (2001) which requests all parties to submit catch and effort data, including dead discard estimates, for porbeagle, shortfin mako and blue shark, and to commence assessment of those stocks in 2004
- Article 6 of Council Regulation (EC) No 1936/2001 of 27 September 2001, which requires Member States to collect and transmit information on shark catches and trade in sharks to the ICCAT Executive Secretariat with electronic access for the Commission.

Furthermore it should be noted that the ICCAT report form ("ICCAT Logbook for tuna catches") presented in the current protocol does not have a column for recording shark catches, just a requirement for specifying "mixed catches". This was the ICCAT requirement at the time. At present, surface longline vessels can comply with the São Tomé and Príncipe protocol but fail to meet current ICCAT/EU requirements for full recording of sharks, unless they also complete a separate form which includes sharks. There is no evidence that this is done.

B.3 IMPACT ASSESSMENT AND EX-ANTE EVALUATION

B.3.1 Context for the next FPA

Several major issues arise from the evaluation of the current agreement and the SWOT analysis above. These should be considered by both parties in the decision to renew the EU-STP fisheries agreement and in determining the terms and conditions of the next protocol. These issues relate to:

B.3.1.1 Economic development

Oil industry impacts Regional experience of the oil industry and impact on development suggests that the STP oil sector will remain an economic enclave with few real links to the rest of the economy. As the sector develops there may be some impacts on the fishery sector in terms of stimulation of domestic demand for higher quality fish. In the longer term oil revenues are likely to have two major additional impacts on the fishery sector. Firstly, oil revenues will provide a source of investment funds for infrastructure development. Improvements in roads, port facilities and transport infrastructure can all be expected, with corresponding stimulation of demand. The improvements in public financial management will lead to greater accountability for the use of public resources, including fisheries sector. The value of the Dobra is likely to appreciate to reflect the future expected contributions of oil revenue. This so called “Dutch disease³⁸” may ultimately render STP fishery products less competitive on the international markets. However, at present there is a substantial cost advantage and potential for increased revenues to small scale fishing communities from export growth, a sectoral strategy which is coherent with the NIP and the PRSP. Increasing national wealth is likely to lead to a reduction in international food aid for STP.

Lack of recognition of the potential contribution of fisheries to poverty alleviation. The development challenge facing STP in future is to ensure that strategic investments derived from future oil revenues support rural poverty reduction measures, particularly by engaging in international trade for agricultural products. Fisheries has potential to contribute to this process, in the form of fresh exports of high value demersal fish, and onshore tuna processing (for both fresh and cannery markets). Employment in fisheries accounts for an estimated 8,165 jobs out of the total of 52,192 employed in 2001 (15.6%). Establishing access to the EU market should be a matter of national strategic priority. However, the considerable potential benefits of sector development, although recognized by the Government of São Tomé and Príncipe and the EDF, are not developed in the activities proposed under the PRSP and the NIP. Fisheries is hardly mentioned in the National Indicative Programme.

Strengthened economic benefits. Any future FPA needs to ensure that a stronger link is established between the FPA and the development of social capital and living conditions of the STP stakeholders. Economic benefits may be attained with both material and non-material investment. Non-material benefits may be achieved by ensuring that, i) community based organisations are formally recognised, ii) policy dialogue in fisheries matters is established with national stakeholders, iii) community based resource management systems are established through appropriate legal framework and financial instruments. A new policy framework is required for the fishery sector to reflect these needs.

Fishing in the Joint Development Zone Should there be an interest in fishing within the JDZ, the Nigeria/STP Treaty does not seem to contain any clause to prevent the EU from signing an FA with the Joint Development Authority. However within the Zone the principle of joint control by the two Parties applies in the proportions of Nigeria 60% and STP 40%.

³⁸ So-called due to the pressures of North Sea gas revenues on currency value in the Netherlands in the 1970s

This means that STP can accept applications for fishing activities within the zone from foreign vessels but shall inform Nigeria who has the right to object within one month. In case of objection the matter may nevertheless be referred to the Council (which is also competent to determine the TAC within the Zone). Once the authorisation is granted EU vessels will be subject to STP laws and administration.

Furthermore both STP and Nigeria are required to periodically inform the other of the outcome of applications made for the development of activities in the zone and to provide the Authority with the information it may request on the development of the activities on the zone.

B.3.1.2 Policy environment

Lack of coherence between NIP and FA. The FA fails to deliver a desirable development outcome for the partner country due to the weakness of governmental institutions. The NIP acknowledges the weak institutional basis for development (especially in the critical field of rural diversification) yet focuses activities on road building, and only indirectly addresses the institutional issues. The responsible EU Delegation is located in Gabon, further increasing the difficulties of meaningful engagement. It is desirable that a future FPA is agreed within the framework of a development cooperation policy which will address wider issues of institutional reform in the MADRP which, at least in the interim period, could be focused on the fishery sector. In the longer term, coherence between the NIP and a future FPA can only be addressed within the frame of a new NIP.

With respect to foreign fishing relations. Due to lack of effective capacity, São Tomé and Príncipe has negligible means to ensure that national economic and regional fishery management interests are sustained. Non-transparent private licensing arrangements and reciprocal fisheries agreements with other nations arouse suspicion of corrupt practices and/or potential for internal conflicts of interest. A responsible approach to the future of the FPA must recognise these failures and act to correct them.

B.3.1.3 Institutional capacity

Weak institutional basis for fisheries management and development. Without significant strengthening of national institutions it is unlikely that São Tomé and Príncipe will be able to exercise responsible management of the fishery and direct the benefits of the Agreement to sustainable development of the sector.

Lack of capacity to implement targeted actions. A specific consequence of the above weakness is the lack of capacity to adequately manage projects funded by the targeted actions under the FA, compounded by lack of transparency, poor accountability and absence of adequate audit. Development and investment activities under a future FPA should therefore be addressed within the frame of a broader programme of institutional strengthening as described above. Given the low level of derived benefits by São Tomé and Príncipe there is a justification to replace targeted action funds with pure financial compensation in future agreements until such time as implementation capacity is developed.

Lack of support for institutional development for fisheries management and development. As a result of the failure to recognize the potential benefits of fisheries development, donor support for fisheries has been paltry, and in recent years limited to a modest effort to assist with meeting EU sanitary requirements and refurbishment of the port at Neves. Removal of the EU Delegation to Libreville has resulted in a substantial disengagement in all but formal administrative issues in relation to the FA. São Tomé and Príncipe derive financial benefits of 18% of the value of fish produced under the FA. To allow São Tomé and Príncipe to share a greater proportion of the added value generated by a future FPA there is a need for renewed, broader based and sustained engagement to strengthen the capacity of the fisheries institutions.

It is clear that there can be no progress towards the introduction of a fisheries management capacity without a substantial level of technical assistance to strengthen the national fisheries institutions³⁹. Such support should therefore be a pre-condition for the use of Targeted Action funds in future. The only likely source of such assistance is through an externally funded donor intervention, and there is a case for the European Community to support an intervention programme of technical assistance and training to develop national fisheries management capacity, with specific objectives concomitant with the targeted actions of the current agreement. Such a project would require a long term resident fisheries advisor with short term technical assistance, training and material support. The operational costs to the EU associated with the FPA would be higher, but the approach would address the longer term developmental needs of the sector, particularly in relation to strengthening of the institutional capacity for sustainable fisheries management.

Lack of compliance with EU hygiene requirements. Although the Competent Authority (Direcção das Pescas), has received assistance from the CDE since 1999, the sanitary inspection and control system remains weak and not in compliance with EU Directives. It is unlikely that fishery product exports to the EU will be re-established in 2004. Problems still to be overcome are lack of a laboratory, lack of inspection of São Tomé and Príncipe flagged vessels and poor conditions at landing sites. In the meanwhile the lack of compliance will continue to represent the major barrier to the future development of the fishery sector. It is clear that tuna canning is unlikely to be a viable opportunity⁴⁰, but there are other feasible investment opportunities which potentially include:

1. Development of high value fishery product exports from the existing artisanal fishery (such as demersal and large pelagic fish species, air freighted fresh to the EU market)
2. Extension and development of the national fishing fleet to exploit the large pelagic fish resources within the EEZ (tuna, swordfish etc) currently accessed by foreign fishing vessels
3. Landing and shore-based processing of fish caught by the foreign vessels fishing within the EEZ, for example tuna loining

Whilst other investment impediments do exist (not least the difficult business environment of STP) the consultants regard the health conditions issue as an important constraint to development of the São Tomé and Príncipe fishery sector. The forthcoming EU-ACP regional project “Strengthening of Fishery Products’ Health Conditions” is programmed to assist the Government of São Tomé and Príncipe within a regional programme. There is need to ensure a rapid mobilisation of assistance in this area.

B.3.1.4 Fisheries resources and management

Tuna resources The EU-São Tomé and Príncipe fisheries agreement focuses on targeted species of tuna (in practice principally skipjack caught by purse seine vessels) and swordfish (caught by surface longliners). The Protocol implies however that the surface longliners will target tuna. There are indications that overall the tuna resources targeted by the EU fleets are not excessively exploited. It appears that environmental impacts of catches of sharks and bycatch of turtles are the limiting factors, at least in the longline fishery.

Purse seine Assuming that current patterns of fishing are maintained, sustaining the levels of fishing opportunities currently described within the São Tomé and Príncipe EEZ would appear to have no significant impact on tuna and tuna like resources. However there should be a requirement to monitor any changes in the pattern of fishing, in respect of the species targeted by the different

³⁹ Technical assistance was offered by the Commission during the negotiations for the current Protocol, but was not accepted at that time by the STP Authorities.

⁴⁰ There is adequate processing capacity within the region in Ghana, Côte d’Ivoire and Senegal

fishing gears. Any significant shift (for example to greater targeting of small yellowfin by purse seining) would require a re-assessment of this position, especially if it were to result in an increase in the proportion of small bigeye tuna catch attributable to the EU fleet fishing effort.

The tuna pole and line fishery Fishing opportunities for pole and line fishing have not been taken up during this, or previous, protocols. It is thought that the reasons for this are the lack of regular supplies of bait fish (although sardinella stocks are available locally to São Tomé and Príncipe) and poor shore facilities. The stocks which would be targeted by the pole and line fishery (skipjack and yellowfin) are generally regarded as not being over exploited.

The uptake of the pole and line opportunities may also in future be facilitated by the development of the port facilities at Neves, and the future re-establishment of access to the EU market. These developments provide a justification for retaining these opportunities in future agreements, at least for the time being. The pole and line fishery would not be expected to impact significantly on other species.

Demersal and coastal small pelagic fisheries These resources are not the subject of the current protocol. Subject to stock assessment it is probable that the exploitation of at least some of these stocks could be extended. However, given the future development needs and increasing capacity of the national fishery sector, especially if invigorated by re-established access to the EU market, there is no justification for extending the scope of the current agreement beyond the current species and fishing methods.

Deepwater crab fishing opportunities have not been utilised. Strengthened institutional capacity will increase the likelihood of the uptake of the crab fishing opportunities. However there is a need to establish that there is sufficient demand for the take-up of these opportunities.

Longline fishery The number of longline vessels drawing licenses for the São Tomé and Príncipe EEZ increased from about 12 to 19, mainly due to the entry of Portuguese vessels in 2002/2003. The utilisation of licenses for this segment has increased. However there is a lack of data regarding the EEZ activities of the fleet which have drawn licenses during the current protocol.

A precautionary approach to the continuation of longline fishing opportunities is justified on the basis of the concern over shark catches and turtle bycatches. At a modest level this would reduce the number of licenses available to the number utilised in 2003/2004. This would suggest 19 surface longline licenses in a future protocol. This measure would at least prevent the fishing effort increasing in future from the current levels by taking up un-drawn licenses. However it would not prevent increases in effort from the existing vessels, for example by extending the period for fishing in the EEZ. Although this approach would have minimal economic or financial impact, it would have negligible conservation benefits in terms of reducing mortality of endangered or threatened species. A reduction to a number less than this would have the effect of excluding these vessels from the São Tomé e Príncipe EEZ. However, there is some anecdotal evidence that the fishing season is short and transitory and overall the effect, at least within the term of the next Protocol, would be to displace, rather than remove the fishing effort.

Improved reporting and monitoring. Out of 33 surface longliner licenses issued under the first two years of the Protocol, only 2 catch reports covering 3 days of fishing (2.5 tonnes) in the São Tomé and Príncipe EEZ have been filed with the São Tomé and Príncipe DP, whereas collated data from Spain suggests catches of at least 43 tonnes. We consider it unlikely that this represents the extent of the fishing activity under the protocol by this fleet segment. Given the potential environmental impacts of this segment on shark and turtle populations there is a need to address this reporting failure.

Furthermore, any new protocol which does include surface longline licenses should also endeavour to implement the ICCAT Resolution 1/11 on Atlantic sharks to comply with the provisions of

Article 6 of Council Regulation (EC) No 1936/2001 of 27 September 2001 regarding reporting of on shark catches and trade in sharks to the ICCAT Executive Secretariat. In addition the reporting requirements should be amended to comply with latest ICCAT recommendations

Although there are no international management means recommended, it should also endeavour to address the bycatch rates of critically endangered turtle species. Participation of EU vessels in the surface longline fishery under a future protocol should therefore be conditional on some, or all of the following options:

- reporting of catches of shark species (requiring modification of the reporting forms) and ensuring adequate distinction between the mako and porbeagle, given the possible use of Spanish “marrajo” for both species
- requirement for release of live turtles
- reporting of catches of turtle species (requiring modification of the reporting forms) and implementation of a discard ban on dead turtles
- introduction of an observer programme to measure bycatch and gather biological data

The present lax approach to non-compliance with reporting obligations should be addressed in a future Protocol. The São Tomé and Príncipe DP and EU member States should be encouraged to withdraw and/or refuse renewal of licenses in respect of non-compliant vessels.

Correct definition of target species. The Protocol implies that tuna is the target species for surface longliners, yet it is known that this segment targets swordfish and shark. The target species should be stated in any new protocol (e.g. non-tuna large pelagic fish) with reference catches (and license fees) defined appropriately.

In the case of the renewal of the FPA, and due to the policy conflicts attributed to the re-flagging of EU vessels onto the São Tomé & Príncipe register, the Commission may wish to consider seeking guarantees from the São Tomé & Príncipe authorities to ensure the integrity of policy in this area. A new agreement could seek means to strengthen the controls over the activities of this fleet segment, (for example in terms of transparency of the register and reporting requirements) should it be active in the future.

B.3.2 Scenarios

Five potential scenarios for the future FPA are identified and analysed for impacts and costs and benefits. The first scenario provides the same fishing opportunities as the current, and the second is with no protocol. The third and fourth scenarios consider a precautionary elimination of the surface longline opportunities, justified on the basis of the impact on critically endangered turtles. Scenario 4 however, includes an intervention project funded by the EU, with the objective of strengthening institutional capacity for fisheries management and development. The fifth scenario provides purse seining opportunities only, with elimination of the surface long line, and the so far unused pole and line and crab opportunities, thus representing a protocol with the least fishing opportunities.

All of the scenarios are based on the following key assumptions:

- In scenarios where they are provided, fishing opportunities previously utilised (purse seine and surface longline) will continue to be utilised at historical levels
- Pole and line and crab fishing opportunities will continue not to be utilised during the course of the next Protocol, except in Scenario 4, where the intervention project will promote and support their utilisation.

- Financial transfers to São Tomé and Príncipe from the Community will be in the form of pure financial compensation only; there will be no targeted action funding except in Scenario 4.
- The increased level of compensation contribution in Scenario 4 will permit allocation of an adequate operating budget for the DP by the Government of São Tomé and Príncipe.
- To provide a basis for the assessment of the license income in each scenario, the current levels of license fees and reference catch levels (corresponding to the minimum license fee) are retained in any future protocol.
- Costs and benefits external to the FPA are not included in the impact assessment. This includes redeployment or decommissioning costs of vessels which lose fishing opportunities, and fisheries development benefits delivered to fisheries other than those covered by a future FPA (e.g. the São Tomé and Príncipe artisanal sector).
- Financial Contributions are allocated to fishing opportunities on a pro rata basis in relation to reference catch values. The experimental crab fishing opportunities are not considered to be compensated. This gives the allocations of 79.1% of the compensation allocated to the purse seining, 20.1% to surface long lining and 0.7% to pole and line fishing opportunities, as indicated in Table 56

Table 56: Allocation of financial contribution to fleet segments

Segment	No.vessels	Ref catch/vessel (tones)	Reference catch (tones)	% share by value	Compensation value (€)	Annual values		
						Total(€)	Fin comp(€)	TA fund(€)
Purse seiner	36	150	5,400	79.1	1,740,659	580,220	348,132	232,088
Surface longline	25	55	1,375	20.1	443,223	147,741	88,645	59,096
Pole & line	2	25	50	0.7	16,117	5,372	3,223	2,149
Experimental crab	3	750						
TOTALS			6,825	100.0	2,200,000	733,333	440,000	293,333

The details of each Scenario are as follows:

1. Agreement on current terms

The current FA provides fishing opportunities for 36 tuna vessels, 2 pole and line vessels and 25 surface longliners, plus up to 3 vessels targeting deepwater crab. In this scenario these possibilities are maintained. However they remain only partially utilised, at rates equal to the average annual rate experienced in the current protocol. Target actions funds remain undrawn.

Table 57: Scenario 1 - Agreement on current terms (annual)

Fishing possibilities	Tuna purse seine	Surface long liner	Pole and line	Experimental crab
Fishing opportunities provided	36	25	2	3
Fleet catch (tonnes)	4,361	22	0	0
No.Vessels buying licenses	27	16.5	0	0
Size	No limit	No limit	No limit	<250GRT
License fee (€/tonne)	25	25	25	€42/GRT/quarter
Minimum license fee (€/vessel)	3,750	1,375	625	
Compensation (€)	440,000			

2. No agreement

The Government of São Tomé and Príncipe responds to all of the individual fishing license applications presently received from foreign fishing operations. The absence of FPA will invite extension of direct licensing and in this scenario EU vessels would therefore be expected to seek and gain private fishing licenses, to provide the same level of fishing as they have during the current FA. It is assumed that there is no other bilateral fisheries agreement which uses the same fishing opportunities in place of the EU/ São Tomé and Príncipe FA. In the absence of data on the cost of individual licenses⁴¹, the average cost of private fishing licenses is assumed to be the same as licenses purchased under the current FA, although in practice they would be likely to cost more.

⁴¹ The DP refused to provide information on private license fees to consultants, on grounds of confidentiality

Table 58: Scenario 2 - No agreement (annual)

Fishing possibilities	Tuna purse seine	Surface long liner	Pole and line	Experimental crab
Fishing opportunities provided	0	0	0	0
Fleet catch (tonnes)	4,361	22	0	0
No.Vessels buying licenses (private)	27	16.5	0	0
Size	No limit	No limit	0	0
License fee (€/tonne)	38.2	1055.2	0	0
Minimum license fee (€/vessel)	0	0	0	0
Compensation (€)	0			

3. Agreement with current purse seine, pole and line and experimental crab fisheries, and precautionary elimination of longline fishing activity.

In Scenario 3 a restricted FPA in which there is a precautionary elimination of longline opportunities would ensure a meaningful reduction of the impact on shark and turtle populations. It is assumed that São Tomé and Príncipe will agree that this change will not be undermined by the issue of private licenses to displaced EU longline vessels. Experimental crab fishery and pole and line opportunities are maintained in the scenario, but it is assumed that they remain unutilised. In the absence of any national capacity to implement them there would be no targeted actions finance; all of the financial contribution would be paid as financial compensation until such time as capacity developed to allow a future protocol to re-introduce targeted actions. The level of financial compensation would be based on current total financial contribution, factored according to the proportion of the reference catch value (c.20%) attributed to the eliminated surface longline segment.

Table 59: Scenario 3 - Agreement with elimination of longline fishing (annual)

Fishing possibilities	Tuna purse seine	Surface long liner	Pole and line	Experimental crab
Fishing opportunities provided	36	0	2	3
Fleet catch (tonnes)	4,361	0	0	0
No.Vessels buying licenses	27	0	0	0
Size	No limit	0	No limit	<250GRT
License fee (€/tonne)	25	0	25	€42/GRT/quarter
Minimum license fee (€/vessel)	3,750	0	625	42,000
Compensation (€)	585,592			

4. Agreement with reduced fishing opportunities plus intervention project

Scenario 4 would provide the same fishing opportunities defined in Scenario 3, along with the associated financial and economic benefits. The financial contribution is calculated on the same basis as indicated in Scenario 3, but is divided between financial compensation and targeted actions. Targeted actions are assumed to have no benefits in excess of the financial value. The total amount of contribution will be €585,592/year.

In addition an intervention project is supported which will provide technical assistance for the institutional strengthening of the fisheries administration. This comprises a long-term adviser, short term TA and training inputs. The estimated cost is €700,000/annum. The STP DP will sustain higher operating costs due to the enhanced level of activity. It is assumed that the DP will spend 50% of an operating budget equivalent to the financial compensation amount (i.e. 50% x €351,355) on sustaining this higher level of activity. The project will assist the DP to develop the capacity to benefit from the targeted actions. More details of the projects activities are given in Annex 5. It is assumed that the project will generate benefits through:

- a) catalysing the introduction of sanitary controls and exports to the EU, attracting vessels to land, to tranship and re-provision in the refurbished port facility at Neves, and to increase employment of São Tomé and Príncipe crew. It is assumed that 10% of fleet inputs (fuel, feed, crew logistics etc) are sourced in São Tomé and Príncipe, and that downstream value added of €10/tonne final product is generated with respect to transshipment and storage of tuna from purse seine and pole and line segments. Employment increases to an average of 1 FTE onboard and 1 FTE onshore (upstream) per licensed vessel, all fully dependent on the agreement
- b) full uptake of unutilised pole and line fishing opportunities, which are assumed to operate at the reference levels indicated in the current FA; 2 vessels catching 25 tonnes each per year in São Tomé and Príncipe, paying license fees of €625/vessel. São Tomé and Príncipe dependency is estimated at about 7%.
- c) full uptake of unutilised experimental crab fishing opportunities, which are assumed to operate at the reference levels indicated in the current FA; 3 vessels of 250GRT operating for 12 months, catching 166 tonnes of crab and paying license fees of €10,500 each per quarter, with STP dependency of 100%

Table 60: Scenario 4 - Agreement with elimination of longline fishing plus intervention project (annual)

Fishing possibilities	Tuna purse seine	Surface long liner	Pole and line	Experimental crab ¹
Fishing opportunities provided	36	0	2	3
Fleet catch (tonnes)	4,361	0	50	166
No.Vessels buying licenses	27	0	2	3
Size	No limit	0	No limit	<250GRT
License fee (€/tonne)	25	0	25	€42/GRT/quarter
Minimum license fee (€/vessel)	3,750	0	625	0
Compensation (€)	351,355			
Targeted actions (€)	234,237			
Intervention project (€)	700,000			

¹ catch (166 tonnes/year) based on average yield data from the Angola study; value estimated to be €10,600/tonne

5. Agreement with current purse seine opportunities only

In Scenario 5 the FPA is restricted to the purse seine fleet only. As in Scenario 3 this would ensure that the substantive and measurable financial and economic benefits of the Agreement to both parties are maintained. In the absence of any national capacity to implement them there would be no targeted actions; all the financial contribution would be paid as financial compensation until such time as capacity developed to allow a future protocol to re-introduce targeted actions. The level of financial compensation would be based on current compensation factored according to the proportion of the reference catch value (c.21%) attributed to the eliminated surface longline and pole and line segments. The scenario assumes that although 36 purse seine fishing opportunities are provided, on average only 27 of them are taken up each year.

Table 61: Scenario 5 - Agreement with purse seine fishing only

Fishing possibilities	Tuna purse seine	Surface long liner	Pole and line	Experimental crab
Fishing opportunities provided	36	0	0	0
Fleet catch (tonnes)	4,361	0	0	0
No.Vessels buying licenses	27	0	0	0
Size	No limit	0	0	0
License fee (€/tonne)	25	0	0	0
Minimum license fee (€/vessel)	3,750	0	0	0
Compensation (€)	580,220			

B.3.3 Financial/economic sustainability of activities generated by an FPA

B.3.3.1 Summary of financial and economic impacts

The financial and economic impacts of each scenario on STP, the European Community and EC Fishery sector are summarised in Table 62. The detailed basis for the calculation of each scenario is presented in Annex 5, along with breakdown of the costs and benefits.

Table 62: Financial and economic impacts of future scenarios for the EU/STP FPA

Scenario	1	2	3	4	5
	Current	No Agreement	No SII	No SII& Intervention	Purse Seine Only
N° Fishing opportunities provided	66	0	41	41	36
No.vessels licensed	43.5	43.5	27.0	32.0	27.0
Value Added €					
Direct EC VA	827,526	827,526	815,678	1,336,679	815,678
DirectSTP VA (Upstream inc fees)	784,077	784,077	166,488	1.585.976	166,488
DirectSTP VA (Operations)	2.250.221	2.250.221	-	274.456	-
Upstream EC VA	29,700	29,700	770,580	1,295,003	770,580
Downstream EC VA	189,175	189,175	2,249,146	2,283,236	2,249,146
Downstream STP VA	-	-	-	940.162	-
Total EC VA	3,861,824	3,861,824	3,835,404	4,914,918	3,835,404
Total STP VA	218,875	218,875	166,488	2,800,594	166,488
Employment (No.FTE Jobs)					
EC Crew	16.7	16.7	16	35	16
STP Crew	8.3	8.3	-	34	-
Upstream EC Jobs	28.7	28.7	28	82	28
Downstream EC Jobs	283.5	283.5	283	284	283
Upstream STP Jobs	0.0	0.0	-	68	-
Downstream STP Jobs	0.0	0.0	-	3	-
Total EC Employment	329.0	329.0	328	401	328
Total STP Employment	8.3	8.3	-	106	-
Fleet Segment Catches					
Total Tonnes	4,382	4,382	4,361	4,577	4,361
Total Value €	3,785,906	3,785,906	3,741,745	5,598,845	3,741,745

Scenario	1	2	3	4	5
	Current	No Agreement	No SII	No SII& Intervention	Purse Seine Only
License Fees					
License Fees Paid €	189,175	189,175	166,488	293,738	166,488
€ per tonne	43.2	43.2	38	64	38
as % of catch value	5.0	5.0	4.4	5.2	4.4
Compensation Estimate					
Catch tonne	4,382	4,382	4,361	4,577	4,361
Catch Value €/year	3,785,906	3,785,906	3,741,745	5,598,845	3,741,745
Compensation €/year	440,000	-	585,592	585,592	580,220
License fees €	189,175	189,175	166,488	293,738	166,488
Average price €/t	143.6	43,2	172	192	171
Compensation as % of value	16.6	5.0	20.1	15.7	20.0

B.3.3.2 Cost effectiveness analysis of FPA scenariosCommunity**Table 63: Cost effectiveness**

Scenario	Ratio				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Cost Advantage	7.5	50.2	9.8	3.6	5.8

Cost effectiveness is shown in Table 63 Scenario 2 (no agreement) is by far the most cost efficient for the European Community, since many vessels are likely to continue operations under private licenses, delivering most of the benefits but at little cost to the Community. Scenario 3 and Scenario 4 result in a significant reduction in cost advantage, due to the increase in compensation paid (Scenario 3) and cost of intervention project in Scenario 4. However there is still a net benefit to the Community. Removal of the pole and line and crab components, leaving just the purse seine opportunities, makes little material difference to the cost effectiveness, since only a small component of the compensation is linked to these opportunities (on the basis of reference catch of tunas).

Table 64: Absolute value of net community benefits

Scenario	€				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Net EC Benefit	3,344,824	3,784,824	3,172,812	3,552,326	3,178,184

In terms of absolute value of net community benefits derived from the different scenarios Table 64 there are only relatively modest differences between them (ranging from €3.2 to €3.8 million). The no agreement Scenario delivers the greatest net benefit to the Community due to the elimination of compensation costs whilst retaining the fishing opportunities through private licencing. Scenario 3 delivers a modest reduction in net benefits, since compensation costs increase whilst there is little change in fishing activity. Scenario 4 delivers a slight increase in benefits due to the marginal benefit delivered by the intervention project. Scenario 5 is very similar to Scenario 3, since the only difference is the compensation allocated to the pole and line segment (<1% of the total).

Table 65: Cost per tonne of fish

Scenario	€				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Average price per tonne	143,6	43,2	172	192	171

The average cost per tonne of fish (calculate as compensation plus license fees, as shown in Table 65 is much reduced under Scenario 2, due to the loss of the compensation component. Scenarios 3, 4 and 5 involve an increase in cost per tonne, to up to €192. All costs to the Community are considered to be low relative to

other FAs (e.g. Cape Verde current €383/tonne). Compensation as a proportion of landed value is greater for Scenarios 3 and 5 due to the greater level of compensation for only a slight reduction in catch.

Table 66: Total community employment associated with the fishery

Scenario	Full time Equivalent				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Total employment	329	329	328	401	328

The total community employment associated with the fishery (Table 66) changes little in Scenarios 2, 3 and 5 due to the low dependency of the surface longliners (and zero dependency in the case if unutilised pole and line opportunities) A 22% increase in community employment is anticipated in scenario 4 due to the take up of previously unutilised fishing opportunities, which include pole and line fishing with direct and downstream employment generated. It should be noted that in Scenarios 3 and 5 it is assumed that vessels will redeploy to other fisheries with no loss of Community employment opportunities.

Table 67: Supplies to the Community market

Scenario	Tonnes				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Catch tonne	4,382	4,382	4,361	4,577	4,361

In terms of supplies to the Community market, (Table 67) there are negligible differences between the different scenarios. The FA is in any case insignificant in relation to the total EU market.

São Tomé and Príncipe

Table 68: Economic benefit to the São Tomé and Príncipe economy

Scenario	€/annum				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Net São Tomé and Príncipe Benefit	- 179,503	- 619,503	- 74,451	+1,873,829	-79,823

All scenarios except 4 result in a net negative benefit (ie. a cost) to STP⁴². The current scenario delivers a negative economic benefit to the São Tomé and Príncipe economy of -€179,503. Nevertheless, the removal of the agreement (Scenario 2) would result in a further loss of benefits in the form of compensation with no counterbalancing benefits. In the absence of other information Scenario 2 assumes that private licenses would

⁴² Note that were the analysis to adopt a different treatment of value added foregone, then all of these values would be positive. However, for the purpose of assessing impacts of different scenarios it is the differences between them which are instructive.

cost the same as in the current agreement. The data suggests that the private license fees would have to increase by about 230% to make up the deficit due to the loss of the agreement (i.e. to bring the net benefit back up to the current, albeit negative, level). However it is also likely that a price increase would reduce take-up of licenses, given that the relatively low dependency and fixed cost of fishing licenses result in a disproportionate impact on profitability. In this case, having no agreement would be likely to remain the worst option for São Tomé and Príncipe. Scenarios 3 and 5 deliver improved benefits to São Tomé and Príncipe mainly due to the increase in the financial compensation, and there is little material difference between them. Scenario 4 is the most advantageous for São Tomé and Príncipe since it delivers positive benefits in terms of up and downstream value added. It should be noted that some significant development benefits of an intervention project are external to the cost/benefit analysis of the FA, for example export revenues accrued by the artisanal sector. Scenario 4 would therefore have additional positive benefits which are not expressed in the Table.

Table 69: Gross rents

Scenario	% of catch value				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Government of São Tomé and Príncipe gross rent	16.6	5	20	16	20
STP gross economic rent	17.4	6	20	60	20

As a percentage of catch value, gross rents are greatest with an agreement which excludes the longline segment, due to the higher level of financial compensation foreseen in Scenario 3 and 5 (Table 69). In Scenarios 1, 2, 3 and 5 the overall economic rents in all scenarios are more or less equal to the gross rent obtained, due the low level of benefits other than the financial compensation. Only in Scenario 4 does the economic rent increase significantly, to 60% of catch value, attributable to the development of economic linkages (particularly upstream and downstream employment in STP, and more secure employment opportunities on board EU vessels.)

Table 70: Employment

Scenario	Full time Equivalent				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
Total STP employment	8.3	8.3	-	106	-

STP employment under the current agreement is only 9 crew in the surface longline segment. indicated in Table 70. This would not change in Scenario 2 (no agreement) since it is assumed that vessels would continue fishing under private licenses. In fact there may be opportunities to increase employment in all segments under private licensing depending on the terms demanded. Scenarios 3 and 5 are assumed to result in the loss of these jobs, since they would specifically exclude the longline segment from São Tomé and Príncipe waters. The most advantageous employment scenario is provided by Scenario 4, which could be expected to result in 106 additional jobs (two-thirds in upstream activities). These jobs would be created in vessel servicing in the renovated Neves port and in the EU pole and line sector, both onboard EU fishing vessels, and also upstream fishing jobs, in the supply of live bait.

Community Fishers**Table 71: Profits to community fishers**

Scenario	€/annum				
	1	2	3	4	5
	Current	No Agreement	No Surface Long Liner	No Surface Long Liner & Intervention	Purse seine only
After tax profits	153,039	153,039	149,670	287,125	149,670
profit as % of Catch value	4.0	4.0	4.0	5.1	4.0

Profits to community fishers remain at 4% of catch value for Scenarios 1, 2, 3 and 5 as shown in Table 71. This is mainly due to the low level of dependency (0.3% for longline and 4.7% for purse seiners), where license fees represent a disproportionately high (fixed) cost at low levels of activity. Greater utilisation of fishing opportunities foreseen in Scenario 4, especially for higher value deepwater crab, would be expected to approximately double profits to EU fishers. This would however still only represent about 5% of the catch value, still a relatively low margin for fishing vessels in the region (cf. 6.7% in Cape Verde) appearing to suggest that the fishing opportunities generated by this agreement are marginally less attractive.

*B.3.4 Social impacts****B.3.4.1 Impact on food security and on food balance***

The different scenarios will not have a food security impact at community level due to the low contribution of supplies to the EU market.

With respect to São Tomé and Príncipe, the impact on food security and on food balance will be neutral, whether there will be an agreement or not. The FPA has not contributed towards any improvement of the supply of fish products for the domestic market, nor to foreign exchange earnings which might allow the import substitution of protein sources. It is not foreseen that the situation will change rapidly. Impact on food security may become negative if EU market access is attained for São Tomé and Príncipe fishery products, thus drawing supplies which would otherwise have entered the domestic market, but this is not linked to any new protocol. The intervention project foreseen under Scenario 4 is expected to accelerate the development of this process. On the other hand this could be compensated for by the increase in domestic supplies due to landings from EU vessels fishing under the agreement.

In future, the continuation of the protocol may have a negative effect, given the possibility of conflict between the operation of the EU fleet and the activity of an extended capacity artisanal fleet disputing the same tuna resources. However, this development is unlikely to be rapid and can be addressed should it arise under future FPAs.

B.3.4.2 Improved human capitalSão Tomé and Príncipe

São Tomé and Príncipe fishers are not significantly dependent on the EU fleet for employment, and the scenario of no agreement will therefore have little impact. Alternative employment opportunities for such crew will continue to exist in the regional shrimp fleet operating in Cameroon and Gabon. The loss of the Agreement will therefore have little impact on the development of human capital compared to the current position.

Scenario 4 will create the opportunity for improved investment in the partner country, as the technical assistance is expected to lead to rapid improvement in the São Tomé and Príncipe sanitary controls for fishery products and re-establishments of export access to the EU market. This is expected to stimulate inward investment from EU investors, with associated strengthening of São Tomé and Príncipe human capital, such

as developing new skills in fish processing and marketing, quality control and HACCP, both at the level of the fisher and processing workers. Furthermore this scenario could also stimulate the take up of previously unutilised fishing opportunities, particularly pole and line and crab fishing. In the former case, this will stimulate demand for bait fishing, supporting the development and extension of fishing technologies new to the São Tomé and Príncipe fishery sector.

Scenario 4 would also contribute to the development of human capital in the fishery sector through the training and human resource development activities of the intervention project. This would be expected to promote and develop skills in fisheries research, policy development and management. In addition, of crucial importance to the sustainability of the future FA process is the development of effective skills in public administration and financial and project management, which should be a clear result of the intervention.

Community

A scenario of no agreement or of reduced possibilities will have little effect on Community labour compared with the current agreement, due to the low level of dependency and the assumption that in the absence of an agreement the EU vessels will seek private license arrangements. Human capital impacts of these scenarios are therefore expected to be minimal.

Community Fishers

Vessels displaced from the fishery in scenarios in which there is an elimination of fishing opportunities in the São Tomé and Príncipe EEZ (Scenarios 3 and 5) are assumed to find alternative fishing opportunities. As noted earlier the rationale for any reduction in surface longline fishing requires that the reduction be addressed on a regional basis, rather than FPA by FPA. On a regional basis the implications of the regional loss of access to natural capital represented by these stocks would have considerable impacts on employment of crews of 55 Spanish longliners (operating out of Vigo) and 5 Portuguese longliners (out of Aveiro). Any resulting vessel decommissioning would be associated with a corresponding impact on Community human capacity, which may need to be addressed through re-training and development of alternative activities with structural fund support.

In Scenario 4, where closer linkages are promoted by the Technical Assistance/Interventional project, employment for São Tomé and Príncipe fishers on EU vessels may substantially increase over time. Crew employment is expected to increase to 34, and this may displace EC crew members on these vessels.

B.3.4.3 Improved social capital

São Tomé and Príncipe

The scenario of no agreement (2) is not expected to have a significant impact on social capital of São Tomé and Príncipe. Presently there are few linkages between the fishing communities, São Tomé and Príncipe crew employed on EU and other vessels and the fisheries institutions. In fact only scenario 4 is expected to have an impact on social capital, where the support for an improved policy framework would be expected to ensure that fishing communities were integrated within the policy development and implementation processes, through consultative bodies, community fisheries management or resources, and investment decision-making in development of infrastructure serving the fishery sector communities. The social capital improvement associated with these activities is likely to be considerable, and given the significant national level of fishery dependency should lead to significant improvements in the social welfare of the general population. Furthermore, given the importance of a strategic diversification of rural economies in the period leading up to the flow of oil revenues, to allow their efficient and effective use for the national benefit, this experience may provide useful models and experiences for corresponding developments in the agricultural sector.

Community

Community social capital is only weakly linked to the São Tomé and Príncipe FA due to the low levels of dependency. Mostly the activity is linked to the purse seine sector, with dependency in the Basque country and Concarneau. However, the benefits in improved social capital derived by these communities are not considered to be significant.

Community Fishers

Development of the social capital of the EU Fishers from Scenarios 1, 2, 3 and 5 is perceived as minimal. Scenario 4 will accelerate linkages between EU fishing enterprises operating in the São Tomé and Príncipe EEZ and shore based institutions, especially those involved in provision of upstream services. A good example is the nascent Spanish/ São Tomé and Príncipe joint venture operation for the management of the refurbished port facility at Neves. This and similar activities are expected to develop dependencies and bring benefits to the Community through integration of EU enterprises within the São Tomé and Príncipe economy, through participation in investment projects, joint venture operations, supply of raw materials from EU vessels and marketing.

B.3.4.4 Improved natural capital

São Tomé and Príncipe

The availability of fish stocks to the São Tomé and Príncipe fishery sector is largely independent of the future of the FPA. Although tunas and similar fishes, the principal target of the EU fleet, comprise 24% of the São Tomé and Príncipe fish catches, the level of São Tomé and Príncipe exploitation of these stocks is low (947 tonnes cf. 4,360 tonnes/annum by EU vessels). The overall impact of EU fishing in São Tomé and Príncipe is negligible and small compared to the annual exploitation of the tuna stocks (average 1.5% in the case of yellowfin and 1.0% in the case of skipjack). The existence or otherwise of a EU/ São Tomé and Príncipe FPA in the future is unlikely to affect the resource availability to the São Tomé and Príncipe sector. A more important factor is the overall level of fishing in international waters and under all access agreements in general.

Other stocks of strategic importance to São Tomé and Príncipe are small pelagic and demersal fisheries. The key resource for the São Tomé and Príncipe fishery sector is the demersal one. Not only does it provide an important source of food supply (12% of the catch) but it also provides a significant short term opportunity for the development of high value exports to the EU market (for example fresh fish by air). Given the narrow range of exploitation (up to 200m and close to shore) it is essential that this natural capital is preserved for the benefit of the domestic fishery sector. None of the scenarios described will impact directly on this sector, although indirectly the acceleration of export development will increase demand for such species in the short term. The need for improved stock assessment and fisheries management should be foreseen.

Small pelagic fish comprise the major part of the catch (minimum 40%) contributing significantly to food security. Although the exploitation of small pelagic fish is not foreseen in the future FA, there is an expectation that Scenario 4 will catalyse the take up of the, until now, unutilised tuna pole and line fishing opportunities. These will require a supply of bait fish, and the São Tomé and Príncipe stocks of sardinella are ideal for this. These stocks are currently relatively unexploited by São Tomé and Príncipe fishers (accounting for <0.5 tonnes/year) although they are thought to be exploited in Angolan and Gabonese waters. Given the low level of exploitation in São Tomé and Príncipe waters, this consequence of Scenario 4 is not considered to have any significant impact on the natural capital. Fishing for sardinella for bait by the EU pole and line vessels could be safely included in future FPA

Scenario 4 is also assumed to stimulate the uptake of crab fishing opportunities. This resource is also exploited by a small artisanal fishery. Little is known of the resource. Deep sea crab stocks are known to have irregular recruitment and to be sensitive to over-exploitation. To ensure that the artisanal fishery can continue to benefit from the stock (and from possible export potential in future) there is a need to ensure proper stock

assessment and continuous monitoring should this opportunity be taken up. Providing that this is done, the scenarios may be considered to be neutral in terms of the natural capital of the STP fishery sector.

Community and Community Fishers

The decrease of longline fishing possibilities (Scenarios 3 and 5) for the EU fleet will reduce access to the resource in terms of swordfish and sharks leading in the first instance to a reduction in the national capital available to the Community and its fishers. As noted above, this would have little overall impact were it to be applied only to the future EU/ São Tomé and Príncipe FPA.

B.3.4.5 Improved financial capital

São Tomé and Príncipe

Scenarios 1, 2 and 3 promote development of financial capital only insofar as there are compensation and license elements which transfer to the STP general budget. There is no additionality or value added created for the fishery sector, which in all of these scenarios only develops financial capital at a slow rate. On the other hand Scenario 4 provides a means for generating additional financial flows within the São Tomé and Príncipe economy, principally due to export development and new employment opportunities associated with the EU fleet, providing an additional source of investment finance.

Community

The financial transfers in the most costly Scenario (no.4) from the Community side are small relatively to the overall level of Community capital. The additional element due to the intervention project represents about 23% of the Community's annual contribution to the 9th EDF for STP (€2.9million) and although this will make a significant difference to the foreseen programme, the overall impact on Community capital will be negligible.

Were it to be adopted in this and other FPAs, Scenarios 3, 4 and 5 (with no surface longline component) may conceivably lead to decommissioning of up to 61 surface longliners, which would involve a substantial level of compensation payments to owners.

Community Fishers

Community fishers in Scenarios 1 and 2 would experience little change in capital. Scenarios 3 and 5 would result in loss of fishing opportunities for longliners, which should it lead to decommissioning will most likely qualify for decommissioning grant, thus preserving the fisher's capital at the expense of the Community.

Scenario 4 foresees increasing levels of investment from the Community fishery sector in São Tomé and Príncipe, particularly in downstream (processing) activities. This would lead to a growth in the financial capital invested by EU fishers in the fishery.

B.3.4.6 Improved physical capital

São Tomé and Príncipe

Scenarios 1, 2 and 3 will result in little direct change in the development of physical infrastructure serving the São Tomé and Príncipe fishery sector. None of these options include targeted action funds (part of which, in the present FA, are for infrastructure development). Some short term investment may be foreseen under a future EDF project (Strengthening health conditions for fishery products export in ACP countries) but without improved project management in STP institutions there is little likelihood that sectoral benefits will be optimised. On the other hand scenario 4 addresses this constraint directly and will significantly improve the chances that physical infrastructure investment will be well managed. This is considered to be of vital strategic importance, not only because the scenario includes targeted action funds for this purpose, but because of the need to develop these capacities in advance of investment capital flows from oil revenues in the future.

Community and Community Fishers

No impact is foreseen on the physical capital of the Community. In Scenario 4 Community fishers will benefit from an improved level of shore based physical infrastructure, both in terms of provision of fisheries inputs and marketing and distribution facilities.

B.3.5 Fisheries and Environmental impacts of different FPA scenarios

B.3.5.1 Fisheries impacts

Purse seine fishing in the STP EEZ appears to have little significant impact on the sustainability of the target stocks of tuna. ICCAT management recommendations are in place for some of the species and as far as can be ascertained, the fishing activities of this segment are conducted within these constraints. Catch reporting systems operate satisfactorily, bycatch interactions are minimal, and it appears that the continued inclusion of this fishing opportunity within the Agreement is fully in accordance with responsible fishing.

As a result of the lack of data, it is not possible to make a full assessment of the environmental impacts of the different scenarios. However, based on known catch rates (shark typically comprises 75-80% of the volume of the landed catch of EU surface longliners) and the mounting evidence of substantial stock depletion, Scenarios 1 (current agreement) and Scenario 2 (no agreement) in which surface longlining is retained in the region will continue to be associated with high levels of shark catches relative to other species landed.

Any actions which reduce this impact (for example a precautionary elimination of EU surface longlining in the STP EEZ, as foreseen in Scenarios 3, 4 and 5) will have little beneficial impact unless they are undertaken at a regional level, rather than FPA by FPA. Were they to be introduced within the STP EEZ only, they would have a limited impact (increasing stock levels by only a few tonnes of sharks due to the apparent low level of utilisation of this fishing opportunity. However, as emphasised in the preceding paragraph, this assumption may be a considerable underestimate, since it is based on the limited output of a reporting system with known defects. On an annual basis the STP licensed EU longliners are estimated to catch in the region of 1556 tonnes of blue shark and some 220 tonnes of mako, which may be significant in terms of sustainability.

Crab fishing opportunities are retained in all scenarios except 5. They are unlikely to be developed except in Scenario 4. Some species of deep sea red crab are known to have irregular recruitment and be highly susceptible to over fishing. The Protocol foresees 3 vessels fishing at any one time, and there is no evidence as to how this effort relates to resource availability. Any eventual exploitation of this resource under this scenario should therefore be accompanied by scientific studies to ensure that the effort is withdrawn should it prove to have an adverse effect on the sustainability of the fishery.

B.3.5.2 Environmental impacts

Surface longlining is also implicated in the mortality of marine turtles. São Tomé and Príncipe has documented nesting sites of the critically endangered leatherback turtle. The loggerhead turtle, also endangered, is not a frequently recorded visitor. Evidence presented in Section A4.3 has indicated the strong possibility that surface longliners in this EEZ are implicated in turtle bycatch mortality. The elimination of the surface longliner segment from the protocol under Scenarios 3 and 4 would make a small but positive contribution to the survival of these species. However, as with the shark issue, such impacts would be small if applied only to a single FPA; significant environmental benefits are likely to be experienced only as a result of the introduction of regional and fleet wide measures. Currently keeping turtle bycatch records is not a requirement under the terms of the EU/ São Tomé and Príncipe protocol, neither is it a requirement of EU fisheries legislation. Where these fishing opportunities are retained, there is a need to improve turtle bycatch record keeping through the protocol and license conditions.

Seabird mortality in longlining is thought to occur in the region, but there is no evidence that, in equatorial waters, this affects any depleted or threatened species. None of the scenarios are therefore expected to impact on the sustainability of seabird populations. Marine mammal bycatch can and does occur in most purse seining operations. However, there is little evidence of the precise levels and mortality can be managed by appropriate operational procedures. Maintaining the purse seine opportunities in all of the scenarios described therefore should have no impact on the sustainability of marine mammal populations.

B.3.5.3 Indirect impacts

In general, the exploitation of top predators (tunas and sharks) to the extent that resources are depleted may have impacts on populations of competitor and/or lower trophic levels. Whilst this may apply to sharks, as far as can be ascertained with current evidence, none of the scenarios are associated with any specific adverse environmental impacts on the marine environment.

B.3.6 Indications for the new Protocol

B.3.6.1 Fishing opportunities

Purse seine fishing opportunities defined in the current protocol appear to be slightly greater than required by the EU fleet over the first two years of this protocol. They contribute a modest level of employment for EU fishers, and a significant number of processing jobs, both in EU and Côte d'Ivoire/Senegal. Catch recording systems appears to work well. Although this part of the agreement contributes little other than financial compensation to the São Tomé and Príncipe economy, it appears to deliver net benefits. At the current level of utilisation and pattern of fishing the purse seine fishing appears to have no long term adverse environmental impacts on stock sustainability, although this is subject to ongoing compliance with minimum size and fishing gear (FAD) limitations. The purse seine fishing opportunities form the core of the current agreement and their retention should be considered in any future protocol.

Longline fishing opportunities on the other hand suffer from a number of problems. The current agreement implies (in the license fee calculations) that the target fishery is tuna. However the EU surface longline (SLL) fleet targets swordfish (36% landings value) as a primary target and shark as a secondary (64% landed value). Any future protocol should be transparent in respect of the stocks to be targeted by any given fishing opportunity

A reduction of surface longline opportunities to a number less than the current take up of licenses (average 16.5) would have the effect of excluding vessels from the São Tomé and Príncipe EEZ. Due to the low apparent uptake of opportunities this in isolation would not have severe impacts for the São Tomé and Príncipe FPA. The economic contribution of this segment is rather limited. It does provide a small number of jobs to São Tomé and Príncipe nationals, but these are not strongly linked to the Agreement in any case. There is anecdotal evidence that the fishing season is short and transitory, and in the absence of regional and fleet wide measures, the overall effect of eliminating the surface longliners from the new FPA would be to displace, rather than remove, the fishing effort. Although this may not have a significant environmental benefit at global level, it might provide additional protection to the specific regional populations of turtles nesting in São Tomé and Príncipe beaches. In general, a specific decision on the inclusion of long line opportunities in the future of this FPA should be driven by a wider policy decision on the SLL impacts on shark and turtle populations.

Fishing opportunities for pole and line fishing have not been taken up during this or previous protocols. Although most of the EU pole and line fishing fleet now operates much further to the West the STP EEZ sustained a large fleet in the past. There are stocks of sardinella available locally to São Tomé and Príncipe, which could provide live bait. The renovation of the port facility at Neves, with improved linkages between the EU fleet and STP institutions, may stimulate a new interest in these opportunities in the future, and the interest of Member States should be canvassed before they are removed. Pole and line fisheries have low productivity, and would not be expected to impact significantly on tuna stocks or on species other than tunas. Although a catch of sardinella could be permitted as a supply of bait for the pole and line fishery, it is desirable that this should be caught and supplied by the small scale fishery sector of São Tomé and Príncipe.

In addition there are some demersal fish resources which are not the subject of the current protocol whose exploitation could be extended. However, given the development needs for increasing the capacity of the national fishery sector, and the potential for invigoration by re-established access to the EU market, there is no justification for extending the scope of the current agreement beyond the current species and fishing methods.

B.3.6.2 Financial and targeted actions compensation

The main financial feature of the previous protocols has been the incapacity of the Government of São Tomé and Príncipe to effectively absorb targeted actions funds. This is due to a lack of capacity to design and

manage research and development projects. There is evidence that poor project management, weak budgetary controls, lack of transparency and formal audits means that those funds which are received cannot be dispersed in an effective or efficient manner. There is no value in maintaining targeted action compensation as a component of an FPA where there is clear evidence that it cannot be effectively used. The structure of the Community financial contribution to any future protocol should therefore take this factor into account. In the absence of any measure to specifically address the institutional weaknesses which prevent effective disbursement, there is a strong argument in favour of the entire contribution being paid in the form of financial compensation.

B.3.6.3 Targeted actions and capacity issues

Net benefits to both the EU and STP would be optimised by the successful implementation of an intervention project which achieved sustainable improvements in the management capacity of the fisheries institutions of STP. This is necessarily more costly for the Community, since the costs of the intervention would have to be supported through either FPA or EDF funding. The estimated additional cost would be €0.7 million per year for the duration of the next protocol. However such an investment would seem justifiable, not only in terms of more efficient utilisation of targeted action funds in future, but also in terms of making a significant contribution to the sustainable development of the small scale fishery sector in the critical period prior to the arrival of oil revenues. EDF could also usefully support the development of social capital through assisting to strengthen fisheries NGO's such as MARAPA and GIEPPA. An outline project is defined in Annex 6. An important precondition is the introduction of budget and financial audit procedures and the allocation by the GoSTP of adequate human and financial resources to the DP.

B.3.6.4 Application and issue of licenses

The procedures for the issue of licenses appear to operate smoothly. The installation of a radio room in the DP is expected to improve direct communication between the vessels and the DP in the near future. This should also facilitate proper reporting of EEZ entry and departure. This in turn will potentiate more effective cross-checking with licenses and catch returns submitted, and in theory improve compliance in this area. However, the consultants doubt that the current capacity of the DP is adequate to effectively implement such cross-checks without assistance.

B.3.6.5 License fees and provisions relating to EU vessels

The scenario analysis has shown that the license fees (at €25/tonne) paid by EU vessels under the current agreement are about 4 to 5% of catch value, with a further 12% of catch value contributed by the Community in the form of compensation. This would seem to provide a sufficient incentive to EU operators to take up the licenses, but the overall price paid appears to be low in relation to other agreements. A modest increase in the license fees could therefore be considered justifiable. However, given that the main opportunities under the agreement are for migratory resources with highly variable catch rates in any given area, it is desirable that the clear incentive for fishers to buy licenses is retained, even though in some years the level of utilisation does not justify purchase. Any increases considered should therefore be marginal, and could be better achieved by an upwards adjustment of the reference catch (and therefore minimum license fee payable) rather than adjustment of the rate/tonne.

B.3.6.6 Statements of catch

Catch reporting deficiencies are noted in the operation of the current protocol in respect of the surface longline fishery. As a result there is a lack of reliable data, both on the effort levels applied to the fishery under the protocol, and on the resulting catches of target and bycatch species, thus undermining the proper assessment of the fisheries and environmental impacts. In the case of shark catches it is clear that the current reporting protocols implemented by the surface longliners and the member states concerned (including the forms defined in the protocol) comply neither with ICCAT resolutions 1/11 on Atlantic sharks, nor with the Council regulation 1936/2001. It is also notable that the DP of STP has also failed to take proper action in bringing the non-compliance in catch reporting conditions set out in the Protocol to the attention of the Commission. There is a need to define a stronger catch recording system in any future protocol, along with a system of monitoring to ensure that it is being implemented correctly. Member States should also be requested to cooperate in this process. The use of observers in this segment is highly desirable.

Furthermore although there are no international management measures recommended, catch recording under any future FPAs which retain longlining in this region should also endeavour to address the bycatch rates of critically endangered turtle species and improve information gathered on shark stocks. If participation of EU vessels in the surface longline fishery under a future protocol is to be retained, the following conditions may be considered for inclusion:

- Mandatory reporting of catches of shark species (requiring modification of the current reporting forms defined in the protocol) and ensuring adequate distinction between the mako and porbeagle sharks (given the use of Spanish “marrajo” for both species)
- Mandatory reporting of catches of turtle species (requiring modification of the reporting forms), possibly accompanied by a discard ban on turtles
- Introduction of a mandatory observer programme to measure all bycatch and gather biological data

The weakness of the STP DP needs also to be addressed to ensure that any failures in meeting the reporting requirements are acted upon.

B.3.6.7 Deepwater crab fishing

The crab fishing opportunities have never been utilised. However one STP flagged vessel (with an EU owner) exploits this resource in the EEZ, and possibly elsewhere. A Japanese vessel fishes for similar species in Angolan waters, where these crabs also provide an important bycatch in the deepwater shrimp trawl sector. Therefore it would appear that there is a regional demand for these fishing opportunities and the Commission is recommended to assess the likely demand amongst Member States before deciding on their inclusion in, or elimination from any future FPA.

B.3.6.8 MCS and observers

Fisheries MCS activities in relation to the EU fleet fishing in the STP EEZ have been virtually nil. The DP has prepared a vessel for this purpose, but there are neither funds nor skilled MCS staff for its operation. Developing the MCS capacity, and using targeted actions funds for its sea-going operations would be one of the tasks of the intervention project defined above. MCS provisions need to be retained in future agreements.

No observers have been placed on EU vessels fishing under the Agreement. The implementation of an intervention project defined in Annex 6 would assist the process of recruitment, training and deployment of observers, specifically in relation to assessment of the impacts of any retained longline fishing opportunities. As well as specific measures within the frame of a future protocol to improve catch and bycatch reporting from the EU surface longliners, observer programmes may also be used to the same end (for example for more detailed studies on turtle bycatch). In addition the installation of the ship-to-shore radio facilities in the DP will facilitate the placing of observers on EU vessels.

B.3.6.9 Fishing zones

In the current protocol, fishing opportunities for EU vessels apply within the EEZ, except for within the JDZ and the 12 mile limit. Fishing opportunities within the JDZ are better treated as a joint asset between Nigeria and STP, with shared revenues and it should remain excluded from the STP FPA. Development of the artisanal sector stimulated by EU exports may encourage an increased exploitation within the 12 mile territorial waters. No changes to the fishing zones are therefore proposed now that the treaty is operational; the EU could, if there was a demand, conclude a separate FA with the JDA.

B.3.6.10 Entering and leaving the zone

EU vessels entering and leaving the zone have not reported their movements due to the lack of radio communication facilities in the DP. The means of communications (telephone, fax and email) appear not to function well except for the formal issue of licenses. Commissioning of a new radio room in the DP is due in 2004, and this should facilitate improved recording of vessel movements, along with better cross checking with catch returns. The reporting provisions of a new protocol should reflect the improved capacity in this respect (call signs and hours of operation).

B.3.6.11 Bycatches

No bycatches have been delivered to the STP shore. In future the increased level of integration of the EU vessels with the STP economy (catalysed by the re-establishment of EU exports and completion of the Neves port facility) will provide new opportunities for commercial exchange between STP fishers and EU vessels. This may include bycatch purchase from EU vessels, and supply of bait fishes (to the EU pole and line sector). By catch provisions should therefore be retained.

B.3.6.12 STP Seamen

Only a few STP seaman find work on EU vessels, and many of these jobs do not appear to directly linked to the FA. In future, with improved commercial linkages to the EU fleet, and the establishment of the operational radio room, it is expected that this situation will improve. The provision relating to recruitment of STP seamen should be retained.

B.4 POTENTIAL MONITORING INDICATORS AND THEIR INSTITUTIONAL BASIS

The following monitoring indicators are recommended for assessment of on-going effectiveness and efficiency of any future FPA between the EU and STP. It should be noted that one of the most important aspects of monitoring will be the establishment of a base or target set of values for all the indicators **at the time of negotiation**. In the absence of target values there will be no meaningful context by which progress and achievement can be assessed.

	INDICATORS	TYPE	Data Sources	Correspondent Institution
1: Contribution from the FPA as a result of the presence of the EC distant water fleet	% of EC dwf fleet deployed in STP (by fishery) Number of vessels deployed Utilisation of possibilities (by fishery) Dependency on agreement (by fishery)	% N° % No. days in EEZ	EC records EC license requests Calculated EEZ entry/exit records	EC Delegation, Libreville DP
2: Contribution from the FPA to employment and value added	EC direct VA (from multipliers) EC indirect VA (from multipliers) EC direct employment (from multipliers) EC indirect employment (from multipliers)	€ € N° N°	Declared catch data License requests and declared catch data License requests and declared catch data	
3: Contribution from the FPA to employment and infrastructure development in the partner country	STP direct employment Local investment By fishing companies associated with FPA Through use of financial compensation Supply of raw material from EC vessels to STP processors No. of port visits by licensed vessels by segment	N° N°, type, value € of investment projects N°, type, value € of investment projects Tonnes/yr No. of vessels	Local crew agencies Operating company data DP DP	DP EC Delegation
4: Contribution to Community market stabilization	Supply to EC markets (by major species) from FPA fleet % of total EC consumption	tonnes, € %	Declared catch data Eurostat, EC records. Calculated	
5: Contribution from the FPA to National Budgets and programmes	Community financial compensation Pure compensation Targeted Actions Compensation as % of STP GDP Compensation as % of Fisheries Ministry budget	€ € € ⁴³ % %	FPA FPA, EC payment records FPA, EC payment records, DP Reports National records, Calculated DP Calculated	EC Delegation EC Delegation EC Delegation

⁴³ Periodic monitoring must show declared expenditure

	INDICATORS	TYPE	Data Sources	Correspondent Institution
5: Contribution from the FPA to management and institutional strengthening	<p>Training supported</p> <p>Data published</p> <p>Status of inspection system</p> <p>MCS and observer capacity developed, infractions verbalised</p> <p>EU sanitary controls complied with</p>	<p>Quantitative (no. and %)</p> <p>Yes/No</p>	<p>Ministry/DP report</p> <p>Commission Decision</p>	<p>EC Delegation</p> <p>EC Delegation</p> <p>EC Delegation</p> <p>EC Delegation</p> <p>DG SANCO</p>
6: Contribution of the FPA to the implementation of responsible fishing practices in the partner country	<p>Number of vessels reporting data by segment</p> <p>Quality of data</p> <p>Scientific publications in peer reviewed journals</p> <p>Functional observer scheme</p> <p>By-catch data produced (no/wt by species of sharks, cetaceans, turtles)</p>	<p>% of licensed fleet by segment</p> <p>qualitative</p> <p>Quantitative (no.)</p> <p>Quantitative (observer days at seas, vessels "observed", ..)</p> <p>Quantitative,</p>	<p>Operator catch declarations</p> <p>DGP report?</p> <p>Ministry Report</p> <p>ICCAT, operator catch declarations, observer reports, DGP</p>	<p>EC Delegation</p> <p>EC Delegation</p> <p>EC Delegation</p>
7. Contribution of the FPA towards supporting food security	<p>Supply to STP markets (by major species) from FPA fleet</p>	<p>Quantitative: tonnes of fish to local market</p> <p>Per capita fish / protein consumption</p>	<p>Ministry Report, Operating company catch data, FAO</p> <p>National statistics</p>	<p>EC Delegation</p>
8 Contribution of the FPA towards overall poverty reduction in the partner country	<p>Strengthening of human capital: Training of: fishermen / fish processing, distribution and marketing personnel / harbour staff / vessel repair and construction personnel. Training of DP personnel</p> <p>Strengthening of social capital: support to fishing communities (gear, marketing, processing and distribution infrastructure)</p> <p>Strengthening of natural capital: Results of control and conservation of fish stocks;</p> <p>Strengthening of financial capital: financial credit programmes in the fisheries sector (artisanal fishing, artisanal and semi-industrial processing and marketing, artisanal vessel construction)</p>	<p>Qualitative € investment for each; N° of people in training; qualifications obtained</p> <p>Qualitative € investment for each; N° of communities receiving support - Socio-economic characterisation of target communities (N° families benefiting / average household composition of community, average annual income of community);</p> <p>N° of Infringements detected and actions undertaken / TACs, closure periods by species / identified and quantified by-catch and discards by fleet segment;</p> <p>Qualitative € investment for each; N° of people benefiting; N° of families which benefit in relation with socio-economic characteristics (by average household composition and annual income)</p>	<p>Donor research reports, food balance sheets</p>	<p>EC Delegation</p>

	INDICATORS	TYPE	Data Sources	Correspondent Institution
	Strengthening of physical capital : supply of fishing gear, vessels, artisanal fish processing equipment (dried, chilled, and frozen), distribution vehicles;	Qualitative € investment for each; N° of people benefiting; N° of families which benefit in relation with socio-economic characteristics (by average household composition and annual income)		

C CONCLUSIONS AND RECOMMENDATIONS

C.1 CONCLUSIONS

The principal conclusions with respect to the current protocol are as follows:

C.1.1 *Community Fisheries Sector*

C.1.1.1 *Deployment*

The current protocol, which is the 7th under the Fisheries Agreement between the EU and STP, provides fishing opportunities for 36 EU purse seiners, 25 surface longliners, 2 pole and line vessels and up to 3 vessels fishing experimentally for crab. Pole and line and experimental crab fishing opportunities have not been taken up at all. The number of tuna seiner licenses drawn has averaged 27/annum, of which an average of 14.5 have been utilised. The number of surface longline licenses drawn increased from 11 to 12 under the last Protocol was up to 16.5 under the current, mainly due to the entry of 5 Portuguese vessels.

C.1.1.2 *Utilisation*

Catches by the some of the purse seine fleet exceeded the reference level in the first year of the current protocol, with substantial additional license fees paid. Overall the fleet dependency on this Agreement is low - about 4.7% of annual catches for licensed purse seiners and 0.3% for surface longliners. However, only 2 catch declarations from surface longliners have been received by GoSTP during the course of the Agreement, and because of continued license renewal by this segment there is a likelihood that reporting deficiencies account for the low apparent dependency. This may represent a breach of the protocol, and prevents a proper assessment of the economic, fisheries and environmental impacts of this fleet segment.

C.1.1.3 *Economic impacts*

The EU obtains on average 4382 tonnes of fishery products valued at €3.8 million/year and generates 329 FTE jobs (284 in the EU in tuna canning) from the Agreement. EU payments comprised 17% of the value (€144/tonne) of the fishery products (12% compensation and 5% license fees). The net benefit to the European Community is €3.3 million /year, with a cost advantage of 7.5 (what??).

C.1.2 *São Tomé and Príncipe*

C.1.2.1 *Economic impacts*

Fisheries contributed some €1.67 million to the Sãotomean economy, representing 3.6% of GDP (in 2000). The contribution of the FA, in the form of compensation and license fees, therefore accounts for some 1.45% of the national GDP and 41% of the fisheries sector contribution to GDP. The financial contribution from the FA is not applied specifically to the fishery sector and as a rent is considered to produce no additional added value.

Regarding the economic impacts of the Agreement, STP benefits amount to little more than the financial income in the form of fishing licenses and financial compensation, being €658,875 per annum, about 17% of the annual value (€3.8 million) of the fishery products generated by the Agreement, or €144/tonne. This benefit level compares unfavourably with the 67% of value derived from the Angola Agreement and 35% from the Cape Verde Agreement. Sãotomean employment on board EU vessels is limited to 9, and only weakly linked to the agreement. EU vessels rarely visit STP, and there are no supplies of target or bycatch fish species to the STP market. Overall, the minimum net cost to STP of the Agreement is €179,503/year. It is suspected that net costs may be higher due to under reporting of surface longline catches (due to lost license income and higher catch value foregone).

The consultants consider that the level of benefits could be increased substantially were São Tomé & Príncipe to a) apply sanitary controls to fishery product exports (allowing export businesses to develop, although there would be other impediments to overcome regarding investor climate, economic/political stability, fiscal

incentives, supporting services, financial services), b) direct and manage development funds under targeted actions, c) promote São Tomé & Príncipe crew employment on the EU vessels and, d) attract catch and by-catch landings from the EU fleet. As a result of the absence of these means, more than 95% the fisheries activity added value presently generated by the FA falls outside São Tomé & Príncipe. Côte d'Ivoire benefits substantially more than São Tomé & Príncipe.

C.1.2.2 Compensation

A second substantial problem identified is that targeted action funds under the current protocol remain unused to this date, significantly reducing the benefits received under the agreement. This is entirely due to the weak management of the DP. Questions regarding accountability for the use of targeted action funds under the 1999/2002 Protocol still remain unresolved. Those funds which were disbursed under the previous protocol appear not to have been disbursed efficiently and until now have had little effect on improved capacity or any contribution to responsible fishing. The DP has not submitted an itemised request to the Commission with proposed activities and amounts under the current protocol. Draft proposals for targeted actions do not correspond to the Protocol. Targeted actions funds previously received are not entered as income into the state budget and no elements are transferred to the DP budget. No Protocol between the Treasury and the DP is in place governing the receipt and use of such funds. The previous Protocol's targeted action funds cannot therefore be said to have generated value for money. The limited activities generated have been exclusively dependent on the FA funds, and there has been no additionality in terms of associated projects and developments generated, nor of leverage in terms of generation of alternative means of finance. The effective and efficient utilisation of targeted action funds is likely to continue to be problematical whilst the DP remains weak.

C.1.2.3 Investment

There has been no direct impact, positive or negative, of the Agreement on national development. However a substantial onshore investment (supported by Spanish bilateral aid) in a renovated port facility at Neves, is linked to the regional operations of the Spanish purse-seine fleet and should bring considerable benefits when operational. Otherwise there has been no development of infrastructure, whether by national or foreign investors. There has been no modernisation or upgrading of the national fleet in response to access to the offshore resources, and no creation of fishing or processing companies.

The main reason for the lack of investment is the barrier created due to lack of access to the EU market due to non-compliance with EU sanitary requirements. Had this barrier not existed, then the consultants would have expected to see some significant developments during the course of the FA. The lack of recognition by the donor community of the importance of the fishery sector *per se*. and of the health conditions problem as a developmental barrier, represents a signal failure to meet obligations. The weak institutional basis for fisheries management has meant that São Tomé & Príncipe has been unable to benefit from the targeted action finance available under the agreement as a means of promoting investment.

The FA has considerable *potential* to contribute towards the sustainable development of the fishery sector. Investment in facilities for landing and transshipment of catch, and exports of fresh and frozen fish (large pelagic and bycatch) are foreseeable contributions, providing that the barrier to exports represented by lack of compliance with sanitary requirements is lifted. The existence of this barrier has prevented such investment from being delivered and should be addressed in the design of future EU/ São Tomé & Príncipe fisheries relations.

C.1.2.4 Institutional Development

STP has a very weak institutional basis for fisheries management which undermines the capacity to absorb development funds. There is a lack of transparency and accountability which further undermines the effectiveness and efficiency of fisheries management and development programmes. The legal basis for fisheries control is adequate, but it lacks detailed regulatory provisions. The capacity for fisheries research, generation of statistics and monitoring control and surveillance is limited by a lack of skilled staff, and financial and technical resources. Although some EU targeted action funds have been used to introduce communication and patrol vessel facilities, there are no staff or budgeted funds for their routine operation. The operation of a flag of convenience register, which has attracted, and may continue to attract EU owned vessels involved in IUU fishing, undermines sanitary controls and the application of responsible fishing

practices. All this suggests that maintaining targeted action funding will fail to deliver benefits unless a different approach is adopted. An intervention project is therefore indicated which includes technical assistance and training, with the main objective focused on strengthening the capacity of the DP to implement fisheries management and development activities.

C.1.2.5 Poverty Alleviation and Food Security

Fisheries dependency for livelihoods and food security in STP is higher than previously recognised, c.15% of employment and a 74% contribution to animal protein intake, based exclusively on the output of the small scale sector. The socioeconomic importance of fisheries is not recognised in national development strategy, as reflected in the NIP. One consequence of this is that donor support has been limited and ineffective. There is no private foreign investment in fisheries and no exports of fishery products to the EU due to ongoing failure to comply with EU sanitary requirements. This presents a significant barrier to the development of domestic fishery sector which is decapitalising at a substantial rate due to lack of access to viable markets. Progress towards its removal is slow and limited, requiring institutional reform of the DP. An intervention under an EDF regional project expected in late 2004 should accelerate market access. In the meanwhile the FPA has had no impact on poverty alleviation and food security.

The FA has had no significant positive impact on sustainable livelihoods in São Tomé & Príncipe, contributing an estimated 9 jobs in the surface longline fleet. More STP nationals are employed in the EU fleet, but on vessels not associated with the STP Agreement. There have been no shore-based employment opportunities generated, nor supplies of fish for consumption. On the other hand neither has there been any negative impact. There has been no demonstrable development of human capital as a result of the application of targeted action funds. No aspect of the Protocol has contributed towards development of social or financial capital.

The National Indicative Programme will provide €9.4 million under the 9th.EDF (2002-2007) directed in large part (72%) at construction of road infrastructure and €2.3 million for technical assistance and the support for the EDF National Authorising Officer. The objective of the NIP is rural poverty alleviation through development of exports from private sector rural and agricultural enterprises. The NIP recognises the weakness of the MADRP and its institutions as a major barrier, but in targeting road construction activities, misses a meaningful opportunity for the high degree of coherence and indeed synergy between the NIP and FA.

In the longer term the exploitation of newly discovered oil deposits is likely to result in increased local demand for fish, a reduction in dependency on aid, a source of funds for infrastructure investment, and a currency appreciation, which may ultimately render exports uncompetitive. In the meanwhile there is a need to diversify the rural economy to ensure that oil revenue benefits can be more widely disbursed.

C.1.2.6 Promotion of Responsible Fishing

In terms of the impacts on the stocks of target species of fish, the overall level of impact is limited by the low level of dependency of EU vessels on the Agreement. In the case of the purse seine segment, the main target species are yellowfin and skipjack tunas. EU yellowfin tuna and skipjack catches under the Agreement are estimated to comprise 1% and 1.5% respectively of the total ICCAT catch. The stocks are not subject to quota and the FA had no significant negative impact on the sustainability of these species. Bigeye tuna is not targeted by the EU fleet; although there is a complementary catch by purse seine vessels this is only 0.1% of the total ICCAT catch. The Atlantic stock is exploited above optimal levels and is subject to quota and an observed moratorium in fishing with FADs which includes the STP EEZ. However the EU catches in this region are considered to have had only a minimal impact on the overall level of exploitation of this species.

The EU surface longline fleet in the São Tomé & Príncipe EEZ targets the swordfish and blue and short finned mako sharks. EU swordfish catches under the agreement are estimated to comprise 0.1% of the total ICCAT catch of the Southern Atlantic stock. The stock condition is considered to be stable and not subject to excessive levels of fishing mortality, and again the FA has had no significant negative impact on the sustainability of this species. Blue shark is considered to suffer excessive fishing mortality above sustainable levels and stocks are reported to be depleted. There is a small bycatch of silky shark and great white (the latter is currently proposed for addition to CITES Appendix II). Surface longliners in the region are also implicated in bycatch mortality of turtles, including the endangered loggerhead and the critically endangered leatherback

turtles. STP has well documented nesting beaches for the leatherback turtle. Although the reporting deficiencies in this segment undermine a quantitative assessment of impacts, there is a strong likelihood of a negative impact on endangered species of turtle and a precautionary approach, which may include reduction or elimination of surface longline opportunities, should be considered. However such measures would have little impact if applied in the STP EEZ, and the need for a wider, regional policy is indicated.

Lack of data on bycatch rates of marine mammals in purse seining operations in the eastern Atlantic prevents a quantitative assessment of the impacts on these species. Purse seining may also result in mortality of sharks and turtles. However there is no evidence of any unsustainable interactions. No significant indirect environmental interactions related to the fishing activity under the São Tomé & Príncipe FA are identified.

C.2 RECOMMENDATIONS FOR A FUTURE PROTOCOL

C.2.1 *Indications for a future protocol*

C.2.1.1 *Payment of compensation*

The poor standard of budgetary accounting and reporting by São Tomé e Príncipe DP regarding the receipt and use of targeted action funds and the results obtained is a matter of concern for the Commission. Obtaining satisfactory reports on the use of funds has been drawn out and in the end produced results of questionable validity. The São Tomé e Príncipe authorities clearly resent what is perceived as an unjustifiable external interference in sovereign matters. Evidence representing the real application of funds is incomplete and the consultants doubt whether its pursuit, in the absence of other measures, contributes to improved governance. Until such time as the institutional basis for management of targeted action funding is addressed, the full contribution should comprise of financial compensation only, set at a level which includes the amounts which would have been allocated to targeted actions. This does not affect the total value of contribution offered, only its allocation within the protocol. A specific targeted action allocation could however be considered for inclusion should the agreement also include an intervention project with the objective of supporting the institutional strengthening of the DP.

C.2.1.2 *Possibilities by Segment*

Purse seining

Maintaining the levels of purse seine fishing opportunities would appear to have no significant impact on tuna and tuna-like resources. However any significant shift in fishing patterns which might affect associated catch of bigeye tuna, would require a re-assessment of this position.

Pole and line fishing

The pole and line sector needs a close shore base and supplies of bait fish. The uptake of the currently utilised pole and line opportunities may be facilitated by the development of the port facilities at Neves and the establishment of access to the EU market. The pole and line fishery would not be expected to impact significantly on other species and there is justification for retaining these opportunities in future agreements. There may be a need to provide access for EU vessels to the sardinella fishery for live bait, although it would be preferable for this to be supplied by Sãotomean vessels.

Experimental deepwater crab

Fishing opportunities have not been utilised, although there is evidence as to the existence of demand within the region. The specific demand for these opportunities from Member States should be assessed before they are included in a future agreement.

Surface longline

The apparent lack of compliance with catch and bycatch reporting requirements from the surface longline segment, in combination with the potentially significant impacts on stocks of depleted shark and endangered turtle stocks, justifies a more detailed consideration of the future of this component of the agreement. There is a case for considering a precautionary approach which aims to reduce the impact of long line fishing in the São Tomé & Príncipean waters on the affected species. Within the STP EEZ this would appear to have little

economic impact on the EU fleet. However, it should also be noted that there is little point in addressing these impacts within an individual EEZ unless they are equally expressed across the EEZ boundary. If a policy change is considered justifiable on the basis of these impacts, a regional and fleet-wide approach is therefore indicated.

Furthermore, if surface longlining is retained, the Protocol should state the correct target species (e.g. non-tuna large pelagic fish) with reference catches and license fees set to reflect true catch values.

C.2.1.3 Catch statistics and reporting

A detailed quantitative impact assessment of the current FPA in respect of surface longlining is undermined by a lack of enforcement of reporting conditions of the Protocol, especially in respect of surface longliners. Any new protocol which does include surface longline licenses should also endeavour to implement the ICCAT Resolution 1/11 on Atlantic sharks and Article 6 of Regulation Council Regulation (EC) No 1936/2001 of 27 September 2001 “laying down control measures applicable to fishing for certain stocks of highly migratory fish” (although detailed rules for its implementation have not yet been introduced) by ensuring proper reporting of shark catches. Although there are no international management means recommended, the responsible fisheries approach demands that the Protocol should also endeavour to address the bycatch rates of endangered turtle species. Participation of EU vessels in the surface longline fishery under a future protocol should therefore be conditional on the following:

- reporting of catches of shark species and ensuring adequate distinction between the mako and porbeagle, given the possible use of Spanish “marrajo” for both species (requiring modification of the reporting forms in accordance with ICCAT specifications)
- reporting of catches of turtle species (requiring modification of the reporting forms)

The present lax approach to non-compliance with reporting obligations should be addressed in a future Protocol. The São Tomé and Príncipe DP and Member States should be encouraged to withdraw and/or refuse renewal of licenses in respect of non-compliant vessels.

C.2.1.4 Promotion of Responsible Fishing

As noted above, there may be serious impacts on shark and turtle populations due to the surface longline component of any future FPA. The Commission is recommended to make a policy decision which considers the extent to which the economic benefits are justified by the environmental costs, such as they are known at this stage.

Should a decision be made to retain a surface longline component within this agreement, then there is a need to minimise impacts as far possible and to significantly improve the level of data collected on the environmental impacts. The following measures could be considered for inclusion in a future protocol.

- Improved catch reporting (discussed above)
- Requirement for release of live turtles
- Implementation of a discard ban on dead turtles
- Introduction of an observer programme to monitor release and discard compliance and gather biological data

C.2.1.5 Scientific observers

Should surface longline opportunities be retained, the implementation of an observer programme will be essential for proper monitoring. Implementation will be facilitated by commissioning of the DP radio room, and by EU vessel visits to STP promoted by the renovated port facility at Neves. Implementation of draft regulations requiring foreign vessels to appoint STP agents will also facilitate the process. However, STP DP has little capacity, either to organise and implement an observer programme or to use the data generated for resource management decision making. Without technical assistance associated with any future FPA these measures are unlikely to be implemented.

C.2.1.6 Hiring of crew members

STP employment linked to the Agreement has been minimal. Improved linkages with vessels, as described in the previous paragraph, should permit a substantial increase, and the employment requirements within the agreement should therefore be retained.

C.2.2 Scenarios for a future FPA

Five scenarios are investigated; they were selected to illustrate the impacts of the range of policy options available for the future FPA.

Scenario 1: Continuation of current agreement

Scenario 1 models the continuation of the fishing possibilities provided in the current protocol, and assumes that they are utilised at the current level. Under this scenario there would be neither any decrease nor increase in applied effort. Fishing licenses drawn will remain at about 60-80% of the opportunities, providing for flexible increase in Community effort in years when migratory patterns dictate. Targeted action funds would continue to be unutilised and do not provide any benefits. The only benefits to STP are derived from the financial compensation and the license fees. The scenario provides for most of the benefits to be derived from the purse seine fishery, although improvements in catch and effort reporting from the long line segment would be expected to increase the relative importance of this sector. The scenario would yield a net Community benefit of €3.3 million/annum⁴⁴, at a net STP cost of €179,503/annum. Employment benefits would also be substantially unbalanced with 349 EU dependent jobs, and just 9 in STP. Apart from the scenario of no agreement, this is the least favourable option for STP.

Table 72: Scenario 1: Continuation of current agreement

Item	
Long Liners No. licensed	16.5
Freezer Seiners No. licensed	27
Pole and Liners No. licensed	0
Experimental crab No. licensed	0
Catch (tonne)	4,382
Value €	3,785,906
EC Costs €	517,000
EC Benefits €	3,861,824
EC Net Benefit €	3,344,824
Cost/tonne	144
Benefit/Cost €	7.5
STP Costs €	838,378
STP Benefits €	658,875
STP Net Benefit €	-179,503
EC Direct Employment FTE	17
EC Indirect Employment FTE	291
STP Direct Employment FTE	9
STP Indirect Employment FTE	0

⁴⁴ Costs to the partner country in all cost benefit calculations include value added foregone

C.2.2.1 Scenario 2: No agreement

If there were no agreement, the Government of São Tomé and Príncipe is assumed to meet the demand of EU vessels with private licenses to provide the same opportunities as acquired during the current FA. In the absence of knowledge of the private license fees charged, the average cost of private fishing licenses is assumed to be the same as licenses purchased under the current FA. Because of the loss of compensation income, the net cost to STP of the scenario increases to more than €619,000/annum, whilst benefits to the Community increase to €3.8 million/annum. The inequality is likely to be less than this since license fees under private arrangements were expected to be higher than under the agreement. However the room for manoeuvre is limited due to the limited dependency of the EU fleet on this agreement (4.7% in the case of the purse seiners). Employment impacts are the same as scenario 1. This represents the least favourable scenario for STP.

Table 73: Scenario 2: No agreement

Item	
Long Liners No. licensed	16.5
Freezer Seiners No. licensed	27
Pole and Liners No. licensed	0
Experimental crab No. licensed	0
Catch (tonnes)	4,382
Value €	3,785,906
EC Costs €	77,000
EC Benefits €	3,861,824
EC Net Benefit €	3,784,824
Cost/tonne	43
Benefit/Cost €	50.2
STP Costs e	838,378
STP Benefits €	218,875
STP Net Benefit €	-619,503
EC Direct Employment FTE	17
EC Indirect Employment FTE	312
STP Direct Employment FTE	9
STP Indirect Employment FTE	0

C.2.2.2 Scenario 3: Agreement with no surface longline possibilities

In Scenario 3 the FPA eliminates the longline possibilities and retains the purse seine opportunities (which are utilised at the current rate) and the pole and line and crab possibilities (which remain unutilised). It is assumed that São Tomé and Príncipe will agree that this change will not be undermined by the issue of private licenses to displaced EU longline vessels. Experimental crab fishing and pole and line opportunities could be maintained in the scenario, but it is assumed that they remain unutilised. In the absence of any national capacity to implement them there would be no separate targeted action funds; all of the financial contribution would be paid as pure financial compensation until such time as capacity developed to allow a future protocol to re-introduce targeted actions. The financial contribution would be based on current value of the financial compensation plus targeted action amounts (average €733,333/year) factored according to the proportion of the catch value (c.20%) attributed to the eliminated surface longline segment. The net EU benefit would be about €3.2 million. Because of the increase in guaranteed financial contribution, there is also a significant increase in benefits for STP (to a cost of €74,000). However there is no economic multiplier for STP and employment falls due to the loss of the longline segment.

Table 74: Scenario 3: Agreement with no surface longline possibilities

Item	
Long Liners No. licensed	0
Freezer Seiners No. licensed	27
Pole and Liners No. licensed	0
Experimental crab No. licensed	0
Catch (tonnes)	4,361
Value €	3,741,745
EC Costs €	662,592
EC Benefits €	3,835,404
EC Net Benefit €	3,172,812
Cost/tonne	172
Benefit/Cost €	5.8
STP Costs €	826,530
STP Benefits €	752,080
STP Net Benefit €	-74,451
EC Direct Employment FTE	16
EC Indirect Employment FTE	311
STP Direct Employment FTE	0
STP Indirect Employment FTE	0

C.2.2.3 Scenario 4: Agreement with no surface long liners and intervention project

Scenario 4 would provide the fishing opportunities defined in Scenario 3, along with the associated financial and economic benefits. Financial contribution (financial compensation plus an amount allocated for targeted actions) will be €724,779/year. In addition a substantial intervention project is supported at an estimated cost of €700,000/annum. The project will assist the DP to develop the capacity to benefit from the targeted actions. The project will generate benefits through assisting with introduction of sanitary controls, take-up of unutilised fishing opportunities, establishing observer programmes, improving catch and effort reporting and analysis for fisheries management, as well as addressing the institutional strengthening of the DP and improving social capital in the policy development process. Realistically the full benefits would be delivered in a time frame longer than the duration of the next protocol, perhaps as long as 5 to 8 years, depending on the level of political will and resources applied by the beneficiary. Whilst in all other scenarios a disproportionate level (>94%) of the value added benefits accrue to the EU, in this scenario they are shared more equitably (64% to the EU and 36% to São Tomé and Príncipe).

The STP DP also will sustain higher operating costs due to the enhanced level of activity. The catch value will increase to €5.6 million, with net EU benefits of €3.4 million. EU employment increases due to the increase take up of fishing opportunities. The STP benefits also increase to €2.0 million, mainly due to the increased employment (total 106) onboard EU vessels and in upstream vessel services supplied from STP. Gross rents received by STP from the fishery would increase from about 19% at present to 64%. The intervention project will also bring considerable additional benefits external to the FPA, such as improvements in fisheries livelihoods, and increased direct and indirect investment (including EU) based around supplies of fish to the EU market. These are not included in this analysis. It also will strengthen the responsible fishing approach by assisting with STP adherence to national and international obligations, including IUU fishing by STP flagged vessels in international waters.

Table 75: Scenario 4: Agreement with no surface long liners and intervention project

Item	
Long Liners No. licensed	0
Freezer Seiners No. licensed	27
Pole and Liners No. licensed	2
Experimental crab No. licensed	3
Catch (tonnes)	4,577
Value €	5,598,845
EC Costs €	1,362,592
EC Benefits €	4,914,918
EC Net Benefit €	3,552,326
Cost/tonne €	192
Benefit/Cost €	3.6
STP Costs €	1,512,257
STP Benefits €	3,386,186
STP Net Benefit €	1,873,829
EC Direct Employment FTE	35
EC Indirect Employment FTE	366
STP Direct Employment FTE	34
STP Indirect Employment FTE	71

C.2.2.4 Scenario 5: Agreement with purse seine only

Scenario 5 would provide the fishing opportunities defined in Scenario 3, but with the pole and line and crab fishing opportunities removed. Out of the 36 purse seining opportunities, the scenario assumes that 27 draw licenses. The financial contribution will be paid as financial compensation, adjusted for the loss of the longline, pole and line and crab fishing opportunities, amounting to €580,220 /year. The scenario therefore represents the least costly approach to a functional protocol, yet still delivers most of the employment and value added benefits to the Community described in Scenario 3. Whilst STP benefits from a higher level of financial compensation than at present, the Protocol will not generate any employment or other benefits for the STP economy. The Scenario delivers the same material benefits to the parties as Scenario 3, but at a slightly lower cost to the Community.

Table 76: Scenario 5: Agreement with purse seine only

Item	
Long Liners No. licensed	0
Freezer Seiners No. licensed	27
Pole and Liners No. licensed	0
Experimental crab No. licensed	0
Catch (tonnes)	4361
Value €	3,741,745
EC Costs €	657,220
EC Benefits €	3,835,404
EC Net Benefit €	3,178,184
Cost/tonne €	171
Benefit/Cost €	5.8
STP Costs €	826,530
STP Benefits €	746,707
STP Net Benefit €	-79,823
EC Direct Employment FTE	16
EC Indirect Employment FTE	299
STP Direct Employment FTE	0
STP Indirect Employment FTE	0

ANNEX1: LIST OF PERSONS MET

<i>Person</i>	<i>Position</i>	<i>Institution</i>
Ing. José Menezes	National Director	Direcção das Pescas
Ernestino Nascimento José Eva Aurélio Virgínia Godinho Silvestre Duarte Olavo Aníbal	Fisheries Technician Fisheries Technician Fisheries Technician (responsible for Quality Department) Fisheries Technician Fisheries Technician responsible for statistics	Direcção das Pescas
Dr ^a . Joana Varela	National Director	Treasury Direction Ministry of Planning and Finance
Tomé Araújo	Vice-Director	Budget Direction, Ministry of Planning and Finance
Dr. Filipe Moniz	National Director	Planning Department Ministry of Planning and Finance
Sr. Eugénio Moniz	Official	Public Investment Service, Planning Department of Planning and Finance Ministry
Gervásio do Rosário	Minister Adviser for Fisheries Sector	Ministry of Agriculture, Rural Development and Fisheries (MADRP)
Dr ^a Maria Tebús Torres	Director, Ex-Minister of Finances	External Debt Direction, Ministry of Planning and Finance
Eng ^o Argentino Santos	Director of Agriculture and Fisheries Planning Department	Ministry of Agriculture, Rural Development and Fisheries (MADRP)
Sr. Horácio Ramos Dias	Ex-Director of Budget	Budget Direction of MADRP
Dr. António Viegas	ARR Programme	UNDP Office
Eng. Maria da Graça Viegas	Programme Officer	UNDP Office
Dr. Justino (?)	Head of Department	Treasury Direction, Ministry of Planning and Finance
Dr. Aires Bruzaca de Menezes	Technical Assistant	PASS- Social Sector Assistance Programme (cofinanced by World Bank)
Dr. Filipe Moniz	National Director	Planning Department Ministry of Planning and Finance
Sr. Tomás Cardoso	Minister Adviser for Agricultural Sector	Ministry of Agriculture, Rural Development and Fisheries (MADRP)
Sr. Maurizio Fillipi Sr. Carlos Trigueiros	Head of ONFED Ordenador Nacional	ONFED
Sr. Nilton Santos	Director	MRL (Navigation agency)

<i>Person</i>	<i>Position</i>	<i>Institution</i>
Sr.Jorge Carvalho Elísio	Executive Director Biologist responsible for turtle protection project	MARAPA (ONG)
Sr.Manuel Morais	Partner / Managing Director	Equador (Navigation agency)
Sr.Joaquim Sacramento Sr.José Luís Rodrigues	President Technical Secretary	GIEPA (Artisanal Fishermen Association)
Sr.Graciano Costa	Project Director	Projecto de Pesca Spanish Cooperation in Neves
Sr.Ignacio Lopes	Field Director	Incatema (Consultancy company), Neves
Jorge Amado	Minister of Agriculture, Rural Development and Fisheries	MADRP
Sr.Justion Lima Sr.Hilário Bandeira	Comandante (Tenente-Coronel) Patrão-mor	Coast Guard (Capitanias and Naval Unit)
Sr.Emídio Boa-Morte	Escrivão (secretary)	Guarda Costeira
Sr.Victor Bonfim Sr.Juvêncio Oliveira	Technical Staff	Environment Cabinet
M.Jochen Krebs	Head of EU Delegation	EU Delegation in Gabon for STP and Equatorial Guinea
M.Alexis Billes	Cordinator Programme Kudu	ECOFAC (Gabon) Regional Project for protection and conservation of Seaturtles

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- **Treaty** between the Federal Republic of Nigeria and the Democratic Republic of São Tomé and Príncipe (from 21.02.2001): On the Joint Development of Petroleum Resources and other Resources in respect of Areas of the EEZ of the two States;
- **Law 9/2001** (from 31.12.2001, DR 8): Fisheries and fisheries resources law;
- **Law 11/99** (from 31.12.1999, DR 15): Conservation of fauna, flora and protected areas;
- **Law 10/99** (from 31.12.1999, DR 15): Framework Law on environment;
- **Decree 37/99** (from 30.11.1999, DR 12): EIA Regulation;
- **Decree 35/99** (from 30.11.1999, DR 12): Conditions for extraction of inerts;
- **Law 1/98** (from 31.03.1998, DR 3): Defines the maritime waters under jurisdiction of São Tomé and Príncipe and revokes Decree Law 15/78 which established the EEZ
- **Law 13/92** (from 15.10.1992, DR 23): Investment Code;
- **Law 14/92** (from 15.10.1992, DR 23): Framework Law of public companies;
- **Decree-Law No. 2/84** (from 31.12.1984): amends certain provisions of Decree-Law No. 63/81 (31.12.1981) which established the legal regime for the protection, exploitation and management of the EEZ marine resources.

ANNEX 3: PROVISIONAL LEGAL MINIMUM FISH SIZES, SÃO TOMÉ AND PRÍNCIPE, 2004

Local Name	Family	Scientific Name	Standard Size cm
Asno Cota	ACANTHURIDAE		
Colepiam Balabo	ALBULIDAE	Albula vulpes	35
Asno	BALISTIDAE	Balistes punctatus	25
Agulha Espada	BELONIDAE	Ablennes hians	70
Agulha Quio/Zanve		Tylosurus acus rafale	90
Linguado	BOTHIDAE	Bothus guibei	
Peixe Cabra	BRANCHIOSTEGIDAE	Branchiostegus semifasciatus	35
Alada	CARANGIDAE	Elagatis bipinnulata	90
Bebeca		Trachinotus ovatus	35
Bonito		Caranx crysos	40
Carapau		Decapterus punctatus	18
Carapau		Selar crumenophthalmus	30
Corcovado		Caranx hippos	75
Oso Mole		Uraspis secunda	40
Pata Pata		Selene dorsalis	24
Pata Pata		Alectis Alexandrinus	
Longo	CLUPEIDAE	Sardinella aurita	25
Sardinha Caça		Sardinella cameronensis	25
Colombeta	CORYPHAENIDAE	Coryphaena equiselis	50
Linguado	CYNOGLOSSIDAE	Cynoglossus senegalensis	25
Concon	DACTYLOPTERIDAE	Dactylopterus volitans	38
Cozinheiro	DREPANIDAE	Drepane africana	30
Peixe Piloto	ECHENEIDAE	Remora brachyptera	
Colepinhã Balabo	ELOPIDAE	Elops senegalensis	60
Vermelho Sangue	EMMELICHTHYIDAE	Erythrocles monodi	40
Cozinheiro	EPHIPPIDIDAE	Chaetodipterus goreensis	25
Voador	EXOCETIDAE	Cypselurus melanurus	25
Agulha Buzina	FISTULARIDAE	Fistularia petimba	100
Parente	GERRIDAE	Eucinostomus melanopterus	23
Peixe Sabão	GRAMMISTIDAE	Rypticus saponaceus	25

Roncador	HAEMULIDAE	Pomadasys rogeri	45
Bujigo		Pomadasys peroteti	30
Maxipombo	HEMIRAMPHIDAE	Hemiramphus balao	35
Caqui	HOLOCENTRIDAE	Holocentrus ascensionis	25
Caqui		Sargocentron hastatus	20
Mãe de Caqui		Myripristis jacobus	20
Peixe Andala	ISTIOPHORIDAE	Istiophorus albicans	240
Bujijo	KUHLIIDAE	Parakuhlia macrophthalmus	15
Sopa	KYPHOSIDAE	Kyphosus incisor	45
Bulhão	LABRIDAE	Bodianus speciosus	40
Rainha		Xyrichty novacula	20
Tchintchin de Fundo	LOBOTIDAE	Lobotes surinamensis	80
Peixe Novo	LUTJANIDAE	Apsilus fuscus	60
Vermelho Terra		Lutjanus Fulgens	50
Asno de Fundo	MONACANTHIDAE	Aluterus SP.	40
Asno Bureta		Cantherhines Sp.	
Salmonete	MULLIDAE	Pseudupeneus prayensis	35
Tainha	MULLIDAE	Mugil curema	30
Moreia	MURAENIDAE	Lycodontis afer	60
Moreia	OPHICHTHIDAE	Pseudomyrophis ou Echelus	
Barbudo	POLYNEMIDAE	Galeoides decadactylus	30
Tchintchin	POMACANTHIDAE	Holacanthus africanus	
Tctintchin		Abudefduf marginatus	
Peixe Sol	PRAICANTHIDAE	Heteropriacanthus cruentatus	20
Bulhão Congo	SCARIDAE	Sparisoma Rubripinne	30
Roncador	SCIAENIDAE	Pseudotolithus senegalensis	50
Atum Flogo	SCOMBRIDAE	Thunnus obesus	180
Atum Judeo		Katsuwonus pelamis	80
Atum Oledê		Thunnus albacares	150
Fulu fulu		Auxis thazard	40
Fulu fulu		Euthynnus alletteratus	80
Peixe Fumo		Acanthocybium solandri	170
Peixe Serra		Scomberomorus tritor	75
Canga	SCORPAENIDAE	Pontinus kuhlii	3.1.5
Come Mole		Scorpaena laevis	20
Garoupa	SERRANIDAE	Epinephelus adscensionis	35

Bacalhau		<i>Epinephelus aeneus</i>	60
Badejo Branco		<i>Epinephelus goreensis</i>	35
Mulato/Bala bala		<i>Paranthias furcifer</i>	20
Bobo Quema		<i>Cephalopholis taeniops</i>	40
Capitão		<i>Anthias anthias</i>	15
Cota Uê/Cota Oyô		<i>Cephalopholis nigri</i> (?)	20
Bica	LETHRINIDAE	<i>Lethrinus atlanticus</i>	30
Bonga		<i>Boops boops</i>	20
Malagueta		<i>Pagellus belottii</i>	25
Mamaminha		<i>Dentex congoensis</i>	40
Pargo	SPARIDAE	<i>Pagellus caeruleostictus</i>	25
vermelho Dente	“	<i>Dentex congoensis</i>	40
Vermelho Fundo	“	<i>Dentex macrophthalmus</i>	30
Barracuda	SPHYRAENIDAE	<i>Sphyræna barracuda</i>	140
Pescada	“	<i>Sphyræna sphyraena</i>	60
	SYNGNATHYDAE	<i>Doryichthys macropterus</i>	
Rainha	SYNGNATHYDAE	<i>Trachinocephalus myops</i>	25
Coelho	TETRAODONTIDAE	<i>Lagocephalus laevigatus</i>	60
Lenha (Rainha)	URANOSCOPIDAE	<i>Uranoscopus polli</i>	
Tubarão	CHARCHARRINIDAE	<i>Rhizoprionodon acutus</i>	110
Tubarão	HEMIGALEIDAE	<i>Paragaleus pectoralis</i>	100
Tubarão Martelo	SPHYRNIDAE	<i>Spyrna zygaena</i>	335
Tubarão Toto	SPHYRNIDAE	<i>Spyrna couardi</i>	
Cavala	Carangidae	<i>Elagatis Bipinnulata</i>	
Agulha sombra	Xiphidae	<i>Xiphias gladius</i>	
Badejo	Serranidae	<i>Epinephe Spp</i>	
Cherne	“	<i>Serranus guaza</i>	
Blolou	Scorpaenidae	<i>Pontinus kullii</i>	
Corvina	Lutjanidae	<i>Lutjanus goreensi</i>	
Linguado	Bothidae	<i>Bothus Lunatus</i>	
Peixe galinha	Sciaenidae	<i>Pseudotolithus senegalesis</i>	
Peixe galinha	“	<i>Pseudotolithus typus</i>	
Sardinha	clupeidae	<i>Sardinha maderensis</i>	
Tubarão	Charcharrinidae	<i>Rhizoprionodon acutus</i>	

ANNEX 4: DETAILED BASIS FOR VALUE ADDED & COST BENEFIT ANALYSIS

(All values in € on an annual basis)

1. Base data for the calculations includes annualised standard catch compositions and values, as follows. Source of data is actual catch returns (For volume catches) and Eurostat import values.

Name	Value €/t	PS tonne	SLL tonne	Value PS €	Value SLL €	Total
T. maccoyi (bluefin tuna)	870	610	0	530,700	0	530,700
T. albacares (yellowfin tuna)	980	1,766	0	1,730,680	0	1,730,680
T. obesus (bigeye tuna)	800	131	0	104,800	0	104,800
X. gladius (swordfish)	6,300	0	2.5	0	15,750	15,750
I. audax (stripe marlin)	4,200	0	0	0	0	0
K. pelamis (skipjack)	740	1,810	0	1,339,400	0	1,339,400
Blue and mako shark	1,495	0	19	0	28,405	28,405
Other species	822	44	0	36,168	0	36,168
TOTALS		4,361	21.5	3,741,748	44,155	3,785,903
Av price €/tonne		858	2,053			864

PS – Purse seine; SLL- surface longliner

2. Licensed vessels fish in the EEZ for only part of the year. All costs and benefits should therefore be subject to a dependency factor. The basis for its calculation is actual reported activity from catch records over 4 years. The following tables indicate dependency rates of 4.7% and 0.3% for purse seiners and surface longliners respectively.

TUNA SEINERS						
Year	2000 /2001	2001/2002	2002/2003	2003/2004	Average	2 year Average
Vessels Reporting	19	20	13	16		
Catches (tons)	1,839	3,206	7,414	1,307	3,442	4,360.5
EC Fleet Licensed	18	33	26	28	26	
Estimated total catch/vessel/yr	3,450	3,450	3,450	3,450	3,450	
Dependency	3.0%	2.8%	8,3%	1,4%	4.7%	
CPUE in STP EEZ tonnes/reporting vessel/yr					202	
CPUE in STP EEZ tonnes/licensed vessel/yr					131	

SURFACE LONGLINE					
Year	2000 /2001	2001/2002	2002/2003	2003/2004	Average
Vessels Reporting	0	3	2	0	
Catches (tons)	0	155	43	0	50
EC Fleet Licensed	11	13	16	17	15.5
Estimated total catch /vessel/yr	433	433	433	433	433
Dependency	0.0%	2.8%	0.6%	0.0%	0.3%
CPUE in STP EEZ tonnes/reporting vessel/yr					39.6
CPUE in STP EEZ tonnes/licensed vessel/yr					3.5

3. Direct and upstream value-added calculations are based on a standard percentage cost structure for the fishing method employed. The cost structure is based on industry interviews and also drawn from previous studies. (IFREMAR, 1994)

The annual cost structure for a single vessel is first calculated by apportioning total income to different cost elements. This is then raised to fleet level (all licensed vessels) and then value-added elements at fleet level are estimated as follows:

Direct VA in fishing = labour costs + social charges + profits

Indirect Upstream VA = estimated VA proportion of other fishing inputs derived from either EU or STP sources

The VA attributable to the STP FA is then calculated based on the dependency factor..

The EU and STP example which follows overleaf shows the calculation for the value added attribute to purse seiners under the current agreement (ex-post):

EC/FPA Fleet Averages
Deployment 2002-4 27,0

Single Vessel Scenario

Crew	
EC Crew	13
STP Crew	0
Other Crew	9
Total Crew	22

	Single Vessel	Fleet
Annual Catch per year in STP	162	4.361
Dependency	4,7%	
Est total Annual Catch	3.450	93.150
Average price / tonne	858	

	Single Vessel	Fleet
Estimated sales €	2.960.445	79.932.015

Costs € Variable			Value Added					
			of which EC	Rate of VA	EC VA	of which STP	Rate of VA	STP VA
Labour costs	18,54%	14.819.396	10.530.000	100%	10.530.000	0	100%	0
Social Charges	6,51%	5.203.574	3.697.427	100%	3.697.427	0	100%	0
food	2,51%	2.006.294	2.006.294	15%	300.944	0	15%	0
cost of selling fish	0,76%	607.483	607.483	40%	242.993	0	40%	0
repairs and maintenance	1,11%	887.245	221.811	15%	33.272	0	30%	0
Consumables								
fuel	20,93%	16.729.771	0	100%	0	0	45%	0
lubs	1,43%	1.143.028	0	100%	0	0	45%	0
Water	0,06%	47.959	0	100%	0	0	15%	0
Office	0,02%	15.986	0	100%	0	0	15%	0
Others	0,78%	623.470	0	100%	0	0	15%	0
Services								
Insurance	3,49%	2.789.627	2.789.627	40%	1.115.851	0	40%	0
Communication	7,54%	6.026.874	6.026.874	25%	1.506.718	0	25%	0
Crew logistic costs	1,54%	1.230.953	1.230.953	25%	307.738	0	25%	0
Others	3,69%	2.949.491	2.949.491	40%	1.179.797	0	40%	0
Repairs	9,77%	7.809.358	0		0	0	25%	0
Dues and Taxes								
Port costs	0,18%	143.878	0	100%	0	0	100%	0
License Fee	2,41%	1.926.362	0	100%	0	166.488	100%	166.488
Total costs	81,27%	64.960.749						
Gross cash flow		14.971.266						
Depreication & finacing	14,73%	11.773.986	11.773.986	100%	11.773.986			0
Net profit	4,00%	3.197.281	3.197.281	100%	3.197.281			0
Tax		1.119.048	Total VA	EC	33.886.007	Total VA	STP	166.488
Profit after Tax		2.078.232	Total direct VA	EC	17.424.708		STP	0
			of which Upstream VA		16.461.299	of which Upstream VA		166.488

	Single Vessel	Fleet Attributable to FA	
Value Added			
Direct EC VA	645.360	17.424.708	815.678
Direct STP VA (Operations)	0	0	0
Upstream EC VA (mEUR)	609.678	16.461.299	770.580
Upstream STP VA (inc licence fees)	6.166	166.488	166.488
Downstream EC VA (mEUR)	1.779.510	48.046.770	2.249.146
Downstream STP VA	0	0	0
Employment			
EC Crew	13	351	16
STP Crew	-	-	-
Upstream EC Jobs	22	594	28
Upstream STP Jobs	-	-	-
Downstream EC Jobs	224,3	6.055	283
Downstream STP Jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	3.450	93.150	4.361
Total Value	2.960.445	79.932.015	3.741.745
Operator profits	118.418	3.197.281	149.670
EC Labour Costs	526.942	14.227.427	666.009

4. Employment impacts are calculated based on VA multipliers acquired from previous research studies and industry interviews.

Employment multiplier - no of jobs per unit				
Sector	Seiner	Longliner	Units	Source
Downstream EC Jobs	0.065	0.009	jobs/tonne	Outermost regions study
Upstream EC Jobs	22	20	jobs/vessel	IFREMER data
Downstream EC VA	515.8	50	€/tonne	Outermost regions study

5. Note that downstream employment in tuna canning (the most significant downstream employment impact) is allocated between the EU and Côte d'Ivoire on the basis of the distribution split of the EU tuna fleet in W.Africa (69% product processed in EU and 31% in Côte d'Ivoire), based on data from the FPA Evaluation study in Côte d'Ivoire):

DOWNSTREAM employment ratios		
	SLL	PS
jobs/tonne	0.0093	0.093
EU %	100%	69%
CI %	0	31%
jobs /tonne EU	0.009	0.065
jobs/tonne CI	0.000	0.028

SLL- surface longliner

This provides the following employment levels associated with tuna fishing by purse seiners.

		Single vessel	Fleet	STP Licensed	STP reporting
Fleet	no vessels	1	30	30	
	catch tonnes	3,450	103,500	103,500	2,935.0
No. Of jobs in:	fishing	23	690	690	19.6
of which	EU	13	390	390	11.1
	STP	0	0	0	0.0
	Other	10	300	300	8.5
No of jobs in	processing	321	9,626	9,626	273.0
of which	69.4% EU	223	6,680	6,680	189.4
	30.6% CI	98	2,945	2,945	83.5
Multiplier	1 job at sea = Overall	14.0	14.0	14.0	14.0
	EU	9.7	9.7	9.7	9.7
	CI	4.3	4.3	4.3	4.3

6. The data thus calculated, and other financial parameters of the FA (compensation payments, license income, cost of MCS, administrative costs to the EU and STP, catch quantity and value) are then used as the basis for the calculation of costs and benefits.

7. Note that license income is the average payment per vessel, including minimum license fee and payments of €25/tonne in excess of the reference catch (150 tonnes in the case of a purse seiner).

STP License income €					
	Purse seine		Longliner		TOTALS
	License	Additional	License	Additional	
2000/2001	71,250			0	71,250
2001/2002	123,750	28,677	17,875	0	170,302
2002/2003	97,500	126,475	22,000	0	245,975
2003/2004	105,000	4,000	23,375	0	132,375
TOTAL 2 yr	202,500	130,475	45,375		378,350
MEAN 2 yr	101,250	65,238	22,688		189,175
Av. No vessels	27		17		
Av. License fee/vessel	6,166		1,375		

8. Note that in the calculation of partner country costs, the value added foregone (= direct value added in fishing gained by the EU fleet) is assumed to be cost to STP. An alternative treatment would be to consider this to be zero (on the basis that had the EU fleet not been present, then the fish would not have been caught by the partner country).

ANNEX 5: DETAILED EX-ANTE IMPACT ASSESMENT & COST BENEFIT ANALYSIS

(All values in € on an annual basis)

Summary tables

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
FPA Fishing Opportunities provided	25 surface longliners 36 purse seiners 2 pole and line 3 deepwater crab	0 surface longliners 0 purse seiners 0 pole and line 0 deepwater crab	0 surface longliners 36 purse seiners 2 pole and line 3 deepwater crab	0 surface longliners 36 purse seiners 2 pole and line 3 deepwater crab	0 surface longliners 36 purse seiners 0 pole and line 0 deepwater crab
FPA Fishing licenses drawn	16.5 Surface Longliners 27 Freezer Seiners 0 Pole & Line 0 deepwater crab	16.5 Surface Longliners 27 Freezer Seiners 0 Pole & Line 0 deepwater crab	0 Surface Longliners 27 Freezer Seiners 0 Pole & Line 0 deepwater crab	0 Surface Longliners 27 Freezer Seiners 2 Pole & Line 3 experimental crab	0 Surface Longliners 27 Freezer Seiners 0 Pole & Line 0 deepwater crab
Community financial and economic					
Costs					
Community Administration costs for EC	77,000 €	77,000 €	77,000 €	77,000 €	77,000 €
Financial contribution	440,000 €	0	585,592€	1,285,592 €	580,220 €
• Financial compensation	440,000 €	0	585,592€	351,555€	580.220 €
• Targeted actions	0	0	0	234,237 €	0
• Intervention Project	0	0	0	700,000 €	0
Other costs	None	None	None	None	None

<i>Scenario:</i>	<i>1: Current FPA</i>		<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
Benefits	€		€	€	€	
Employment and value added generated for the community fleet (direct and indirect)	Direct VA	827,526	827,526	815,678	1,336,679	815,678
	Upstream VA	784,077	784,077	770,580	1,295,003	770,580
	Downstream VA	2,250,221	2,250,221	2,249,146	2,283,236	2,249,146
	Total	3,861,824	3,861,824	3,835,404	4,914,918	3,835,404
	Upstream Employment	28,8	28.8	27.8	82	28
	Direct employment	16,7	16.7	16.4	35.3	16.4
	Downstream employment	283,6	283.6	283.4	284.4	283.4
Total employment	329,2	329,2	327,7	401,2	327,7	
Benefits to the EU consumer (Tonnes per year)	Total	4,382	4,382	4,360.5	4,577	4360.5
The Community fishers financial and economic						
Costs						
• License fees paid		189,175	189,175	166,488	293,738	166,488
• Cost of observers		No observers mobilised	No observers mobilised	No observers mobilised	To be determined	
• Costs of investment in joint ventures and investment in domestic support structures		Nil	Nil	Nil	To be determined	

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
• Cost of STP workers (Crew)	89	89	NIL	54,397	Nil
• Cost of EU labour supported (Crew)	674,486	674,486	666,009	1,049,554	666,009
• Other costs					
Benefits					
• Catch value	3,785,906	3,785,906	3,741,745	5,598,845	3,741,745
• Profit (pre tax)	153,039	153,039	149,670	287,125	149,670
• Profits generated from investments in onshore support activities	None	None	None	To be determined	None

<i>Scenario:</i>	<i>1: Current FPA</i>		<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
STP financial and economic						
Costs						
Administration costs for the partner country	10,852		10,852	10,852	175,678	10,852
Additional deployment costs for administration (MCS)	None		None	None	To be determined	None
Foregone Direct Value Added	827,526		827,526	815,678	1,336,679	815,678
Benefits from Community support funding						
Financial contribution of the Community	440,000 €		0	585,592	1,285,592	580,220
<ul style="list-style-type: none"> Number of STP workers supported by activity 	Upstream jobs	0	0	0	68	0
	Direct (Crew) jobs	9,3	9,3	0	34	0
		0	0	0	3	0
	Downstream jobs	9,3	9,3	0	106	0
Total jobs						
Investment in institutional strengthening	Nil		Nil	Nil	700,000 € (intervention project)	Nil
Strengthening of fisheries administration	Nil		Nil	Nil		Nil
Strengthening in data collection	Nil		Nil	Nil		Nil
Research	Nil		Nil	Nil		Nil

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
MCS	Nil	Nil	Nil		Nil
Training	Nil	Nil	Nil		Nil
Benefits from fleet activity					
Domestic profits accruing from Joint ventures	0	0	0	To be determined	0
License Fees Paid	189,175	189,175	166,488	293,738	166,488
Social, environmental, political costs and benefits					
Social					
Costs					
• Impact on food security (short and long term)	Neutral	Neutral	Neutral	Small reduction in domestic supplies re-directed to export markets	Neutral
Benefits					
• Improved human capital	STP: little impact Community Fishers: Continuation of employment opportunities, little effect on community labour	STP: little impact Community Fishers: minimal impact, little effect on community labour	STP: little impact Community Fishers: minimal impact, little effect on community labour	STP: potential high impact, opportunities from TA/training Community Fishers: minimal impact, little effect on community labour	STP: little impact Community Fishers: minimal impact, little effect on community labour
• Improved social capital	No expected significant impact. Few linkages between fishing communities, crews on EU vessels and fisheries institutions	No expected significant impact. Few linkages between fishing communities, crews on EU vessels and fisheries institutions	No expected significant impact. Few linkages between fishing communities, crews on EU vessels and fisheries institutions	Potential positive impact if fishing communities integrated in improved policy framework and implementation.	No expected significant impact. Few linkages between fishing communities, crews on EU vessels and fisheries institutions
• Improved natural	Negligible and small impact to tuna	Negligible and small	Negligible and small	Negligible and small impact	Negligible and small

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
capital	stocks No impact on demersals and small pelagics.	impact to tuna stocks. No impact on demersals and small pelagics.	impact to tuna stocks. No impact on demersals and small pelagics.	to tuna stocks and small pelagics. No impact on demersals. Risk of overexploitation of crab stocks	impact to tuna stocks. No impact on demersals and small pelagics.
<ul style="list-style-type: none"> Improved financial capital 	STP: Limited to compensation and license elements EC: Negligible.	STP: No benefit EC: Negligible	STP: Limited to compensation and license elements EC Negligible	STP: Potential additional inflows to small scale fishery sector, with impacts on improved livelihoods EC: Potential growth derived from investment	STP: Limited to compensation and license elements EC Negligible
<ul style="list-style-type: none"> Improved physical capital 	STP: Reduced, reflecting reduced investment	STP: Reduced, reflecting zero investment	STP: Reduced, reflecting reduced investment	STP: Potentially significant from investment component and improved use of targeted action finance	STP: Reduced, reflecting reduced investment
Political	Costs				
<ul style="list-style-type: none"> Retention of non transparency 	Non-transparent and non-accountable transactions	Non-transparent and non-accountable transactions	Non-transparent and non-accountable transactions	Significant improvements in transparency and accountability	Non-transparent and non-accountable transactions
IUU Fishing by STP Flag of convenience vessels	Uncontrolled vessel registration undermines responsible fishing	Uncontrolled vessel registration undermines responsible fishing	Uncontrolled vessel registration undermines responsible fishing	Improved controls ensure genuine link between registered vessels and STP	Uncontrolled vessel registration undermines responsible fishing
Fisheries impacts					
Surface Longliners (swordfish and shark)	No long or short-term impact on sustainability of atlantic swordfish resources	No long or short-term impact on sustainability of	No long or short-term impact on sustainability of atlantic swordfish	No long or short-term impact on sustainability of atlantic swordfish resources	No long or short-term impact on sustainability of atlantic swordfish

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
	Direct negative impact on shark resources	atlantic swordfish resources Assuming direct licencing replaces FA, direct negative impact on shark resources:	resources		resources
Tuna Seiners:	No long or short-term impact on sustainability of atlantic tuna resources	No long or short-term impact on sustainability of atlantic tuna resources	No long or short-term impact on sustainability of atlantic tuna resources. Some limited conservation benefits in terms of reduced target catch and bycatch of depleted shark species, providing that effort is removed rather than displaced.	No long or short-term impact on sustainability of atlantic tuna resources Some limited conservation benefits in terms of reduced target catch and bycatch of depleted shark species, providing that effort is removed rather than displaced.	No long or short-term impact on sustainability of atlantic tuna resources Some limited conservation benefits in terms of reduced target catch and bycatch of depleted shark species, providing that effort is removed rather than displaced.
Pole and Liner	Not taken up	Not taken up	Not taken up	No long or short-term impact on sustainability of atlantic tuna resources	Not taken up
Crab fishery	Not taken up	Not taken up	Not taken up	Potential for unsustainable exploitation; requires parallel research programme	Not taken up

<i>Scenario:</i>	<i>1: Current FPA</i>	<i>2: No FPA</i>	<i>3: Zero Surface Longline Possibilities</i>	<i>4: Zero Surface Longline Possibilities & intervention</i>	<i>5. Purse seine only</i>
Environmental impacts					
Surface Longliners	Direct negative impact on shark and turtle resources:	Assuming direct licencing is replaced direct negative impact on turtle resources:	Some limited conservation benefits in terms of reduced target catch and bycatch of endangered and threatened turtle species, providing that effort is removed rather than displaced. Effective only as part of coordinated regional reduction of longline fishing effort.	Some limited conservation benefits in terms of reduced target catch and bycatch of endangered and threatened turtle species, providing that effort is removed rather than displaced. Effective only as part of coordinated regional reduction of longline fishing effort.	Some limited conservation benefits in terms of reduced target catch and bycatch of endangered and threatened turtle species, providing that effort is removed rather than displaced. Effective only as part of coordinated regional reduction of longline fishing effort.
Tuna Seiners ¹ :	Negative but not significant impact on sustainability marine turtle and dolphin populations	Negative but not significant impact on sustainability marine turtle and dolphin populations	Negative but not significant impact on sustainability marine turtle and dolphin populations	Negative but not significant impact on sustainability marine turtle and dolphin populations	Negative but not significant impact on sustainability marine turtle and dolphin populations
Pole and Liner	Not taken up	Not taken up	Not taken up	No long or short-term impact on non-tuna marine fauna	Not taken up

¹ Assumes no shift in targeting from skipjack/yellowfin to bigeye

*Value added and cost benefit calculations**Current situation (Ex-post and scenario 1 ex-ante)*Summary table

Segment	Surface Longline	Seiners	P&L	Crab	Total
Fishing opportunities provided	25	36	2	3	66
N° vessels licenced	16,5	27,0	0,0	0,0	43,5
Dependency	0,3%	4,7%	0,0%	0,0%	
Value Added					
Direct EC VA	11.847	815.678	0	0	827.526
Upstream EC VA	13.498	770.580	0	0	784.077
Downstream EC VA	1.075	2.249.146	0	0	2.250.221
DirectSTP VA (Operations)	29.700	0	0	0	29.700
Upstream STP VA (inc licence fees)	22.688	166.488	0	0	189.175
Downstream STP VA	0	0	0	0	-
Total EC VA	26.420	3.835.404	0	0	3.861.824
Total STP VA	52.388	166.488	0	0	218.875
Employment					
EC Crew	0	16	0	0	17
Downstream EC Jobs	0	283	0	0	284
Upstream EC Jobs	1	28	0	0	29
STP Crew	8	0	0	0	8
Upstream STP Jobs	0	0	0	0	-
Downstream STP Jobs	0	0	0	0	-
Total EC Employment	1	328	0	0	329
Total STP Employment	8	0	0	0	8
Fleet Segment Catches					
Total Tonnes	22	4.361	0	0	4.382
Total Value	44.161	3.741.745	0	0	3.785.906
License Fees					
License Fees Paid	22.688	166.488	0	0	189.175
per tonne	1055,2	38,2	#DIV/0!	#DIV/0!	43,2
as % of catch value	51,4%	4,4%	#DIV/0!	#DIV/0!	5,0%
Compensation Estimate					
Catch t	22	4.361	0	0	4.382
Catch Value €/year	44.161	3.741.745	-	-	3.785.906
Compensation €/year	88.645	348.132	3.223	-	440.000
Licence fees received €/year	22.688	166.488	0	0	189.175
Price (Comp plus licence) €/t	5.178	118	#DIV/0!	#DIV/0!	144
Price % of catch value	252%	14%	#DIV/0!	#DIV/0!	17%
Scenario:					
Segment	Surface Longline	Seiners	P&L	Crab	Total
STP Benefits					
Compensation	88.645	348.132	3.223	-	440.000
Direct VA	29.700	-	-	-	29.700
Indirect VA (inc. licences)	22.688	166.488	-	-	189.175
Total STP benefit	141.032	514.619	3.223	-	658.875
STP Costs					
Admin	4.116	6.736	-	-	10.852
MCS/Observers					
Catch Value (=EC Direct VA foregone)	11.847	815.678	-	-	827.526
Total STP Costs	15.964	822.414	-	-	838.378
STP Net Benefits					
Net STP Benefit	125.069	-307.795	3.223	0	-179.503
GoSTP gross rent	252%	14%	#DIV/0!	#DIV/0!	17%
STP gross economic rent	319%	14%	#DIV/0!	#DIV/0!	17%
Upstream employment	0	0	0	0	0
Direct employment	8	0	0	0	8
Downstream employment	0	0	0	0	0
Total employment	8	0	0	0	8
EC Benefits					
Direct VA	11.847	815.678	0	0	827.526
Upstream VA	13.498	770.580	0	0	784.077
Downstream VA	1.075	2.249.146	0	0	2.250.221
Total Community VA	26.420	3.835.404	0	0	3.861.824

Purse seiners

EC/FPA Fleet Averages Deployment 2002-4		27,0
Crew		
EC Crew	13	
STP Crew	0	
Other Crew	9	
Total Crew	22	
	Single Vessel	Fleet
Annual Catch per year in STP	162	4.361
Dependency	4,7%	
Est total Annual Catch	3.450	93.150
Average price / tonne	858	
	Single Vessel	Fleet
Estimated sales €	2.960.445	79.932.015
Costs €		
Variable		Value Added
		of which EC Rate of VA EC VA of which STP Rate of VA STP VA
Labour costs	18,54% 14.819.396	10.530.000 100% 10.530.000 0 100% 0
Social Charges	6,51% 5.203.574	3.697.427 100% 3.697.427 0 100% 0
food	2,51% 2.006.294	2.006.294 15% 300.944 0 15% 0
cost of selling fish	0,76% 607.483	607.483 40% 242.993 0 40% 0
repairs and maintenance	1,11% 887.245	221.811 15% 33.272 0 30% 0
Consumables		
fuel	20,93% 16.729.771	0 100% 0 0 45% 0
lubs	1,43% 1.143.028	0 100% 0 0 45% 0
Water	0,06% 47.959	0 100% 0 0 15% 0
Office	0,02% 15.986	0 100% 0 0 15% 0
Others	0,78% 623.470	0 100% 0 0 15% 0
Services		
Insurance	3,49% 2.789.627	2.789.627 40% 1.115.851 0 40% 0
Communication	7,54% 6.026.874	6.026.874 25% 1.506.718 0 25% 0
Crew logistic costs	1,54% 1.230.953	1.230.953 25% 307.738 0 25% 0
Others	3,69% 2.949.491	2.949.491 40% 1.179.797 0 40% 0
Repairs	9,77% 7.809.358	0 0 0 0 25% 0
Dues and Taxes		
Port costs	0,18% 143.878	0 100% 0 0 100% 0
License Fee	2,41% 1.926.362	0 100% 0 166.488 100% 166.488
Total costs	81,27% 64.960.749	
Gross cash flow	14.971.266	
Depreication & financing	14,73% 11.773.986	11.773.986 100% 11.773.986 0
Net profit	4,00% 3.197.281	3.197.281 100% 3.197.281
Tax	1.119.048	Total VA EC 33.886.007 Total VA STP 166.488
Profit after Tax	2.078.232	Total direct VA EC 17.424.708 STP 0
		of which Upstream VA 16.461.299 of which Upstream VA 166.488
	Single Vessel	Fleet Attributable to FA
Value Added		
Direct EC VA	645.360	17.424.708 815.678
DirectSTP VA (Operations)	0	0 0
Upstream EC VA(mEUR)	609.678	16.461.299 770.580
Upstream STP VA (inc licence fees)	6.166	166.488 166.488
Downstream EC VA (mEUR)	1.779.510	48.046.770 2.249.146
Downstream STP VA	0	0 0
Employment		
EC Crew	13	351 16
STP Crew	-	- -
Upstream EC Jobs	22	594 28
Upstream STP Jobs	-	- -
Downstream EC Jobs	224,3	6.055 283
Downstream STP Jobs	-	- -
Fleet Segment Catches		
Total Tonnes	3.450	93.150 4.361
Total Value	2.960.445	79.932.015 3.741.745
Operator profits	118.418	3.197.281 149.670
EC Labour Costs	526.942	14.227.427 666.009
CV Labour Costs	-	- -

Surface longliners

EC/FPA Fleet Averages Deployment 2002-4		16,5	
Crew			
EC Crew	6		
STP Crew	1		
Other Crew	9		
Total Crew	16		
	<i>Single Vessel</i>	<i>Fleet</i>	
Annual Catch per year in STP	1		22
Dependency	0,3%		
Est total Annual Catch	433		7.145
Average price / tonne	2.054		
	<i>Single Vessel</i>	<i>Fleet</i>	
Estimated sales €	889.382		14.674.803
Costs €			
Variable			Value Added
			<i>of which EC</i> <i>Rate of VA</i> <i>EC VA</i> <i>of which STP</i> <i>Rate of VA</i> <i>STP VA</i>
Labour costs	14,55%	2.135.184	2.105.484 100% 2.105.484 29.700 100% 29.700
Social Charges	4,85%	711.728	711.728 100% 711.728 0 100% 0
food	1,44%	211.317	211.317 15% 31.698 0 15% 0
cost of selling fish	20,18%	2.961.375	2.961.375 40% 1.184.550 0 40% 0
repairs and maintenance	10,19%	1.495.362	0 5% 0 0 30% 0
Consumables			
fuel	7,31%	1.072.728	0 100% 0 0 45% 0
lubs	0,73%	107.126	0 100% 0 0 45% 0
Water		0	0 100% 0 0 15% 0
Office		0	0 100% 0 0 15% 0
Others (Bait Pkg)	0,88%	129.138	129.138 25% 32.285 0 15% 0
Services			
Insurance	1,52%	223.057	223.057 40% 89.223 0 40% 0
Communication		0	0 25% 0 0 25% 0
Crew logistic costs	1,54%	225.992	225.992 25% 56.498 0 25% 0
Others	4,66%	683.846	683.846 40% 273.538 0 40% 0
Repairs		0	0 25% 0 0 25% 0
Dues and Taxes			
Port costs	0,48%	70.439	0 100% 0 0 100% 0
License Fee & Taxes	4,84%	710.260	0 100% 0 22.688 100% 22.688
Total costs	73,17%	10.737.553	
Gross cash flow		3.937.250	
Depreication & finacing	19,20%	2.817.562	2.817.562 100% 2.817.562 0
Net profit	7,63%	1.119.687	1.119.687 100% 1.119.687 0
Tax		391.891	
Profit after Tax		727.797	Total direct VA EC 8.422.253 Total direct VA STP 52.388
	<i>Single Vessel</i>	<i>Fleet Attributable to FA</i>	
Value Added			
Direct EC VA	238.600	3.936.899	11.847
DirectSTP VA (Fees)	1.375	22.688	22.688
DirectSTP VA (Operations)	1.800	29.700	29.700
Upstream EC VA(mEUR)	271.840	4.485.354	13.498
Downstream EC VA (mEUR)	21.650	357.225	1.075
Upstream STP VA (inc fees)	1.375	22.688	22.688
Downstream STP VA	0	0	0
Employment			
EC Crew	6	99	0,3
STP Crew	1	17	8,3
Upstream EC Jobs	18	297	0,9
Upstream STP Jobs	-	-	-
Downstream EC Jobs	2	32	0,1
Downstream STP jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	433	7.145	22
Total Value	889.382	14.674.803	44.161
Operator profits	67.860	1.119.687	3.369
EC Labour Costs	170.740	2.817.212	8.478

50% job dependency

*Ex-ante Scenario 2 (No agreement)*Summary Table

Scenario Segment	2 NO agreement				
	Surface Longline	Seiners	P&L	Crab	Total
Fishing opportunities provided	0	0	0	0	0
N° vessels buying licence	16,5	27,0	0,0	0,0	43,5
Dependency	0,3%	4,7%	0,0%	0,0%	
Value Added					
Direct EC VA	11.847	815.678	0	0	827.526
Upstream EC VA	13.498	770.580	0	0	784.077
Downstream EC VA	1.075	2.249.146	0	0	2.250.221
DirectSTP VA (Operations)	29.700	0	0	0	29.700
Upstream STP VA (inc licence fees)	22.688	166.488	0	0	189.175
Downstream STP VA	0	0	0	0	-
Total EC VA	26.420	3.835.404	0	0	3.861.824
Total STP VA	52.388	166.488	0	0	218.875
Employment					
EC Crew	0	16	0	0	17
Downstream EC Jobs	0	283	0	0	284
Upstream EC Jobs	1	28	0	0	29
STP Crew	8	0	0	0	8
Upstream STP Jobs	0	0	0	0	-
Downstream STP Jobs	0	0	0	0	-
Total EC Employment	1	328	0	0	329
Total STP Employment	8	0	0	0	8
Fleet Segment Catches					
Total Tonnes	22	4.361	0	0	4.382
Total Value	44.161	3.741.745	0	0	3.785.906
License Fees					
License Fees Paid	22.688	166.488	0	0	189.175
per tonne	1055,2	38,2	#DIV/0!	#DIV/0!	43,2
as % of catch value	51%	4%	#DIV/0!	#DIV/0!	5%
Compensation Estimate					
Catch t	22	4.361	0	0	4.382
Catch Value €/year	44.161	3.741.745	-	-	3.785.906
Compensation €/year	-	-	-	-	-
Licence fees received €/year	22.688	166.488	0	0	189.175
Price (Comp plus licence) €/t	1.055	38	#DIV/0!	#DIV/0!	43
Price % of catch value	51%	4%	#DIV/0!	#DIV/0!	5%
Scenario: NO agreement Scenario					
Segment	Surface Longline	Seiners	P&L	Crab	Total
STP Benefits					
Compensation	-	-	-	-	-
Direct VA	29.700	-	-	-	29.700
Indirect VA (inc. licences)	22.688	166.488	-	-	189.175
Total STP benefit	52.388	166.488	-	-	218.875
STP Costs					
Admin	4.116	6.736	-	-	10.852
MCS/Observers	-	-	-	-	-
Catch Value (=EC Direct VA foregone)	11.847	815.678	-	-	827.526
Total STP Costs	15.964	822.414	-	-	838.378
STP Net Benefits					
Net STP Benefit	36.424	-655.927	0	0	-619.503
GoSTP gross rent	51%	4%	#DIV/0!	#DIV/0!	5%
STP gross economic rent	119%	4%	#DIV/0!	#DIV/0!	6%
Upstream employment	0	0	0	0	0
Direct employment	8	0	0	0	8
Downstream employment	0	0	0	0	0
Total employment	8	0	0	0	8
EC Benefits					
Direct VA	11.847	815.678	0	0	827.526
Upstream VA	13.498	770.580	0	0	784.077
Downstream VA	1.075	2.249.146	0	0	2.250.221

Purse seiners

EC/FPA Fleet Averages Deployment 2002-4		27,0	
Crew			
EC Crew	13		
STP Crew	0		
Other Crew	9		
Total Crew	22		
	<i>Single Vessel</i>	<i>Fleet</i>	
Annual Catch per year in STP	162	4.361	
Dependency	4,7%		
Est total Annual Catch	3.450	93.150	
Average price / tonne	858		
	<i>Single Vessel</i>	<i>Fleet</i>	
Estimated sales €	2.960.445	79.932.015	
Costs C			Value Added
Variable			<i>of which EC</i> <i>Rate of VA</i> <i>EC VA</i> <i>of which STP</i> <i>Rate of VA</i> <i>STP VA</i>
Labour costs	18,54%	14.819.396	10.530.000 100% 10.530.000 0 100% 0
Social Charges	6,51%	5.203.574	3.697.427 100% 3.697.427 0 100% 0
food	2,51%	2.006.294	2.006.294 15% 300.944 0 15% 0
cost of selling fish	0,76%	607.483	607.483 40% 242.993 0 40% 0
repairs and maintenance	1,11%	887.245	221.811 15% 33.272 0 30% 0
Consumables			
fuel	20,93%	16.729.771	0 100% 0 0 45% 0
lubs	1,43%	1.143.028	0 100% 0 0 45% 0
Water	0,06%	47.959	0 100% 0 0 15% 0
Office	0,02%	15.986	0 100% 0 0 15% 0
Others	0,78%	623.470	0 100% 0 0 15% 0
Services			
Insurance	3,49%	2.789.627	2.789.627 40% 1.115.851 0 40% 0
Communication	7,54%	6.026.874	6.026.874 25% 1.506.718 0 25% 0
Crew logistic costs	1,54%	1.230.953	1.230.953 25% 307.738 0 25% 0
Others	3,69%	2.949.491	2.949.491 40% 1.179.797 0 40% 0
Repairs	9,77%	7.809.358	0 0 25% 0
Dues and Taxes			
Port costs	0,18%	143.878	0 100% 0 0 100% 0
License Fee	2,41%	1.926.362	0 100% 0 166.488 100% 166.488
Total costs	81,27%	64.960.749	
Gross cash flow		14.971.266	
Depreciation & financing	14,73%	11.773.986	11.773.986 100% 11.773.986 0
Net profit	4,00%	3.197.281	3.197.281 100% 3.197.281 0
Tax		1.119.048	Total VA EC 33.886.007 Total VA STP 166.488
Profit after Tax		2.078.232	Total direct VA EC 17.424.708 STP 0
			of which Upstream VA 16.461.299 of which Upstream VA 166.488
	<i>Single Vessel</i>	<i>Fleet</i>	<i>Attributable to FA</i>
Value Added			
Direct EC VA	645.360	17.424.708	815.678
DirectSTP VA (Operations)	0	0	0
Upstream EC VA(mEUR)	609.678	16.461.299	770.580
Upstream STP VA (inc licence fees)	6.166	166.488	166.488
Downstream EC VA (mEUR)	1.779.510	48.046.770	2.249.146
Downstream STP VA	0	0	0
Employment			
EC Crew	13	351	16
STP Crew	-	-	-
Upstream EC Jobs	22	594	28
Upstream STP Jobs	-	-	-
Downstream EC Jobs	224,3	6.055	283
Downstream STP Jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	3.450	93.150	4.361
Total Value	2.960.445	79.932.015	3.741.745
Operator profits	118.418	3.197.281	149.670
EC Labour Costs	526.942	14.227.427	666.009
CV Labour Costs	-	-	-

Surface longliners

EC/FPA Fleet Averages		16,5	
Deployment 2002-4			
Crew			
EC Crew	6		
STP Crew	1		
Other Crew	9		
Total Crew	16		
	Single Vessel	Fleet	
Annual Catch per year in STP	1	22	
Dependency	0,3%		
Est total Annual Catch	433	7.145	
Average price / tonne	2.054		
	Single Vessel	Fleet	
Estimated sales €	889.382	14.674.803	
Costs €			
Variable			Value Added
			<i>of which EC Rate of VA EC VA</i>
			<i>of which STP Rate of VA STP VA</i>
Labour costs	14,55%	2.135.184	2.105.484 100% 2.105.484
Social Charges	4,85%	711.728	711.728 100% 711.728
food	1,44%	211.317	211.317 15% 31.698
cost of selling fish	20,18%	2.961.375	2.961.375 40% 1.184.550
repairs and maintenance	10,19%	1.495.362	0 5% 0
Consumables			
fuel	7,31%	1.072.728	0 100% 0
lubs	0,73%	107.126	0 100% 0
Water		0	0 100% 0
Office		0	0 100% 0
Others (Bait Pkg)	0,88%	129.138	129.138 25% 32.285
Services			
Insurance	1,52%	223.057	223.057 40% 89.223
Communication		0	0 25% 0
Crew logistic costs	1,54%	225.992	225.992 25% 56.498
Others	4,66%	683.846	683.846 40% 273.538
Repairs		0	0 25% 0
Dues and Taxes			
Port costs	0,48%	70.439	0 100% 0
License Fee & Taxes	4,84%	710.260	0 100% 0
Total costs	73,17%	10.737.553	
Gross cash flow		3.937.250	
Depreication & financing	19,20%	2.817.562	2.817.562 100% 2.817.562
Net profit	7,63%	1.119.687	1.119.687 100% 1.119.687
Tax		391.891	
Profit after Tax		727.797	Total direct VA EC 8.422.253 Total direct VA STP 52.388
	Single Vessel	Fleet	Attributable to FA
Value Added			
Direct EC VA	238.600	3.936.899	11.847
DirectSTP VA (Fees)	1.375	22.688	22.688
DirectSTP VA (Operations)	1.800	29.700	29.700
Upstream EC VA(mEUR)	271.840	4.485.354	13.498
Downstream EC VA (mEUR)	21.650	357.225	1.075
Upstream STP VA (inc fees)	1.375	22.688	22.688
Downstream STP VA	0	0	0
Employment			
EC Crew	6	99	0,3
STP Crew	1	17	8,3
Upstream EC Jobs	18	297	0,9
Upstream STP Jobs	-	-	-
Downstream EC Jobs	2	32	0,1
Downstream STP jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	433	7.145	22
Total Value	889.382	14.674.803	44.161
Operator profits	67.860	1.119.687	3.369
EC Labour Costs	170.740	2.817.212	8.478

50% job dependency

Scenario 3: No Surface longline possibilities

Summary Table

Segment	Surface Longline	Seiners	P&L	Crab	Total
Fishing opportunities provided	0	36	2	3	41
N° vessels buying licence	0,0	27,0	0,0	0,0	27,0
Dependency	0,3%	4,7%	0,0%	0,0%	
Value Added					
Direct EC VA	0	815.678	0	0	815.678
Upstream EC VA	0	770.580	0	0	770.580
Downstream EC VA	0	2.249.146	0	0	2.249.146
DirectSTP VA (Operations)	0	0	0	0	-
Upstream STP VA (inc licence fees)	0	166.488	0	0	166.488
Downstream STP VA	0	0	0	0	-
Total EC VA	0	3.835.404	0	0	3.835.404
Total STP VA	0	166.488	0	0	166.488
Employment					
EC Crew	0	16	0	0	16
Downstream EC Jobs	0	283	0	0	283
Upstream EC Jobs	0	28	0	0	28
STP Crew	0	0	0	0	-
Upstream STP Jobs	0	0	0	0	-
Downstream STP Jobs	0	0	0	0	-
Total EC Employment	0	328	0	0	328
Total STP Employment	0	0	0	0	0
Fleet Segment Catches					
Total Tonnes	0	4.361	0	0	4.361
Total Value	0	3.741.745	0	0	3.741.745
License Fees					
License Fees Paid	0	166.488	0	0	166.488
per tonne	#DIV/0!	38,2	#DIV/0!	#DIV/0!	38,2
as % of catch value	#DIV/0!	4%	#DIV/0!	#DIV/0!	4%
Compensation Estimate					
Catch t	0	4.361	0	0	4.361
Catch Value €/year	-	3.741.745	-	-	3.741.745
Compensation €/year	-	580.220	5.372	-	585.592
Licence fees received €/year	0	166.488	0	0	166.488
Price (Comp plus licence) €/t	#DIV/0!	171	#DIV/0!	#DIV/0!	172
Price % of catch value	#DIV/0!	20%	#DIV/0!	#DIV/0!	20%
Scenario:					3 Scenario
Segment	Surface Longline	Seiners	P&L	Crab	Total
STP Benefits					
Compensation	-	580.220	5.372	-	585.592
Direct VA	-	-	-	-	-
Indirect VA (inc. licences)	-	166.488	-	-	166.488
Total STP benefit	-	746.707	5.372	-	752.080
STP Costs					
Admin	-	10.852	-	-	10.852
MCS/Observers	-	-	-	-	-
Catch Value (=EC Direct VA foregone)	-	815.678	-	-	815.678
Total STP Costs	-	826.530	-	-	826.530
STP Net Benefits					
Net STP Benefit	0	-79.823	5.372	0	-74.451
GoSTP gross rent	#DIV/0!	20%	#DIV/0!	#DIV/0!	20%
STP gross economic rent	#DIV/0!	20%	#DIV/0!	#DIV/0!	20%
Upstream employment	0	0	0	0	0
Direct employment	0	0	0	0	0
Downstream employment	0	0	0	0	0
Total employment	0	0	0	0	0
EC Benefits					
Direct VA	0	815.678	0	0	815.678
Upstream VA	0	770.580	0	0	770.580
Downstream VA	0	2.249.146	0	0	2.249.146
Total Community VA	0	3.835.404	0	0	3.835.404

Purse seiners

EC/FPA Fleet Averages Deployment 2002-4		27,0	
Crew			
EC Crew	13		
STP Crew	0		
Other Crew	9		
Total Crew	22		
	<i>Single Vessel</i>	<i>Fleet</i>	
Annual Catch per year in STP	162	4.361	
Dependency	4,7%		
Est total Annual Catch	3.450	93.150	
Average price / tonne	858		
	<i>Single Vessel</i>	<i>Fleet</i>	
Estimated sales C	2.960.445	79.932.015	
Costs C		Value Added	
Variable		<i>of which EC</i>	<i>Rate of VA EC VA</i>
Labour costs	18,54% 14.819.396	10.530.000	100% 10.530.000
Social Charges	6,51% 5.203.574	3.697.427	100% 3.697.427
food	2,51% 2.006.294	2.006.294	15% 300.944
cost of selling fish	0,76% 607.483	607.483	40% 242.993
repairs and maintenance	1,11% 887.245	221.811	15% 33.272
Consumables			
fuel	20,93% 16.729.771	0	100% 0
lubs	1,43% 1.143.028	0	100% 0
Water	0,06% 47.959	0	100% 0
Office	0,02% 15.986	0	100% 0
Others	0,78% 623.470	0	100% 0
Services			
Insurance	3,49% 2.789.627	2.789.627	40% 1.115.851
Communication	7,54% 6.026.874	6.026.874	25% 1.506.718
Crew logistic costs	1,54% 1.230.953	1.230.953	25% 307.738
Others	3,69% 2.949.491	2.949.491	40% 1.179.797
Repairs	9,77% 7.809.358	0	0 25% 0
Dues and Taxes			
Port costs	0,18% 143.878	0	100% 0
License Fee	2,41% 1.926.362	0	100% 0
Total costs	81,27% 64.960.749		
Gross cash flow	14.971.266		
Depreiation & finacing	14,73% 11.773.986	11.773.986	100% 11.773.986
Net profit	4,00% 3.197.281	3.197.281	100% 3.197.281
Tax	1.119.048	Total VA	EC 33.886.007
Profit after Tax	2.078.232	Total direct VA	EC 17.424.708
		of which Upstream VA	16.461.299
		of which Upstream VA	166.488
	<i>Single Vessel</i>	<i>Fleet Attributable to FA</i>	
Value Added			
Direct EC VA	645.360	17.424.708	815.678
DirectSTP VA (Operations)	0	0	0
Upstream EC VA(mEUR)	609.678	16.461.299	770.580
Upstream STP VA (inc licence fees)	6.166	166.488	166.488
Downstream EC VA (mEUR)	1.779.510	48.046.770	2.249.146
Downstream STP VA	0	0	0
Employment			
EC Crew	13	351	16
STP Crew	-	-	-
Upstream EC Jobs	22	594	28
Upstream STP Jobs	-	-	-
Downstream EC Jobs	224,3	6.055	283
Downstream STP Jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	3.450	93.150	4.361
Total Value	2.960.445	79.932.015	3.741.745
Operator profits	118.418	3.197.281	149.670
EC Labour Costs	526.942	14.227.427	666.009
CV Labour Costs	-	-	-

*Scenario 4 No surface longliners, plus intervention for institutional strengthening*Summary Table

Scenario	4 No SLL plus intervention				
Segment	Surface Longline	Seiners	P&L	Crab	Total
Fishing opportunities provided	0	36	2	3	41
N° vessels buying licence	0,0	27,0	2,0	3,0	32,0
Dependency	0,3%	4,7%	7,1%	99,9%	
Value Added					
Direct EC VA	0	815.678	56.168	464.833	1.336.679
Upstream EC VA	0	761.070	15.039	518.894	1.295.003
Downstream EC VA	0	2.249.146	25.790	8.300	2.283.236
Direct STP VA (Operations)	0	213.840	49.816	10.800	274.456
Upstream STP VA (inc licence fees)	0	1.411.109	17.466	157.401	1.585.976
Downstream STP VA	0	931.500	7.000	1.662	940.162
Total EC VA	0	3.825.894	96.997	992.027	4.914.918
Total STP VA	0	2.556.449	74.282	169.863	2.800.594
Employment					
EC Crew	0	16	1	18	35
Downstream EC Jobs	0	283	0	1	284
Upstream EC Jobs	0	25	3	54	82
STP Crew	0	27	4	3	34
Upstream STP Jobs	0	59	4	5	68
Downstream STP Jobs	0	0	3	0	3
Total EC Employment	0	325	4	73	401
Total STP Employment	0	86	11	8	106
Fleet Segment Catches					
Total Tonnes	0	4.361	50	166	4.577
Total Value	0	3.741.745	97.500	1.759.600	5.598.845
License Fees					
License Fees Paid	0	166.488	1.250	126.000	293.738
per tonne	#DIV/0!	38,2	25,0	759,0	64,2
as % of catch value	#DIV/0!	4%	1%	7%	5%
Compensation Estimate					
Catch t	0	4.361	50	166	4.577
Catch Value €/year	-	3.741.745	97.500	1.759.600	5.598.845
Compensation €/year	-	580.220	5.372	-	585.592
Licence fees received €/year	0	166.488	1.250	126.000	293.738
Price (Comp plus licence) €/t	#DIV/0!	171	132	759	192
Price % of catch value	#DIV/0!	20%	7%	7%	16%
Scenario: 4 Scenario					
Segment	Surface Longline	Seiners	P&L	Crab	Total
STP Benefits					
Compensation	-	580.220	5.372	-	585.592
Direct VA	-	213.840	49.816	10.800	274.456
Indirect VA (inc. licences)	-	2.342.609	24.466	159.063	2.526.138
Total STP benefit	-	3.136.669	79.655	169.863	3.386.186
STP Costs					
Admin	-	148.228	10.980	16.470	175.678
MCS/Observers	-				
Catch Value (=EC Direct VA foregone)	-	815.678	56.168	464.833	1.336.679
Total STP Costs	-	963.906	67.148	481.303	1.512.357
STP Net Benefits					
Net STP Benefit	0	2.172.762	12.507	-311.440	1.873.829
GoSTP gross rent	#DIV/0!	20%	7%	7%	16%
STP gross economic rent	#DIV/0!	84%	82%	10%	60%
Upstream employment	0	59	4	5	68
Direct employment	0	27	4	3	34
Downstream employment	0	0	3	0	3
Total employment	0	86	11	8	106
EC Benefits					
Direct VA	0	815.678	56.168	464.833	1.336.679
Upstream VA	0	761.070	15.039	518.894	1.295.003
Downstream VA	0	2.249.146	25.790	8.300	2.283.236

Purse seiners

EC/FPA Fleet Averages Deployment 2002-4		27,0	
Crew			
EC Crew	13		
STP Crew	0		
Other Crew	9		
Total Crew	22		
	<i>Single Vessel</i>	<i>Fleet</i>	
Annual Catch per year in STP	162	4.361	
Dependency	4,7%		
Est total Annual Catch	3.450	93.150	
Average price / tonne	858		
	<i>Single Vessel</i>	<i>Fleet</i>	
Estimated sales €	2.960.445	79.932.015	
Costs €		Value Added	
Variable		<i>of which EC</i>	<i>Rate of VA EC VA</i>
Labour costs	18,54% 14.819.396	10.530.000	100% 10.530.000
Social Charges	6,51% 5.203.574	3.697.427	100% 3.697.427
food	2,51% 2.006.294	1.805.664	15% 270.850
cost of selling fish	0,76% 607.483	546.735	40% 218.694
repairs and maintenance	1,11% 887.245	221.811	15% 33.272
Consumables			
fuel	20,93% 16.729.771	0	100% 0
lubs	1,43% 1.143.028	0	100% 0
Water	0,06% 47.959	0	100% 0
Office	0,02% 15.986	0	100% 0
Others	0,78% 623.470	0	100% 0
Services			
Insurance	3,49% 2.789.627	2.789.627	40% 1.115.851
Communication	7,54% 6.026.874	6.026.874	25% 1.506.718
Crew logistic costs	1,54% 1.230.953	1.107.858	25% 276.964
Others	3,69% 2.949.491	2.654.542	40% 1.061.817
Repairs	9,77% 7.809.358	0	0
Dues and Taxes			
Port costs	0,18% 143.878	0	100% 0
License Fee	2,41% 1.926.362	0	100% 0
Total costs	81,27% 64.960.749		
Gross cash flow	14.971.266		
Depreiation & financing	14,73% 11.773.986	11.773.986	100% 11.773.986
Net profit	4,00% 3.197.281	3.197.281	100% 3.197.281
Tax	1.119.048	Total VA	EC 33.682.860
Profit after Tax	2.078.232	Total direct VA	EC 17.424.708
		of which Upstream VA	16.258.152
		of which Upstream VA	1.411.109
	<i>Single Vessel</i>	<i>Fleet Attributable to FA</i>	
Value Added			
Direct EC VA	645.360	17.424.708	815.678
DirectSTP VA (Operations)	7.920	213.840	213.840
Upstream EC VA(mEUR)	602.154	16.258.152	761.070
Upstream STP VA (inc licence fees)	52.263	1.411.109	1.411.109
Downstream EC VA (mEUR)	1.779.510	48.046.770	2.249.146
Downstream STP VA	34.500	931.500	931.500
Employment			
EC Crew	13	351	16
STP Crew	1	27	27
Upstream EC Jobs	20	535	25
Upstream STP Jobs	2	59	59
Downstream EC Jobs	224,3	6.055	283
Downstream STP Jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	3.450	93.150	4.361
Total Value	2.960.445	79.932.015	3.741.745
Operator profits	118.418	3.197.281	149.670
EC Labour Costs	526.942	14.227.427	666.009
CV Labour Costs	7.920	213.840	10.010

Pole and line

Deployment 2002-4					2,0				
Crew									
<i>Single Vessel</i>									
EC Crew					6				
STP Crew					2				
Other Crew					7				
Total Crew					15				
Catch									
		%			€/t				
T Obessus					75%		1.950		
T Albacares					25%		1.950		
Average									
1.950									
Annual Catch per year in STP									
<i>Single Vessel</i>									
<i>Fleet</i>									
Annual Catch per year in STP					25		50		
Dependency					7%				
Est total Annual Catch					350		700		
Average price / tonne					1.950				
Estimated sales €									
<i>Single Vessel</i>									
<i>Fleet</i>									
Estimated sales €					682.500		1.365.000		
Costs C									
Variable									
Labour costs	46,06%	628.719	595.119	100%	595.119	33.600	100%	33.600	
Social Charges	10,73%	146.465	146.465	100%	146.465	0	100%	0	
food	1,48%	20.202	18.182	15%	2.727	2.020	15%	303	
cost of selling fish	0,37%	5.051	2.525	40%	1.010	2.525	40%	1.010	
repairs and maintenance	5,24%	71.526		100%	0	7.153	30%	2.146	
Consumables									
fuel	10,73%	146.465	0	100%	0	14.646	45%	6.591	
lubs	0,89%	12.149		100%	0	1.215	45%	547	
Water		0		100%	0	0	15%	0	
Office		0		100%	0	0	15%	0	
Others (bait, ice, pkg)	1,34%	18.291	18.291	25%	4.573	1.829	15%	274	
Services									
Insurance	1,30%	17.745	17.745	40%	7.098	1.775	40%	710	
Communication		0	0	25%	0	0	25%	0	
Crew logistic costs		0	0	25%	0	0	25%	0	
Others	0,74%	10.101	10.101	40%	4.040	1.010	40%	404	
Repairs		0			0	0	25%	0	
Dues and Taxes									
Port costs	3,10%	42.315	0	100%	0	4.232	100%	4.232	
License Fee	0,74%	10.101	0	100%	0	1.250	100%	1.250	
Total costs	82,72%	1.129.128							
Gross cash flow		235.872							
Depreciation & financing	14,00%	191.100	191.100	100%	191.100			0	
Net profit	3,3%	44.772	44.772	100%	44.772			0	
Tax		15.670							
Profit after Tax		29.102	Total VA	EC	996.904	Total VA	STP	51.066	
			of which Direct VA		786.356	of which Direct VA		33.600	
			of which Upstream VA		210.549	of which Upstream VA		17.466	

	<i>Single Vessel</i>	<i>Fleet Attributable to FA</i>	
Value Added			
Direct EC VA	393.178	786.356	56.168
Direct STP VA Operational	16.800	33.600	33.600
Upstream EC VA	105.274	210.549	15.039
Upstream STP VA (inc fees)	8.733	17.466	17.466
Downstream EC VA (mEUR)	180.530	361.060	25.790
Downstream STP VA	3.500	7.000	7.000
Employment			
EC Crew	6	12	1
STP Crew	2	4	4
Upstream EC Jobs	18	36	3
Upstream STP Jobs	2	4	4
Downstream EC Jobs	2	3	0
Downstream STP Jobs	2	3	3
Fleet Segment Catches			
Total Tonnes	350	700	50
Total Value	682.500	1.365.000	97.500
Operator profits			
EC Labour Costs	370.792	741.584	52.970
STP Labour Costs	16.800	33.600	33.600

Crab fishing

EC/FPA Fleet Averages											
Deployment 2002-4				3,0							
Crew											
EC Crew	6										
STP Crew	1										
Other Crew	9										
Total Crew	16										
		<i>Single Vessel</i>		<i>Fleet</i>							
Annual Catch per year in STP	55			166							
Dependency	99,9%			100%							
Est total Annual Catch	55			166							
Average price / tonne	10.600										
		<i>Single Vessel</i>		<i>Fleet</i>							
Estimated sales €	587.240			1.761.720							
Costs €											
Variable				Value Added							
				<i>of which EC</i>		<i>Rate of VA</i>		<i>EC VA</i>		<i>which STP</i>	
				<i>Rate of VA</i>		<i>EC VA</i>		<i>which STP</i>		<i>Rate of VA</i>	
				<i>STP VA</i>		<i>Rate of VA</i>		<i>STP VA</i>			
Labour costs	14,55%	256.330		245.530	100%	245.530	10.800	100%	10.800		
Social Charges	4,85%	85.443		85.443	100%	85.443	0	100%	0		
food	1,44%	25.369		22.832	15%	3.425	2.537	15%	381		
cost of selling fish	20,18%	355.515		319.964	40%	127.985	35.552	40%	14.221		
repairs and maintenance	10,19%	179.519		0	5%	0	17.952	30%	5.386		
Consumables											
fuel	7,31%	128.782			100%	0	12.878	45%	5.795		
lubs	0,73%	12.861			100%	0	1.286	45%	579		
Water		0			100%	0	0	15%	0		
Office		0			100%	0	0	15%	0		
Others (Bait Pkg)	0,88%	15.503		13.953	25%	3.488	1.550	15%	233		
Services											
Insurance	1,52%	26.778		26.778	40%	10.711		40%	0		
Communication		0		0	25%	0		25%	0		
Crew logistic costs	1,54%	27.130		24.417	25%	6.104	2.713	25%	678		
Others	4,66%	82.096		73.887	40%	29.555	8.210	40%	3.284		
Repairs		0				0		25%	0		
Dues and Taxes											
Port costs	0,48%	8.456		0	100%	0	846	100%	846		
License Fee & Taxes	4,84%	85.267		0	100%	0	126.000	100%	126.000		
Total costs	73,17%	1.289.051									
Gross cash flow		472.669									
Depreciation & financing	19,20%	338.250		338.250	100%	338.250			0		
Net profit	7,63%	134.419		134.419	100%	134.419			0		
Tax		47.047		Total VA	EC	984.912	Total VA	STP	168.201		
Profit after Tax		87.373		Total direct VA	EC	465.393	Total direct	STP	10.800		
				Upstream		519.519		157.401			
		<i>Single Vessel</i>		<i>Fleet</i>		<i>Attributable to FA</i>					
Value Added											
Direct EC VA	155.131	465.393	464.833								
DirectSTP VA (Fees)	42.000	126.000	126.000								
DirectSTP VA (Operations)	3.600	10.800	10.800								
Upstream EC VA (mEUR)	173.173	519.519	518.894								
Upstream STP VA (inc fees)	52.467	157.401	157.401								
Downstream EC VA (mEUR)	2.770	8.310	8.300								
Downstream STP VA	554	1.662	1.662								
Employment											
EC Crew	6	18	18								
STP Crew	1	3	3								
Upstream EC Jobs	18	54	54								
Upstream STP Jobs	2	5	5								
Downstream EC Jobs	0	1	1								
Downstream STP Jobs	-	-	-								
Fleet Segment Catches											
Total Tonnes	55	166	166								
Total Value	587.240	1.761.720	1.759.600								
Operator profits	44.806	134.419	134.257								
EC Labour Costs	110.325	330.974	330.575								

Scenario 5: Purse seine onlySummary Table

Scenario Segment	5 No SLL, P&L, Crab					Total
	Surface Longline	Seiners	P&L	Crab		
Fishing opportunities provided	0	36	0	0		36
N° vessels buying licence	0,0	27,0	0,0	0,0		27,0
Dependency	0,3%	4,7%	0,0%	0,0%		
Value Added						
Direct EC VA	0	815.678	0	0		815.678
Upstream EC VA	0	770.580	0	0		770.580
Downstream EC VA	0	2.249.146	0	0		2.249.146
DirectSTP VA (Operations)	0	0	0	0		-
Upstream STP VA (inc licence fees)	0	166.488	0	0		166.488
Downstream STP VA	0	0	0	0		-
Total EC VA	0	3.835.404	0	0		3.835.404
Total STP VA	0	166.488	0	0		166.488
Employment						
EC Crew	0	16	0	0		16
Downstream EC Jobs	0	283	0	0		283
Upstream EC Jobs	0	28	0	0		28
STP Crew	0	0	0	0		-
Upstream STP Jobs	0	0	0	0		-
Downstream STP Jobs	0	0	0	0		-
Total EC Employment	0	328	0	0		328
Total STP Employment	0	0	0	0		0
Fleet Segment Catches						
Total Tonnes	0	4.361	0	0		4.361
Total Value	0	3.741.745	0	0		3.741.745
License Fees						
License Fees Paid	0	166.488	0	0		166.488
per tonne	#DIV/0!	38,2	#DIV/0!	#DIV/0!		38,2
as % of catch value	#DIV/0!	4%	#DIV/0!	#DIV/0!		4%
Compensation Estimate						
Catch t	0	4.361	0	0		4.361
Catch Value €/year	-	3.741.745	-	-		3.741.745
Compensation €/year	-	580.220	-	-		580.220
Licence fees received €/year	0	166.488	0	0		166.488
Price (Comp plus licence) €/t	#DIV/0!	171	#DIV/0!	#DIV/0!		171
Price % of catch value	#DIV/0!	20%	#DIV/0!	#DIV/0!		20%
Scenario: 5 Scenario						
Segment	Surface Longline	Seiners	P&L	Crab		Total
STP Benefits						
Compensation	-	580.220	-	-		580.220
Direct VA	-	-	-	-		-
Indirect VA (inc. licences)	-	166.488	-	-		166.488
Total STP benefit	-	746.707	-	-		746.707
STP Costs						
Admin	-	10.852	-	-		10.852
MCS/Observers	-	-	-	-		-
Catch Value (=EC Direct VA foregone)	-	815.678	-	-		815.678
Total STP Costs	-	826.530	-	-		826.530
STP Net Benefits						
Net STP Benefit	0	-79.823	0	0		-79.823
GoSTP gross rent	#DIV/0!	20%	#DIV/0!	#DIV/0!		20%
STP gross economic rent	#DIV/0!	20%	#DIV/0!	#DIV/0!		20%
Upstream employment	0	0	0	0		0
Direct employment	0	0	0	0		0
Downstream employment	0	0	0	0		0
Total employment	0	0	0	0		0
EC Benefits						
Direct VA	0	815.678	0	0		815.678
Upstream VA	0	770.580	0	0		770.580
Downstream VA	0	2.249.146	0	0		2.249.146

Purse seine

EC/FPA Fleet Averages Deployment 2002-4		27,0	
Crew			
EC Crew	13		
STP Crew	0		
Other Crew	9		
Total Crew	22		
	<i>Single Vessel</i>	<i>Fleet</i>	
Annual Catch per year in STP	162	4.361	
Dependency	4,7%		
Est total Annual Catch	3.450	93.150	
Average price / tonne	858		
	<i>Single Vessel</i>	<i>Fleet</i>	
Estimated sales C	2.960.445	79.932.015	
Costs C		Value Added	
Variable		<i>of which EC</i>	<i>Rate of VA EC VA</i>
Labour costs	18,54% 14.819.396	10.530.000	100% 10.530.000
Social Charges	6,51% 5.203.574	3.697.427	100% 3.697.427
food	2,51% 2.006.294	2.006.294	15% 300.944
cost of selling fish	0,76% 607.483	607.483	40% 242.993
repairs and maintenance	1,11% 887.245	221.811	15% 33.272
Consumables			
fuel	20,93% 16.729.771	0	100% 0
lubs	1,43% 1.143.028	0	100% 0
Water	0,06% 47.959	0	100% 0
Office	0,02% 15.986	0	100% 0
Others	0,78% 623.470	0	100% 0
Services			
Insurance	3,49% 2.789.627	2.789.627	40% 1.115.851
Communication	7,54% 6.026.874	6.026.874	25% 1.506.718
Crew logistic costs	1,54% 1.230.953	1.230.953	25% 307.738
Others	3,69% 2.949.491	2.949.491	40% 1.179.797
Repairs	9,77% 7.809.358	0	0 25% 0
Dues and Taxes			
Port costs	0,18% 143.878	0	100% 0
License Fee	2,41% 1.926.362	0	100% 0
Total costs	81,27% 64.960.749		
Gross cash flow	14.971.266		
Depreiation & finacing	14,73% 11.773.986	11.773.986	100% 11.773.986
Net profit	4,00% 3.197.281	3.197.281	100% 3.197.281
Tax	1.119.048	Total VA	EC 33.886.007
Profit after Tax	2.078.232	Total direct VA	EC 17.424.708
		of which Upstream VA	16.461.299
		of which Upstream VA	166.488
	<i>Single Vessel</i>	<i>Fleet Attributable to FA</i>	
Value Added			
Direct EC VA	645.360	17.424.708	815.678
DirectSTP VA (Operations)	0	0	0
Upstream EC VA(mEUR)	609.678	16.461.299	770.580
Upstream STP VA (inc licence fees)	6.166	166.488	166.488
Downstream EC VA (mEUR)	1.779.510	48.046.770	2.249.146
Downstream STP VA	0	0	0
Employment			
EC Crew	13	351	16
STP Crew	-	-	-
Upstream EC Jobs	22	594	28
Upstream STP Jobs	-	-	-
Downstream EC Jobs	224,3	6.055	283
Downstream STP Jobs	-	-	-
Fleet Segment Catches			
Total Tonnes	3.450	93.150	4.361
Total Value	2.960.445	79.932.015	3.741.745
Operator profits	118.418	3.197.281	149.670
EC Labour Costs	526.942	14.227.427	666.009
CV Labour Costs	-	-	-

ANNEX 6: INTERVENTION PROJECT; STRENGTHENING OF FISHERIES INSTITUTIONAL CAPACITY IN STP

Project summary

The intervention will support institutional strengthening (training, financial management, data systems, public sector administration) and focus on upgrading of DP activities in three key areas fisheries policy framework, fisheries resource management, sanitary conditions for exports. The duration will be 3 years and the cost will be €2.1 million. Project funds are used to support technical assistance, training and strengthening of DP facilities. Part of the financial compensation received from the EU/STP will be used to improve quantity and quality of staffing. Targeted action funding from the FPA will provide the operational budgets for the implementation of specific activities.

The project may be implemented through a consultancy contract and/or twinning programme with an EU Member State. The project may be developed and launched as a DG Development/AIDCO intervention, with EDF funding. However such funding is not currently programmed under the 9th.EDF.

Wider objectives

To improve the sustainability and quality of livelihoods in rural and coastal communities in STP.

Specific objectives

Strengthen and develop the capacity of the STP institutions to design and implement a fisheries development and management policy.

Outputs & Results to be achieved

1. Improved competence and functionality of organisational structure with defined responsibilities and accountabilities
2. Strengthened legal framework for regulation of domestic and foreign fishing
3. Operating policy development mechanism including DP planning and implementation capacity and consultative mechanisms
4. Coordinated and effective fisheries monitoring control and surveillance activities undertaken (land, sea and air)
5. Fisheries statistics and observer programmes in place and data assimilated for policy decisions
6. EDF ACP health conditions project planned and launched
7. Targeted actions under the FPA planned and launched (as per above).

Activities

1. Institutional development of the DP

The project will assess the institutional needs of the DP in terms of its scope and dimension of functions, and advise on appropriate structure and functions of each post. The project will advise on and assist in recruitment. It will advise on assessment of training needs and design of training programmes for staff. It will provide training opportunities. This will include long term training to degree/MSc level in fisheries management (XX person months EU based). The project will provide ST TA for the design and

implementation of financial and administrative systems to allow the receipt and management of external funding. In STP training and ST TA will assist in project planning, management and implementation based on the logical framework approach. The project will support the preparation of annual plans and reports on all activities.

2. Fisheries policy and legal

The project will review current legal instruments and system and recommend and draft new or amended regulations as required. It will recommend and support appropriate consultative procedures, and assist in establishing policy mechanisms and consultative body. Long term (c.1 year) training in fisheries policy and law will be supported at an EU institution.

3. Sector review and policy recommendations

The project will support a fisheries sector review and policy study, leading to the development of proposals for an operational programme for fisheries management and development. This will be costed and contain proposals for the use of targeted action funds under the FPA.

4. Development of Fisheries MCS system

The project will advise on the design and implementation of fisheries MCS, maximizing the use of existing land, sea and air resources. MCS programmes will be designed within budgets available under targeted action funding focusing on enforcement of current regulations and license conditions. The project will support in service MCS training of STP staff and an EU based MCS study tour.

5. Fisheries Information system

The project will assist in the development of sustainable statistical systems for catch and effort in both artisanal and foreign fishing operations. It will establish a regular catch and effort survey of small scale fisheries building on existing systems. It will assist the DP to monitor and collate catch returns from foreign vessels in line with license conditions. It will design, launch and monitor observer programme (with focus on target catches of sharks and bycatch of turtles) and will support the analysis of data and its use as a basis for policy decisions. It will assist with the utilization of targeted action funding under the FPA in support of the operation costs of these activities. The project will support the installation of computer network and fisheries database software. It will support EU-based long term training in fisheries information and management and in service training of staff in STP.

6. Health conditions

The project will provide support to the DP in managing the intervention for Strengthening health conditions for fishery products in ACP countries, start foreseen in late 2004/early 2005. It will provide coordination and assist in implementing preconditions and project activities within STP. This will include organisation of inspection services, record keeping and information system and communication with DG SANCO.

7. Auditing and Budgeting Controls

This includes the TA to DP/MADRP/DGTP to establish protocol, budgeting procedures, accounting and audit systems, implementation of which is a pre-condition of the project.

Means and Costs

Component	Unit	No. Required	Unit cost €	Total €
LTTA	Month	36	16,000	576,000
STTA	Month	42	23,000	966,000
Training EU	Annual	3	15,000	45,000
Training STP	Month	12	3,000	36,000
Study tours	Person weeks	20	2,500	50,000
Equipment and software	Lump sum	1	150,000	150,000
Running costs and Consumables	Year	3	25,000	75,000
Subtotal				1,898,000
Contingency 10%				189,800
TOTAL				2,087,800
Cost per year				695,933

Assumptions

1. Targeted action funds available to provide fisheries operations budget
2. 50% of financial compensation allocated by Government of STP for staffing budget of DP

Preconditions

1. Implementation of a short technical assistance programme to introduce proper budgetary and audit procedures in the MADRP, the DP and Direcção de Tesouro e Património of the Ministério das Finanças with a view to introducing proper accounting for financial compensation and targeted action finances.
2. Confirmed implementation of the procedures designed at 1.