Nordenfjeldske Development Services

MEMBER OF THE PÖYRY GROUP

Identification of Potential Aquaculture and Fish Processing Investment Projects and Partners in Selected Countries in Africa

Volume II - Main Report

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Foreword

This report is one of four documents produced during a study conducted on the 'Identification of potential aquaculture and fish processing investment projects and partners in selected countries in Africa'. The study emanates from a memo to the Ministry of Foreign Affairs on strategic priorities for Norwegian cooperation assistance for business development within fisheries and aquaculture. It concluded that commercial companies in Norway have special competence, resources and interest that can be matched with existing or emerging commercial enterprises in developing countries, and provide a basis for collaboration and investments within the aquaculture and fish processing sectors. The purpose of the study was to provide relevant information for Norwegian companies interested in investment and/or joint ventures in African fisheries and aquaculture by identify potential investment projects and partners within the aquaculture, fish handling and processing sectors within selected African countries. The study has been undertaken focusing primarily on commercial viability, but wider issues such as development impact has also been noted[1].

The study was commissioned and financed by NORAD (Norwegian Development Assistance Agency) and completed by NFDS (Nordenfjeldske Development Services) and Econ Pöyry. The study team consisted of Dr James Muir (Team Leader and Fishery Sector Expert) and Ms. Emelie Aurell (Economist) who completed the field trips, supported by Ms. Sandy Davies, Mr. Per Erik Bergh, Mr. Audun Gleinsvik[2] and Mr. Sveinung Fjose. The study started in mid-2008 and was completed in early-2009; it included a preliminary meeting with NORAD, and visits to four countries (Ghana, Mozambique, Tanzania and Uganda). The descriptions, analysis, conclusions and recommendations are the responsibility of NFDS and Econ Pöyry.

Acknowledgements

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Report structure

A large amount of material has been compiled during this study and has been arranged as follows:

a) **Volume I – Executive Document** – a brief overview of the main study process and findings.

b) **Volume II – Main Report –** sets out the study findings including background information, the initial assessment of all African countries, summaries of the nine potential countries for investment, further summaries of the four countries visited, and the recommended strategy and conclusions of the study.

c) **Volume III – Annex A -** contains the nine country profiles (Egypt, Ghana, Kenya, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Uganda) made prior to the field visits. These were compiled as desk studies using publicly available information together with the teams' background knowledge.

d) **Volume IV – Annex B -** sets out the four country reviews (Ghana, Mozambique, Tanzania and Uganda) where field visits were conducted. These reports are based on locally sourced information and oral consultations. They build on the work done in Volume III and are more focused on the realities on the ground, recent trends and actors involved.

Note on sectoral data

Effort has been made to include the latest data that were available at each point in the study; however, in some cases older figures were used due to limited availability of information for all countries, to allow comparative analysis. Also it is noted that data from different sources do not always agree – we have used our best judgement to provide the reader with as accurate an overall picture as is possible given the uncertainty around some data.

[1] The TOR are attached in Annex 1: Volume II

[2] Mr Gleinsvik was unable to participate in field work as initially proposed but continued his involvement in backstopping, while Econ also provided Ms. Aurell as an additional team member.

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IV. List of abbreviations used in the text

Abbreviation	Full name
ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers in Overseas Cooperative Assistance
ACP	African Caribbean and Pacific
ADF	African Development Foundation
AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AISA	Aquaculture Institute of South Africa
AMAPIC	Industrial Shrimp Fisheries Association (Mozambique)
ANAP	National Fisheries Association (Mozambique)
ARMAPESCA	Semi-Industrial Fisheries Association (Mozambique)
ASSAPEMO	Mozambique Fisheries Association
ATIIA	Africa Trade Insurance Agency
BEE	Black Economic Empowerment (South Africa)
BMU	Beach Management Unit
BSc	Bachelor of Science
CAADP	Comprehensive African Agricultural Development Programme
CASEIF	Central American Small Enterprise Investment Fund
CBO	Community Based Organisation
CCLME	Canary Current Large Marine Ecosystem
CDE	Centre for Development Enterprise
CGIAR	Consultative Group on International Agricultural Research
COMESA	The Common Market for Eastern and Southern Africa
CPI	Investment Promotion Centre (Mozambique)
CSIR	Council for Scientific and Industrial Research (Ghana)
CSR	Corporate Social Responsibility
CTA	Confederation of Business Association (Mozambique)
DEAT	Department of Environmental Affairs and Tourism (South Africa)
DFID	UK Department for International Development
DoF	Department of Fisheries (Ghana)
DSFA	Deep Sea Fisheries Authority (Tanzania)
DWFN	Distant Water Fishing Nations
EAC	East African Community
EACU	East Africa Custom Union
EC	European Community
ECOWAS	Economic Community Of West African States
EDIF	Export Development and Investment Fund (Ghana)
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency (Ghana)
EPPO	Export Promotion Programme Office (Kenya)
EPZ	Export Processing Zone
EPZA	Export Processing Zone Authority (Tanzania)
ERS	Economic Recovery Strategy and creation of Employment (Kenya)
EU	European Union
FAD	Fish Aggregating Devices
FAO	Food and Agricultural Organisation of the United Nations
FAST	Faculty of Aquatic Sciences and Technology (where?)
FCUBE	Free, Compulsory, Universal Basic Education (Ghana)
FDI	Foreign Direct Investment
FIRI	Fisheries Research Institute (Uganda)

Abbreviation	Full name
FISH	Fisheries Investment for Sustainable Harvest, USAID Programme 2005-2009 (Uganda)
FISH	Fish Farming For Income Generation And Food Security, DFID Programme, 1999-2004 (Uganda)
FiTEC	Fisheries Training and Extension Centre (Mauritius)
FMRA	The Fisheries and Marine Resources Act (Mauritius)
FSA	Financial Services Act (Mauritius)
FSDA	Financial Services Development Act (Mauritius)
GAFCO	Ghana Agro-Food Company (Ghana)
GAFI	General Authority for Investment and Free Zones (Egypt)
GAFRD	General Authority for Fisheries Resources Development (Egypt)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEPC	Ghana Exports Promotion Council (Ghana)
GFZB	Ghana Free Zones Board (Ghana)
GIEK	The Norwegian Guarantee Institute for Export Credits
GIF	Ghana Investment Fund (Ghana)
GIFT	Genetically Improved Farmed Tilapia
GIPC	Ghana Investment Promotion Center
GNCCI	Ghana National Chamber of Commerce and Industry
GOU	The Government of Uganda
GSB	Ghana Standards Board (Ghana)
ha	Hectare
HACCP	Hazard Analysis Critical Control Point
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HND	Higher National Diploma
Hrs	Hours
IAA	Integrated Agriculture Aquaculture
IBRD	International Bank for Reconstruction and Development
ICC	International Chamber of Commerce
ICEIDA	Icelandic International Development Agency
IC(A)M	Integrated Coastal (Area) Management
ICSID	International Centre for Settlement of Investment Disputes
IDF	Import Declaration Form (Kenya)
IDPPE	Institute for the Development of Small Scale Fisheries (Mozambique)
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IIP	Fisheries Research Institute (Mozambique)
ILM	Integrated Lake Management Programme, DFID
INIP	Institute for Fish Inspection (Mozambique)
IPC	Investment Promotion Centre (Kenya)
IPEX	Institute for Export Promotion (Mozambique)
IPPAs	Investment Promotion and Protection Agreements
IRR	Internal Rate of Return
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unrecorded (catch or fisheries)
JAST	Joint Assistance Strategy for Tanzania
Kg	Kilogram
LME	Large Marine Ecosystem
LVEMP	Lake Victoria Environmental Management Programme
LVFO	Lake Victoria Fisheries Organisation

Abbreviation	Full name
m	Meter
MAAIF	Ministry of Agriculture, Animal Industries and Fisheries (Uganda)
MACEMP	Marine and Costal Environmental Management Project (Tanzania)
MAFS	Ministry of Agriculture and Food Security (Tanzania)
MCM	Marine and Coastal Management
MCS	Monitoring, Control and Surveillance
MFA	Ministry of Foreign Affairs (Norway)
MFMR	The Ministry of Fisheries and Marine Resources (Namibia)
MFRD	Marine Fisheries Research Division (Ghana)
MIGA	Multilateral Investment Guarantee Agency
MLDF	Ministry of Livestock Development and Fisheries (Tanzania)
MLRA	Marine Living Resources Act (South Africa)
MNRT	Ministry of Natural Resources and Tourism (Tanzania)
MOFI	Ministry of Fisheries (Ghana)
MONAP	Mozambique Nordic Agricultural Programme (Mozambique)
MOU	Memorandum of Understanding
MPAMITA	Mkakati wa Pamoja wa Misaada Tanzania
MRAC	Marine Resources Advisory Council
MSc	Master of Science
MW	Mega watt
NAFAG	National Fisheries Association of Ghana (Ghana)
NAFIRRI	National Fisheries Research Institute (Uganda)
NAMFI	Namibia Maritime and Fisheries Training Institute (Namibia)
NARO	National Agricultural Research Organization (Uganda)
NCCO	National Cold Storage Operations (Tanzania)
NEMA	National Environmental Management Authority (Uganda)
NEMC	National Environmental Management Council (Tanzania)
NEPAD	New Economic Partnership for Africa
NGO	Non-Governmental Organisation
NHO	Confederation of Norwegian Enterprises
NICMS	National Integrated Coastal Management Strategy (Tanzania)
NORAD	Norwegian Development Assistance Agency
NPV	Net Present Value
NRI	Natural Resources Institute (UK)
NSEC	Norwegian Seafood Export Council
OCT	Overseas Countries and Territories
OECD	Organisation for Economic Co-operation and Development
ONDD	The Belgian Export Credit Agency
OPEC	Organization of the Petroleum Exporting Countries
PBG	Policy Based Guarantee
PCG	Partial Credit Guarantees
PPP	Public-Private-Partnership
PRG	Partial Risk Guarantees
PRS	Poverty Reduction Strategy
PTM	Princes Tuna Mauritius
R&D	Research and Development
REC	Regional Economic Community
RFB	Regional Fishery Bodies
RMP	Risk Management Products
RV	Research Vessel

Abbreviation	Full name
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAL	Sustainable Aquaculture Ltd (Ghana)
SEAFO	South-East Atlantic Fisheries Organisation
SEEGAD	Smallholder Empowerment and Economic Growth through Agribusiness and Association Development (Tanzania)
SEMMA	Sustainable Environmental Management through Mariculture Activities (Tanzania)
SEZ	Special Economic Zones (Tanzania)
SFLP	Sustainable Fisheries Livelihood Programme (Ghana)
SFP	Strengthening Fishery Products (Ghana)
SME	Small and Medium Scale Enterprise
SON	Source of the Nile (Uganda)
SUA	Sokoine University of Agriculture (Tanzania)
SWOT	Strengths, Weaknesses, Opportunities and Threats
t	Tonnes
TAC	Total Allowable Catch
TAFIMA	Tanzania Fisheries Research Institute (Tanzania)
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture (Tanzania)
TIC	Tanzania Investment Centre (Tanzania)
TIFPA	Tanzania Industrial Fishing and Processors Association (Tanzania)
TNBC	Tanzania National Business Council (Tanzania)
TNC	Trans National Companies
TSh	Tanzania Schilling
UBOS	Uganda Bureau of Statistics (Uganda)
UCA	Uganda Cooperative Alliance (Uganda)
UEPB	The Uganda Exports Promotion Board (Uganda)
UFFRO	Uganda Freshwater Fisheries Research Organization (Uganda)
UFPEA	Ugandan Fish Processors and Export Association (Uganda)
UIA	Uganda Investment Authority (Uganda)
UNAM	University of Namibia (Namibia)
UNCTAD	UN Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	UN Economic Commission for Africa
USA	United States of America
USAID	The United States Agency for International Development
USD	United States Dollars
USDM	University of Dar es Salaam (Tanzania)
USh	Ugandan Shilling (currency) (Uganda)
VAP	Value Added Processing
VAT	Value Added Tax
VMS	Vessel Monitoring System
WAF	West African Fish Limited (Ghana)
WAFICOS	Walimi Fish Cooperative Society Limited (Uganda)
WRI	Water Research Institute (Ghana)
ZIPA	Zanzibar Investment Promotion Authority (Tanzania)

1 Background

In 2007, NORAD and Norfund submitted a memo to the MFA (Ministry of Foreign Affairs) on "Strategic priorities for Norwegian cooperation assistance for business development within fisheries and aquaculture". The Memo concluded that commercial companies in Norway have special competence, resources and interest that can be matched with existing or emerging commercial enterprises in developing countries, and provide a basis for collaboration and investments within the aquaculture and fish processing sectors.

Developing countries in general need long-term investments and the associated technology and knowledge development in order to facilitate sustainable exploitation of natural resources, value creation, creation of employment and other lasting benefits from the sector. The specific areas where the Norwegian private sector may have the best potential for good investments include aquaculture, fisheries and fish processing. Norwegian companies have good competence in areas such as: industrial scale aquaculture, including hatcheries and floating cage culture; industrial fisheries, including on-board handling; fish processing, including production of semi-processed and processed fresh and frozen products; supply industry, feed, fish meal and oil, fish health, breeding and genetics.

In an effort to identify potential commercial projects and partners within these areas, this study has been undertaken focusing primarily on commercial viability, but wider issues such as development impact in partner countries and communities have also been noted.

The purpose of the study is therefore to identify potential investment projects within the aquaculture, fish handling and processing sectors, to identify potential cooperation partners in selected African countries, and to provide relevant information for Norwegian companies interested in investment and/or joint ventures in African fisheries and aquaculture.

The analysis is based on a broad overview and selection matrix of all countries in the region[3], from which a 'first cut' selection of countries is made, based on primary criteria of resource potential, economic and political status (Section 3). For the selected countries a perspective is then set out for the status of the aquaculture and fish processing industries, or in specified countries aquaculture only, including past history, present activities and conditions, resource base, potential areas suitable for aquaculture, potential species to be farmed, and level of competence within the industry in African countries, as well as investment climate in the country (Section 4, based on full reports in Volume III).

Based on these findings the potential and needs of the African industry in terms of competence, technology, and financing, the ways in which Norwegian interests could contribute and at the same time meet their own interests in developing the sector were considered and four countries selected for further study (Section 5). Summaries from the four country field visits are provided in Section 6, based on the full reviews in Volume IV. Final recommendations and suggested actions are found in Section 7.

To commence the discussion, the sections below summarise the key features of the Norwegian fishery and aquaculture sector, and the issues and potential context for responding to needs and opportunities in Africa.

[3] It was agreed to take a complete pan-African approach, rather than only considering Sub-Saharan African countries. In practice however, this proved to have only a small impact on choices.

2 Introduction to the Norwegian and African fishery and aquaculture sectors

2.1 The Norwegian investment sector for aquaculture and fisheries

Norway has a significant capture fisheries sector and has grown rapidly to become one of the world most substantial producers in aquaculture[4], particularly for Atlantic salmon. Norway is a major developer and investor in technological innovation in the sector – from biotechnologies to production and value addition technologies, and increasingly well established as an international supplier of high value quality seafoods. In the aquaculture sector in particular, in addition to a large domestic production, Norwegian businesses have increasingly become internationalised, and now occupy major positions in global production, primarily based on Atlantic salmon, but with varying levels of interest in diversification. In addition, Norway has a substantial production of feed through actors such as Ewos, Biomar and Skretting.

Some 30 years ago, the vast potential for effective food production through "farming of the sea" became apparent. As a result of the rapid development over these few decades, the fish meat production of the fish farming industry, by rearing only Salmon and Trout, is currently bigger than the total meat production of the entire Norwegian agriculture industry. Norway is the leading fish farming country in the world in terms of the production of Atlantic salmon.

2.1.1 Exports

In 2008[5], Norwegian seafood exports amounted to NOK 39.1 billion, setting a new seafood export record for the fourth year running. Figures from Norway Statistics and the Norwegian Seafood Export Council (NSEC) show that the increase from previous year amounted to NOK 2.3 billion. Overall fish products exports to France were worth NOK 4.05 billion, representing an increase of NOK 287 million compared to 2007. This gives France top place in 2008, just slightly ahead of Russia – by a mere NOK 300,000.

Fish from the salmon family are exported from Norway to 98 countries. Norwegian exports of farmed seafood increased by NOK 1.2 billion to NOK 20.2 billion, where salmon accounts for NOK 18 billion and trout accounts for NOK 1.9 billion. France is the largest market, which in 2008 bought Norwegian salmon and trout for NOK 3.2 billion. The smallest market of the 98 countries is Ghana, whose import from Norway in 2008 was worth NOK 30,000.

2.1.2 The character of Norway's international engagement

A significant level of public sector engagement in internationalisation can also be noted, particularly in research and development (R&D) and in market and trade development. The following core characteristics describe Norwegian international engagement in the fisheries and aquaculture sector;

- There have been long established **catching and trading connections**, which together with other national traditions have provided a positive approach to internationalising, and developing large and successful fishery sector businesses from a Norwegian base of finance and expertise.

- The success of the **salmon aquaculture industry** has given a particular incentive to this, and a well developed technology and management approach had encouraged Norwegian businesses to expand internationally for further business growth, particularly in other cool temperate zones such as Scotland, Chile, Canada and Australia (Tasmania).

[4] In 2005 Norway produced 656,636 t by aquaculture and 2,392,934 t by capture fishing.
[5] **http://www.seafood.no/binary?id=106774&download=true**

- **Technical innovation, expansion of output and market development** have been key features of Norway's international presence in the fisheries and aquaculture sector, and market, trade and competition drivers, coupled with more open investment conditions and an increasing use of public share capital have brought about significant industry consolidation. However some diversification of business types and approaches can still be observed.

- **Investment confidence in the sector** has tended to be cyclic, and is arguably a consequence of some degree of information failure, with Norwegian stock market expectations being driven by more localised perceptions. Investments have been made when a high world market price on fish pushes returns and cash flows upwards. In periods when the price is lower, some Norwegian actors have withdrawn from their international engagements. To some extent Norwegian actors have bought when the price was high and sold when it was low, making return on investments form international operations low or negative.

- An increasingly large part of the **Norwegian value chain in aquaculture** has been internationally focused. However, much of this development has been in the hands of a small number or very large groups such as Cermaq and Marine Harvest. Outside of these, international links are more variable, though some of the smaller service and support sector firms have an increasingly strong international presence.

- While **access to finance** is always an important element in business decisions, a number of Norwegian companies have experienced good cash flows, and have become relatively cash-rich, substantially reducing the need for credit. In other cases, Norwegian or international finance has been relatively easy to access so local credit availability in developing countries is usually not so important.

- An increasing number of firms, in Norway or elsewhere, particularly if in common share ownership, are being encouraged to demonstrate their 'good citizenship' both at the local level and in the international context. The move for **Corporate Social Responsibility** (CSR) is becoming increasingly important. There may therefore be useful incentives for private sector development co-operation.

- Norway also has an active and well regarded **R&D capacity** in the sector and at a relatively modest level so far, Norwegian R&D has already shown strong interest and good impact in various linkages with developing country issues, building good long-term partnerships. This function, and the various Norwegian humanitarian, social and cultural development NGOs have the potential not just to support wide development aims in partner countries, but also to interact with much smaller-scale producers, who could contribute very strongly to localised development processes but would otherwise be too small and widely dispersed to be accessible cost-effectively for development support.

- The fishing and aquaculture industries are considered "high" risk by several **Norwegian and Scandinavian banks**, and banks, such as Nordea and DnBNor have tried to reduce risk the latest years by being more restrictive towards giving credit.

- As we will show later, **Norfund has several investments in aquaculture** in developing countries. However, due to poor results, they are now more restrictive towards re-entering the sector.

2.1.3 Norwegian actors abroad

There are seven key Norwegian actors operating overseas in the fishery and aquaculture sectors (Figure 2.1). A brief description of each is given below:

Figure 2.1: Overview of location for Norwegian fishery activities abroad

- ***Cermaq*** has a main focus on sustainable farming of and production of feed to salmon and trout. The Mainstream Group is one of the largest players in the salmon farming industry. The Group produces Atlantic salmon, trout and coho, and has undertakings in Norway, Chile (since 1985), Canada (since 1989) and Scotland (since 1989). The Mainstream companies have approximately 3,200 employees and an annual turnover of over NOK 2.62 billion (2007).

- ***Marine Harvests*** primary interest is the production, processing and sale of farmed salmon. The company produces Atlantic salmon, halibut and white fish. Marine Harvest has operations in 19 countries and has structured the main part of the business in five business units; the farming operations in Norway, Chile, Canada, UK, and the VAP Europe (Value Added Processing), mainly operating in central Europe. In addition to the business units, the group has a number of operations which individually are smaller, and are operated as separate businesses. These other units include the farming operations in Ireland which produces organic salmon, the salmon farming operations in the Faroes, as well as the sales organisation in Asia, and the entities farming Halibut and other species. Marine Harvest has about 8,800 employees, and operating profits of NOK 117 million.

- ***GenoMar AS*** was founded in Oslo, Norway in 1996 and is today one of the world's leading aquaculture companies with special focus on tilapia. The company is involved in most steps in the value chain, from selective breeding through hatchery production, grow-out, to verification of origin. The company has operations in the Philippines, Singapore, China and Malaysia. In 2007, total revenues amounted to NOK 5.6 million and profit after tax of NOK 1.8 million.

- ***Aker Seafoods*** activities are based on wild fish resources. The Aker Seafoods Group harvests, processes, and sells seafood from regulated fisheries that are and will remain sustainable if properly managed. The company has headquarters in Norway, and have operations in Norway, Denmark, Sweden, UK, France and Spain. The company had profits of about 2 billion NOK in 2008, and with 1,000 employees in Norway it is one of the largest employers in the Norwegian fishery sector.

- ***Stolt Sea Farm*** has operations in several foreign countries. In the USA (California), the company Sterling Caviar LLC produces some 300 tonnes of sturgeon and 10 tonnes of sturgeon caviar every year. In La Coruna in Spain, Stolt Sea Farm produces 4,000 tonnes of turbot and 50 tonnes of sole annually.

- ***Marine Farms***, a company based in Bergen, is involved in salmon farming, seabass and seabream farming and cobia farming in foreign countries. Marine Farms owns Lakeland Marine Farms Ltd in the UK, producing salmon. In Spain, Marine Farms controls Culmarex, one of the largest producers of seabass and seabream in Spain. The company is also involved in cobia farming in Vietnam and Belize.

- ***Norfish Blagaj*** is a fish farm in the south-east of Bosnia- Herzegovina, established in 2000. The project is financed by Norwegian investors and is among the very first in rebuilding the business life in one of Bosnia- Herzegovina's most war torn areas.

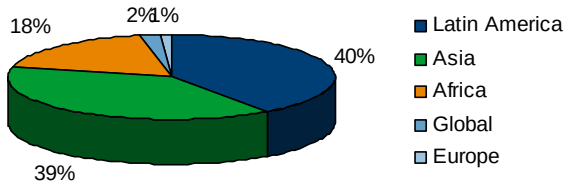
- ***Fjord Marin Turkey*** is a fish farming company established in 1995 and was subsequently purchased in 2002 by Fjord Marin ASA. Fjord Marin is an integrated fish farming company with juvenile production, on-growing and commercial distribution of Mediterranean fish species sea bass and sea bream.

- ***Norfund*** has very limited investments in the fishery sector. In 2007 Norfund sold their positions in the fish farming company Fjord Marin Turkey and in the Norwegian aquaculture firm GenoMar. Norfund is also in the process of selling their position in the Chinese fish farming company Pan Fish Quingdao. However, Norfund has active investments in Nicafish in Nicaragua, a fish processing company. Norfund has given Nicafish a loan of USD 1.2 million, which equals 38 % of the company's total capital, and is also co-owner of a 31.8 % equity share in the company through the Central American Small Enterprise Investment Fund (CASEIF). In 2007 Norfund gave an additional loan of USD 750,000 to the opening of a new plant for the processing and export of the crustacean Pacific langustino or squat lobster.

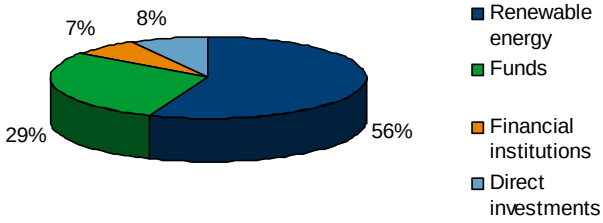
  Established in 1997, Norfund's mission is to reduce poverty and create sustainable economic growth by investing risk capital in profitable businesses in developing countries. It is a hybrid state-owned company established by law with limited liability, owned on behalf of the state by the Ministry of Foreign Affairs. Capital is supplied to Norfund over the Norwegian government's development assistance budget. Norfund's committed portfolio at 31 December 2007 totalled NOK 3,669 million, of which NOK 2,930 million was disbursed for investment. Any country with a GNI per capita of less than USD 6,055 is eligible for investments.

Figure 2.2: The geographical distribution of Norfund's portfolio and investment areas

Geographical distribution of portfolio



Investments per business area



Norfund has five main business areas of investment in developing countries. The area of direct investment is the only one that directly relates to this study, it embraces Norfund's loan and equity projects with individual companies outside the energy and financial sectors. Important sectors for direct investment have been fishing and aquaculture, tourism, telecommunications and manufacturing. Norfund has collaborated in virtually all its commitments with a Norwegian partner. Direct investments totalling NOK 281 million have been committed by Norfund, spread over 12 engagements, accounting for 8 percent of total investments. Virtually all the direct investments have been made in Africa and Asia.

2.2 The African fisheries and aquaculture sector

Fishery resources are of great social and economic value to Africa but are considered by many to be largely unrecognised and not utilised to their full potential. Figures are often not considered to be very accurate but in general we can say that about 200 million people – or about 30 % of the continent's population - eat fish as their main source of animal protein and micro-nutrition. Fisheries also provide livelihoods for over 10 million Africans, many of whom are small-scale operators supplying food to local and sub-regional markets. Per capita consumption in sub-Saharan Africa is the lowest in all regions at 8.3 kg/year.

High-value fish exports have been increasing rapidly in recent years; in 2006 annual African exports amounted to USD 4.0 billion, equivalent to about 4.6 % of the global value of trade. Fisheries are also the leading agriculture export commodity for Africa, above coffee, sugar and bananas and forming a significant element of some national economies.

The latest figures for worldwide aquaculture (2007, FAO) show that it contributes 35 % of total fish production; although it is already believed that in 2008, the figures will show us that aquaculture has overtaken capture fisheries production. This has been an astonishingly fast growth rate from only 16 % of total production 15 years ago. In sub-Saharan Africa aquaculture supplies around 3 % of fish production. The potential for a substantial growth has been clearly recognised and the demand for greater production for regional consumption and also export is also evident. For example, a study shows that based on 1997 levels, aquaculture would have to increase by 267% by 2020 to simply maintain the current fish consumption level in Africa[6].

2.2.1 The environment for investment in African fisheries processing and aquaculture

The fishery and aquaculture sector is increasingly being seen as an area that can be tapped further to promote positive social and economic outcomes through economic growth and sound business development. However, the over-exploitation of many marine fisheries by both national artisanal and foreign industrial fishing fleets, including illegal vessels, continues to be of concern. Approximately 50% of stocks are fully exploited and this situation increases the interest in developing aquaculture and

[6] Delgado, C. *et al.* 2003. Outlook for Fish to 2020, IFPRI

looking at improved processing methods that may also help reduce post-harvest losses and discards as core areas for economic growth and investment.

Aquaculture is still very much in its infancy in Africa, and although it has been widely recognised for its potential, little has been realised. To date much of the aquaculture development has been based on inland water resources, the large lakes in particular, but cages and marine aquaculture (mussels, seaweeds, etc.) have also generated some interest. The major international aquaculture investments to date have been in:

- Cage aquaculture in large African lakes – Lake Harvest – Zimbabwe, Uganda;
- Shrimp aquaculture in coastal zones; and
- Medium-scale enterprises in processing and aquaculture production.

Involvement in fisheries and aquaculture projects in Africa by the international organisations and development assistance agencies, such as NORAD, have traditionally been directed towards building capacity for fisheries management, developing approaches to management, coastal zone management programmes and livelihood approaches. However, there has been a shift, and improved governance systems, targeted investments in infrastructure and marketing, accelerating the growth of aquaculture and working through partnerships have become the more common concepts in international organisations' policy in recent years. This approach links well to the thinking behind the New Economic Partnership for Africa's Development (NEPAD's) Comprehensive Africa Agriculture Development Programme (CAADP) action plan for fisheries and aquaculture that promotes a pragmatic approach to developing the fishery sector. The action plan involves public, private and NGO sector interests, with good resource management and sound investment as key areas.

The Southern African Development Community (SADC) is now finalising its implementation plan for the SADC Protocol on Fisheries, and The Common Market for Eastern and Southern Africa (COMESA) has recently started to develop their own strategy for fisheries and aquaculture – all of these Regional Economic Community (REC) plans and strategies are based on the same sector-wide approach to create a diversified sector with positive social and economic outcomes. This sector-wide approach requires six conditions considered necessary to achieve the development and they include the more traditional areas of human and institutional capacity building, the need for sound management tools and sustaining and increasing production but also include the need to develop and add value to the fishery, to share the benefits and to expand learning and the exchange of knowledge.

Therefore well considered and well planned investments in the sector would fall in line with the sub-regional and continental strategies for growth in the sector.

3 Initial assessment of all African countries

3.1 Methodology

This stage of the review was carried out as a desk study, based on available information, to identify African countries and areas where the potential for investment and cooperation is potentially positive. The focus has been particularly on the following:

- Aquaculture areas (marine and freshwater; hatcheries, floating cages and molluscs);
- Industrial fish processing (fresh and frozen, value added products);
- On board handling and processing (raw material, ice and refrigeration, quality management etc); and
- Fish sector supply industry – adding value in technology options.

This section maps out the resource and trade potential within the African countries, in order to identify those countries that have the best resource base, investment and trade environment. The criteria are based upon five primary conditions, namely:

- Natural and biological environment for fisheries;
- Environment for aquaculture;
- Environment for business development and foreign investment;
- Political risk and stability including governance; and
- Governments' intentions and encouragement in relation to regional and international trade.

Those countries scoring poorly on this assessment were excluded from further analysis, while those with good scores were subject to a more qualitative assessment for final selection. This included factors such as:

- Potential investment types – major, niche, social entrepreneurial, services or value added;
- The possibility of "Norwegian clusters" – linked with existing or potential interests within the sector or elsewhere;
- The extent to which African regional investments and outputs could add value to specific Norwegian interests, e.g. through adding value or product diversity, with complimentary outputs and market positions;
- The specific potential for Norwegian commercial interests to apply regional investment to meet corporate social responsibility (CSR) objectives;
- Level of current and historical involvement of Norway in sectoral development programmes, embassies or other; and
- Current in-country situation and any recent events that may influence Norwegian interest to invest in the country.

The aim had been to identify 4 countries in which prospects for sectoral investments, and for which the qualitative issues noted above, might be particularly positive. Based on this, a foundation could be established to specify the commercial areas and options involved, for the more detailed assessments in the following sections. Associated with this would also be the closer identification of theme areas – particular initiatives and investment approaches which could hold the most promise. Here it may be practical to note that a specific theme could be focused around one or more highly promising countries but could be anticipated to 'roll out' to other countries if shown to be effective.

3.2 Selection categories and criteria

3.2.1 Natural and biological environment for fisheries

A number of factors will contribute to defining potential and suitability for fisheries related investments, as outlined below. In many cases, countries would be excluded primarily because of limited or highly dispersed resource bases, but even when resources are potentially available and of good scale and realisable value, other factors associated with their exploitation and development are likely to be very critical. While limitations in some of these can be overcome with major structural investment and/or human or institutional capacity building, the time required, and the interactions with macro-economic factors and political risks may necessitate a certain platform of suitability before investment can be considered. Finally, though difficult to fully specify at this stage, the possible impacts of climate change on resources, their locations and their productive potential, will need to be noted. Key factors assessed were, but not limited to:

1. Important marine/inland resources/ecosystems without major external or internal threats;
2. Major/valuable stocks, or underutilised/high potential stocks/product opportunities;
3. Well-organised catching sector with reliable supplies and good quality raw materials, or good opportunities for building this;
4. Local skills, and complementary raw materials/services for value addition;
5. Established and reliable infrastructure/distribution links or means to build these;
6. Possible 'sector cluster' potential with existing or newly entering businesses; and
7. Limited negative impact potential (social, economic, etc) for commercial developments and/or opportunities for positive local spinoffs – e.g. with smaller scale producers, poor communities.

In this first round review, the potential is defined by subjective assessment based on the team's sectoral experience in the region, supported where relevant by specific data on major stocks and landings in key areas of the region (Figure 3.1, Table 3.1).

3.2.2 Environment for aquaculture

Issues for aquaculture are similar to those noted for the more general fishery sector but with the important distinction that with only a few exceptions, there has been relatively limited development of the industry in the region (Figure 3.1, Table 3.1). As a result, little that can be definable as a demonstration of a base from which to invest. However the agro-ecological potential for aquaculture in the region is recognised to be good in many regions and locations, although more specific focusing at smaller scale sites is yet to be done. As with the wider fishery sector, the basic biological potential may be relatively widely positive in many areas, and it will be the combination of these with other factors which will offer distinctive differences in potential. Climate change implications though also difficult to specify at this stage in nature or extent, may also need to be noted. Key factors assessed were, but not limited to, as follows:

1. Significant and accessible aquaculture ecosystems without major threats and with sufficiently definable characteristics/properties;
2. Identifiable local species prospects (i.e. growth performance, market interest) or feasible option to introduce;
3. Seed supply potential – build up existing or develop new;
4. Feed supply potential – raw materials access, develop existing feed mills or set up new;
5. Skills, services, infrastructure, distribution – and/or realistic potential to develop;
6. Possible 'sector cluster' potential with existing or newly entering businesses; and

7. Limited negative impact potential (social, economic, etc) for commercial developments and/or opportunities for positive local spinoffs – e.g. with smaller scale producers, poor communities.

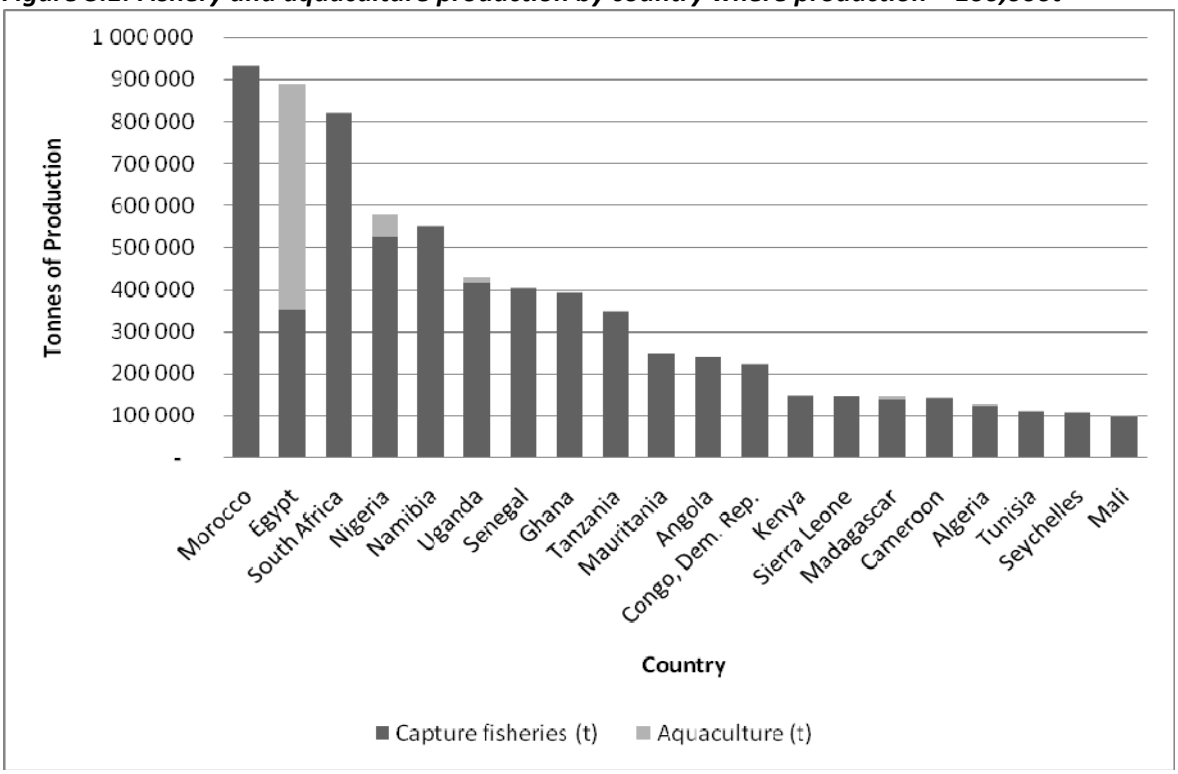
These evaluations were also at this stage carried out on the basis of the team's specialised knowledge of the sector and the region.

3.2.3 Comparative production and trade levels

Figure 3.1 and Table 3.1 summarise the recorded fishery and aquaculture output of countries in the region. It is important to not only to set the context for opportunity and development, but to also note the comparative positions and the significance of the region in global terms. In most cases, national output is well below the level of the salmon aquaculture sector, and only 9 countries record more than 300,000t annual production. It is widely noted however, that small-scale fisheries in the region are under-recorded, and estimates of additional output range from 20-100% or more depending on the locality and circumstances. Small-scale fishing impacts on resources are likely to become more important, although engaging producers and the supply chain into development processes is challenging and is unlikely to connect readily with conventional commercial development.

With respect to aquaculture, there are large disparities in output, and only Egypt counts as a significant producer by global standards, with more than 500,000t, while Nigeria and Uganda only record annual production of more than 10,000t, and 13 other countries produce more than 1,000t annually.

Figure 3.1: Fishery and aquaculture production by country where production > 100,000t



Source: FAO Yearbook data 2005

With respect to trade value, exports generally exceed imports, though differences in volume may be less, as lower value imports exchange with higher value exports. For exports only Morocco recorded levels of more than USD 1,000 million, while Cote d'Ivoire, Madagascar, Mauritania, Mauritius, Namibia, Senegal, Seychelles, South Africa, Tanzania, Tunisia and Uganda record levels above USD 100 million. Major importers, at more than USD 100 million, are Cote d'Ivoire, Egypt, Ghana, Mauritius, Nigeria and South Africa. Twenty countries have a combined import and export level of less than USD 10 million.

Table 3.1: African fishery and aquaculture production by weight and imports and exports by value

Country	Capture fisheries (t)	Aquaculture (t)	Fishery imports (USD 1,000)	Fishery exports (USD 1,000)
Algeria	126,259	368	20,969	10,924
Angola	240,000	-	33,176	16,837
Benin	38,035	372	16,205	1,288
Botswana	132		4,316	50
Burkina Faso	9,000	6	2,771	-
Burundi	14,000	200	36	173
Cameroon	142,345	337	63,838	102
Cape Verde	7,742	-	1,117	11,122
Central African Republic	15,000	-	1,086	-
Chad	70,000	-	1,461	-
Comoros	15,070	-	1,451	5
Congo, Dem. Rep.	220,000	2,965	54,776	419
Congo, Rep.	58,368	80	12,501	5,450
Côte d'Ivoire	55,000	866	204,676	103,042
Djibouti	260	-	1,321	24
Egypt	349,553	539,748	149,328	4,302
Equatorial Guinea	3,500	-	11,344	46
Eritrea	4,027	-	191	967
Ethiopia	9,450	-	613	123
Gabon	43,863	78	11,012	17,333
Gambia, the	32,000	-	365	919
Ghana	392,274	1,154	194,483	82,473
Guinea	96,571	-	7,581	10,418
Guinea-Bissau	6,200	-	308	4,570
Kenya	148,124	1,047	7,759	49,684
Lesotho	45	1		
Liberia	10,000	-	3,117	702
Libya	46,073	266	20,076	14,479
Madagascar	136,400	8,500	20,032	121,743
Malawi	58,783	812	480	357
Mali	100,000	1,008	4,223	184
Mauritania	247,577	-	5,214	157,168
Mauritius	10,048	400	145,795	164,243
Morocco	932,704	2,257	35,816	1,060,745
Mozambique	42,473	1,222	15,152	96,396
Namibia	552,695	50	21,878	375,616
Niger	50,018	40	579	2,229
Nigeria	523,182	56,355	432,503	56,827
Rwanda	7,800	386	443	-
São Tomé and Principe	3,600	-	72	94
Senegal	405,070	193	1,263	251,670
Seychelles	106,555	772	78,483	191,907
Sierra Leone	145,993	-	1,655	13,006
Somalia	30,000	-	835	4,585
South Africa	817,608	3,142	124,936	441,882
Sudan	62,000	1,600	562	675
Swaziland	70	-	4,882	2,198
Tanzania	347,800	11	540	145,244
Togo	27,732	1,535	8,856	2,427
Tunisia	109,117	2,665	40,363	156,219
Uganda	416,758	10,817	559	139,864
Zambia	65,000	5,125	7,217	3,523
Zimbabwe	13,000	2,452	1,793	2,741

Source: FAO Yearbook data 2005

3.2.4 Political risk and stability

Political risk can be described as: 'Political risk faced by firms can be defined as "the risk of a strategic, financial, or personnel loss for a firm because of such nonmarket factors as macroeconomic and social policies (fiscal, monetary, trade, investment, industrial, income, labour, and developmental), or events related to political instability (terrorism, riots, coups, civil war, and insurrection)'[7].

Within the broad spectre of possible events that make up "losses due to political risks", one may define subcategories (expropriation, war, etc.) or risks for exporters versus risk for investors (with a possible further breakdown into different types of investments). There are various institutions that produce updated estimates of various subcategories of political risk for different countries. In this study, estimates from the Belgian Export Credit Agency ONDD, have been used as representative of this category. ONDD produces separate estimates of political risk for exporters and investors, respectively. For direct investments, the estimates are split into; war risk; risk of expropriation and government action; and transfer risk.

The first two categories of risk are self-explanatory (although may still be difficult to define precisely), while transfer risk is the risk that political factors will hinder the investor from freely transferring profits or the sales value of his/her assets out of the host country. This study focuses on the latter two categories. The risk of "expropriation and government action" has not been assessed for all countries due to strong correlation between the two risk variables[8]. In addition, the risk of crime and corruption were taken into account in the final ranking.

3.2.5 Environment for business development and foreign investment

Political risk is important, but still only one of many factors determining the attractiveness of various countries as hosts for foreign investors. There are various institutions that are producing indicators for various aspects of the attractiveness of different countries as locations for businesses. In this study the "Doing business" indicator constructed and produced by the World Bank group has been used[9]. "Doing business" aims at measuring the business climate for both local and foreign owned companies, but excludes factors that are relevant solely for one of these groups of companies (example: tax on cross border dividends) are not included in the data.

The overall ranking according to Doing Business is a result of adding and weighing together a series of individual data intended to measure the framework conditions relevant to the business sector. Among various business sectors and individual companies, there will be big differences in the relative significance of various framework conditions. The overall ranking of a country will thus often not reflect the relative attractiveness of the same countries for an individual investor.

African countries occupy the last ten places on the ranking. There is a large gap between the highest ranked African countries – Mauritius ranked 27 – and the majority of African countries. Mauritius ranks above countries such as South Korea, Israel, France, Portugal and Spain. Only non-African countries ranks after the median African country – the Comoros ranked 147.

However, while these rankings are useful for more generic purposes, the issues of investment in fisheries, and investment by Norwegian sector interests, may differ from those of investments in general. Furthermore, as already noted, internationally focused businesses may have special characteristics that make certain aspects of the business environment more important than others. In this respect for example, access to finance and the ease of closing down business is not as important for Norwegian investments within fisheries as would be the ease of trading across borders, tax-regime etc. Based on the special characteristics of the Norwegian business sector, particularly in fisheries, we have further weighted the different components of the Doing Business ranking, as set out in Table 3.2 below.

[7] Wikipedia definition
[8] Source: http://www.ondd.be/webondd/Website.nsf/HomePage
[9] http://www.doingbusiness.org/

Table 3.2: Revised weighting of the 'Doing business ranking'

Factor	Revised weight
Starting a Business	1
Dealing with Construction Permits	1
Employing Workers	1
Registering Property	2
Getting Credit	0.1
Protecting Investors	2
Paying Taxes	2
Trading Across Borders	3
Enforcing Contracts	1
Closing a Business	0.1

As shown in the table we have given trading across borders more weight than all other factors. The reason for this is that it is most likely that export either regionally or to Europe/US would be a pre-requisite in order to make the acceptable return on investments. Registering a property, protecting investors and paying taxes are also given higher ratings, while getting credit, and closing a business are weighted only very minimally, as they are unlikely to impact significantly for Norwegian fishery sector foreign investment decisions.

3.3 Systematic assessment of African countries

The initial scoring levels for the entire African continent are shown below. To simplify presentation across a range of different subjects, approaches and scoring systems, a simple three-level colour coding is used (Table 3.3). An overall investment rating is defined based on the simple combination of these factors (Table 3.4).

Table 3.3: Scoring criteria for the evaluation of all African countries

	Fisheries	Aquaculture	Political risk – risk of expropriation	Political risk – transfer risk	Investment and business – ranking	Overall Investment Rating*
Good to high score – low risk or good potential	1	1	1 - 2	1 - 2	1-100	2 or more good scores (at least one in fisheries or aquaculture) no poor scores
Medium score – medium risk or possible options	2	2	3-4	3-5	101 – 160	3 or more good or medium scores (at least one in fisheries or aquaculture), no more than 1 poor scores
Poor score – high risk or limited possibilities	3	3	5-7	6-7	161-178	All other combinations

Table 3.4: Ranked evaluation of all African countries

Country and Capital	Fisheries	Aquaculture	Political risk – risk of expropriation	Political risk – transfer risk	Investment and business – ranking	Overall Investment Rating*
South Africa – Pretoria	1	1	2	3	96	1
Ghana – Accra	1	1	3	5	99	1
Kenya – Nairobi	1	1	4	5	147	1
Egypt – Cairo	1	1	4	3	115	1
Tanzania – Dar es Salaam	1	1	5	5	146	1
Mauritius – Port Louis	1	2	3	3	55	1
Namibia – Windhoek	1	2	1	3	126	1
Nigeria – Abuja	1	1	5	5	150	1
Uganda – Kampala	1	1	4	6	151	2
Mozambique – Maputo	1	1	3	6	157	2
Madagascar – Antananarivo	1	1	4	6	140	2
Zambia – Lusaka	2	1	4	5	131	2
Malawi – Lilongwe	2	1	4	7	148	2
Cape Verde – Praia	1	2	n.a. *	5	137	2
Botswana – Gaborone	3	2	2	2	98	2
Tunisia – Tunis	2	2	2	3	105	2
Morocco – Rabat	2	3	2	3	129	2
Swaziland – Mbabane	2	2	3	4	158	2
Algeria – Algiers	2	3	4	2	166	2
Libya – Tripoli	2	2	3	5		2
Gabon – Libreville	2	2	3	5	173	2
Senegal – Dakar	2	2	4	5	162	2
Gambia – Banjul	2	2	3	7	144	2
Rwanda – Kigali	2	2	5	6	139	2
Cameroon – Yaoundé	2	2	3	5	189	2
Angola – Luanda	1	2	4	6	188	3

Country and Capital	Fisheries	Aquaculture	Political risk – risk of expropriation	Political risk – transfer risk	Investment and business – ranking	Overall Investment Rating*
Benin – Porto-Novo	2	2	4	6	185	3
Burkina Faso – Ouagadougou	3	2	4	6	177	3
Burundi – Bujumbura	3	3	5	7	187	3
Central African Republic – Bangui	3	2	5	7	204	3
Chad – N'Djamena	2	2	n.a. *	6	184	3
Comoros – Moroni	2	2	n.a. *	7	150	3
Congo, Dem. Republic – Kinshasa	3	2	6	7	206	3
Congo, Republic of – Brazzaville	2	2	4	7	210	3
Côte d'Ivoire – Abidjan	2	2	5	7	192	3
Djibouti – Djibouti	2	3	n.a. *	7	144	3
Equatorial Guinea – Malabo	2	3	4	7	168	3
Eritrea – Asmara	2	3	n.a. *	7	174	3
Ethiopia – Addis Ababa	2	3	5	6	143	3
Guinea – Conakry	2	2	6	7	193	3
Guinea-Bissau – Bissau	2	3	4	7	179	3
Seychelles – Victoria	1	3	n.a. *	7	90	3
Lesotho – Maseru	3	3	n.a. *	5	154	3
Liberia – Monrovia	2	2	5	7	165	3
Mali – Bamako	3	2	4	5	184	3
Mauritania – Nouakchott	1	3	4	6	174	3
Niger – Niamey	2	2	5	6	184	3
Sao Tome and Principe – São Tomé	2	3	n.a. *	7	180	3
Sierra Leone – Freetown	1	2	4	6	171	3
Somalia – Mogadishu	2	3	7	7		3
Sudan – Khartoum	2	3	5	7	148	3
Togo – Lomé	2	3	4	7	179	3
Zimbabwe – Harare	3	2	7	7	176	3

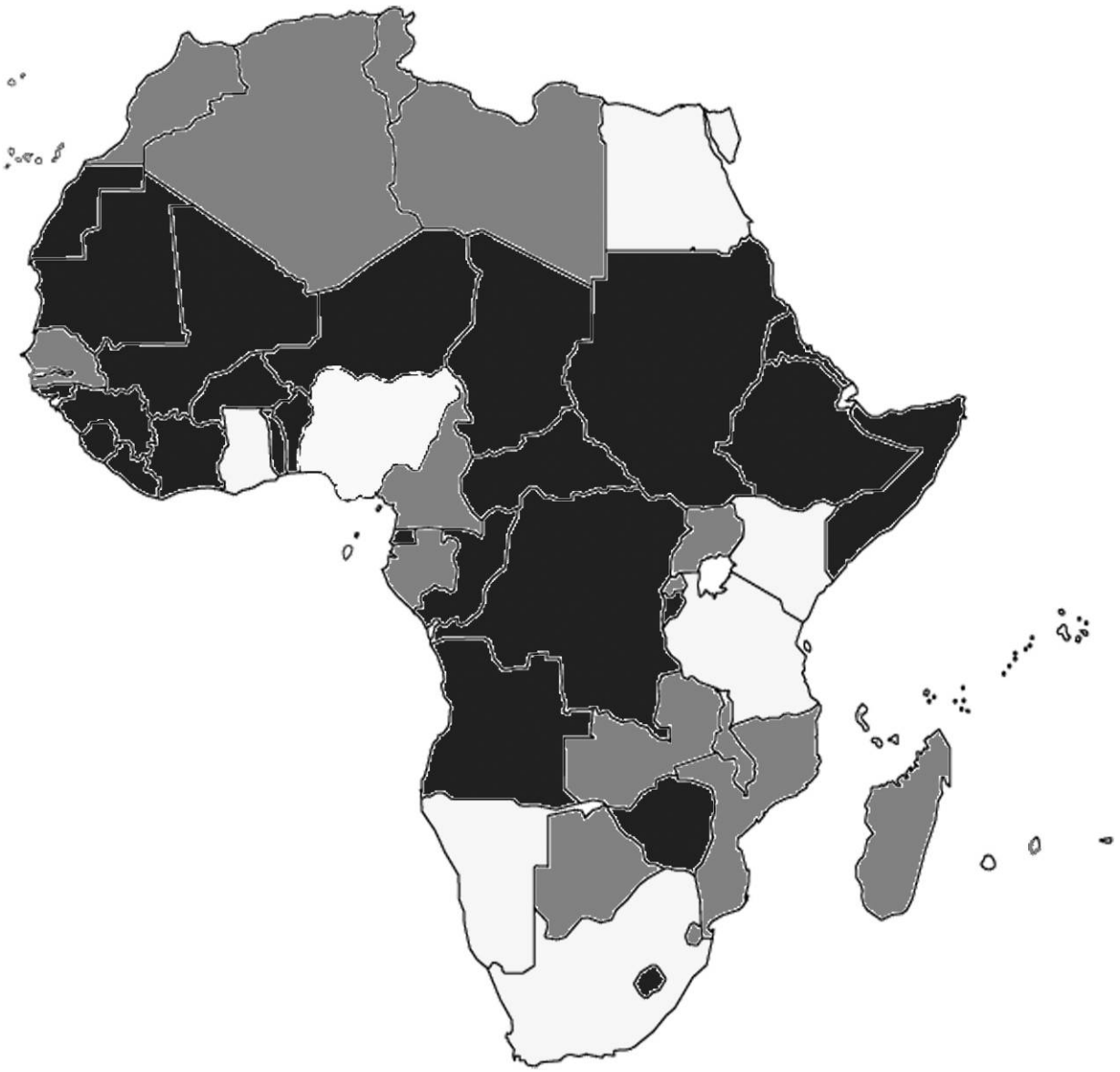
Note – n.a. = no data available

The geographical distribution of the countries (Figure 3.2) shows both the specific sub-regional clustering – only one country in North Africa, two in West Africa, and two each in South and East Africa scoring highly – and the potential for investment in one country to link with regional opportunities.

Figure 3.2: Map indicating the relative scoring and location of these countries

Key:

Good to high score – low risk and good potential for fisheries and aquaculture	**Medium score –** medium risk with reasonable options for either fisheries or aquaculture	**Poor score –** high risk and limited possibilities for aquaculture or fisheries



3.4 Selection of countries for further analysis

This analysis shows that five countries scored with a good potential for both fisheries and aquaculture potential with associated acceptable levels of political and financial security, these were South Africa, Ghana, Kenya, Egypt, and Tanzania. Mauritius and Namibia scored highly for the potential opportunities related to fish processing but less so for aquaculture although in both countries there are significant efforts being made by the government to encourage development of aquaculture. Namibia particularly has made inroads with their policy to support development of aquaculture.

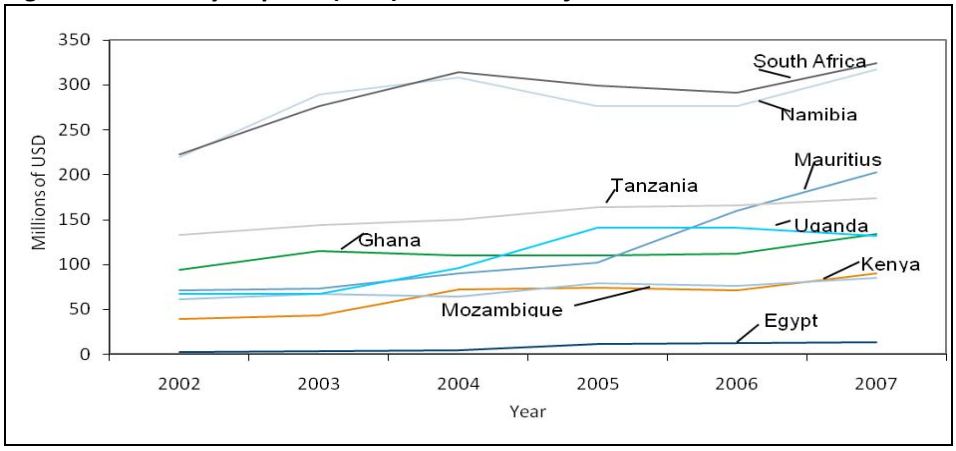
Mozambique, Madagascar and Uganda have a 'good medium' score and would justify further assessment as they scored highly for fisheries and aquaculture but they also received a potential risk score. A number of other countries have relatively good scores in one or the other of fisheries or aquaculture, and therefore may have potential to be linked with stronger countries in a themed approach, e.g. sourcing raw materials, or extending technologies.

Following discussion with Norad, and based on issues such as Norwegian presence or interest, the six countries of Kenya, Ghana, Tanzania, Mauritius, Mozambique and Uganda were considered for potential merits in both fisheries processing and aquaculture development and also with a good potential interest for Norwegian investors. Uganda and Mozambique falls within the potential political risk countries, but it was considered that other factors outweighed these concerns and indicated good potential merit in investigating them further. For Uganda, Lake Victoria held interest in possible aquaculture development, while Mozambique was of interest due to a large Norwegian sector development programme that was paving the way for improvements in fishery management and associated benefits.

The countries of South Africa, Namibia and Egypt were also identified as countries with interesting potential for aquaculture development and also with a good potential interest for Norwegian investors, and thus also included in the selection. All these countries also have capture fisheries, but is was considered that this part of the sector did not show significant interest to Norwegian investors as, either opportunity in the past had not yielded any successful results or that the sector was already heavily invested in. Therefore the studies on these countries focused on the aquaculture potential rather than fisheries.

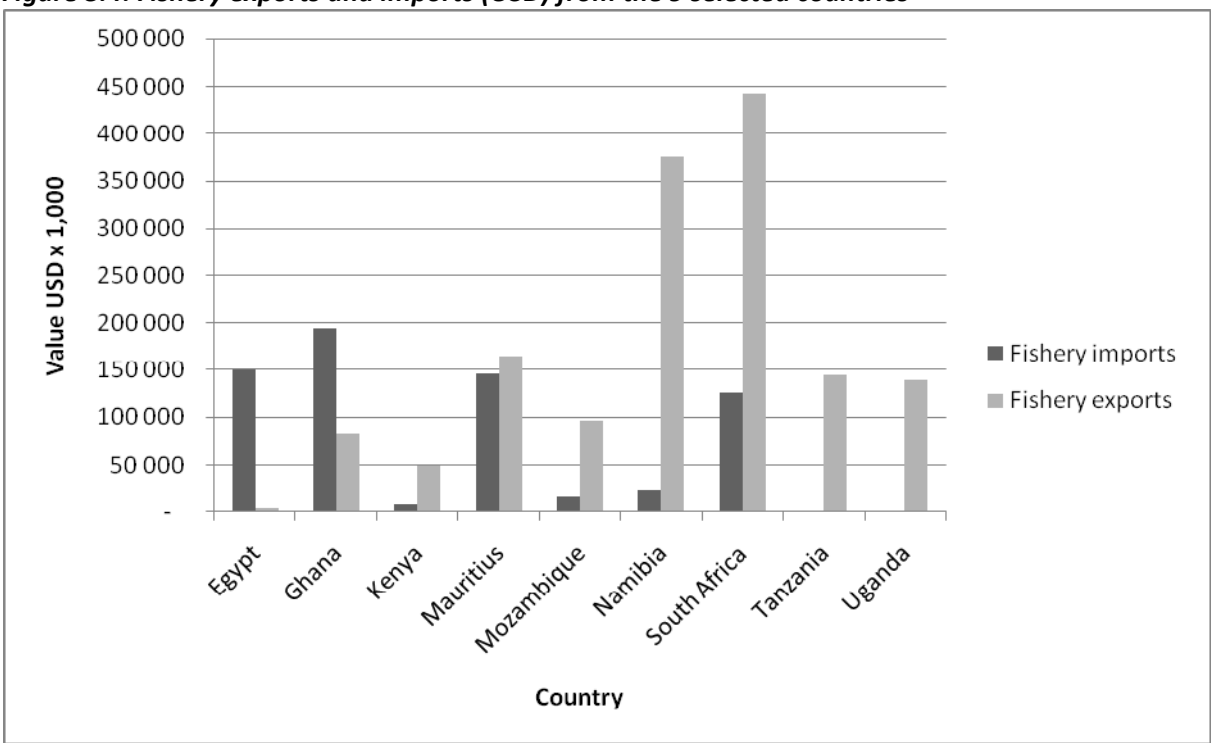
Nine countries were selected: **Egypt, Ghana, Kenya, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Uganda**. Volume III, of these reports contains the full country profiles, while the following section (Section 4) provides brief summaries, and Section 5 a discussion on the findings. The overall importance of the fishery and aquaculture sectors can be demonstrated by looking at the value of imports to the European Union from these countries (Figure 3.3), from the export and import value by country (Figure 3.4) and by production of aquaculture and fisheries (Figure 3.5).

Figure 3.3: Fishery imports (USD) to the EU-27 from the 9 selected countries



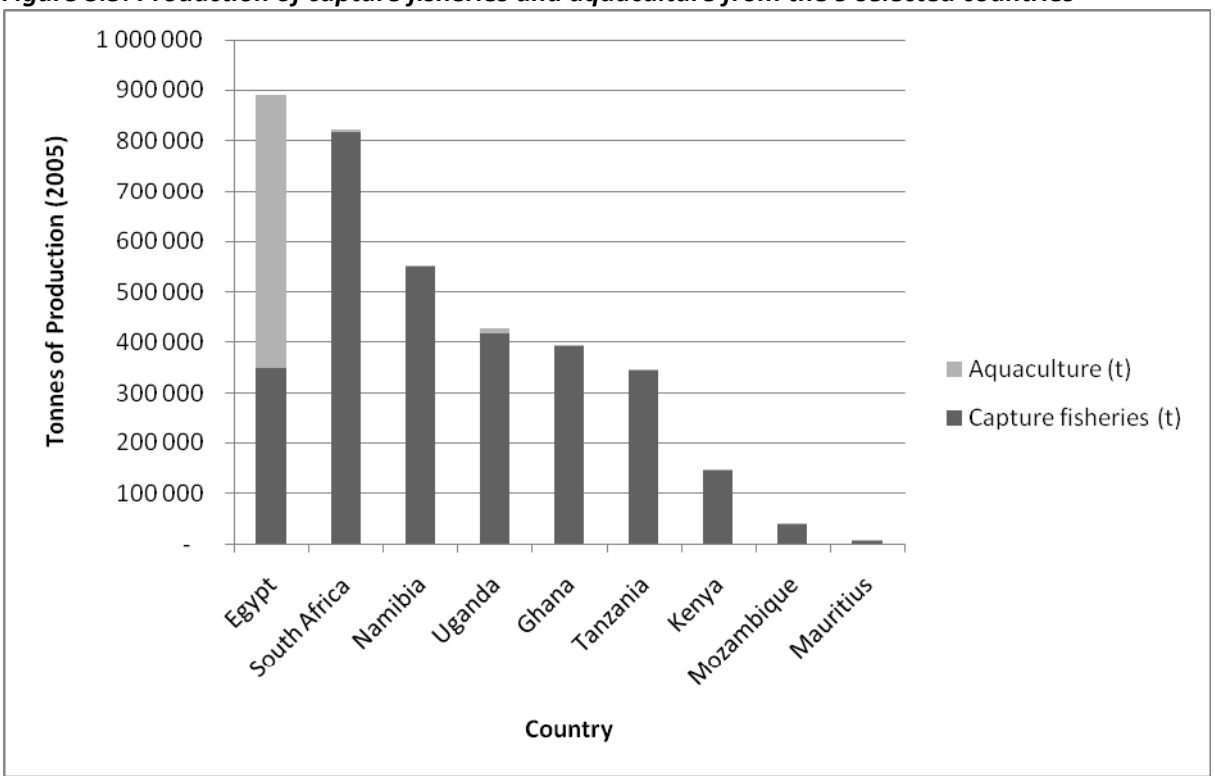
Source: UN Comtrade 2008

Figure 3.4: Fishery exports and imports (USD) from the 9 selected countries



Source: FAO fishery statistics yearbooks 2005

Figure 3.5: Production of capture fisheries and aquaculture from the 9 selected countries



Source: FAO fishery statistics yearbooks 2005

4 Country summaries

4.1 Egypt (aquaculture only)

Modern aquaculture began in Egypt two decades ago and the sector has experienced a significant and rapid growth. Aquaculture now accounts for almost 63 % of total fish production, with 98 % from privately owned farms. Presently, 14 species of finfish and two species of crustacean are cultured. Native species include; Nile and blue tilapia, North African (Clarias) catfish, mullet and European sea bass.

The Egyptian government strongly encourages foreign investments. Recent laws are in place to help foreign investment through a unified package of guarantees and incentives. The laws allow full foreign ownership and guarantee the right to remit income earned in Egypt and to repatriate capital. Egypt has established free trade zones to boost industrial development. In 2006, Egypt had a GDP of USD 118 billion, and an annual growth rate of 7.2 %. The EU imported fish product from Egypt for USD 13 million in 2006 while the US imported around 0.5 million in 2007. Egypt was the lowest exporter to the EU among the nine selected countries reviewed. There is national interest to expand fish export, adding value and to improve handling and post harvest provision.

Table 4.1: SWOT analysis Egypt

Strengths • Large and well established aquaculture industry with range of local skills and technology. • Some specific technical opportunities for improving aquaculture sector. • Producer organisations and infrastructure for training and capacity building. • Some locally produced raw materials for feeds.	**Weaknesses** • Relatively poorly developed markets and declining margins. • May be difficult to compete for access to domestic raw materials for feeds. • Poorly organised seed supply sector/difficulty of establishing competitive supplies.
Opportunities • Technical productivity and quality control gains to be achieved – seed, feed, water management, value addition. • Positive government approach to external investment and sector modernisation. • Changing patterns of domestic consumption. • Some export opportunities if linked with high quality product.	**Threats** • Political and economic pressures, with specific focus on traditional food production. • Contaminants in aquatic ecosystems. • Domestic supply competition from local producer groups.

To summarise potential areas for development, the following categories could be proposed:

- **Major scale agro-industrial development** – aiming at 50-100,000 t output or more, based on semi-intensive pond tilapia production with integrated seed, feed and post-harvest links, supplying major markets and premium products for export markets – this would require significant land area and water rights and would need highest level government endorsement. Margins are likely to be very tight and competition from Asian production could be critical.
- **Medium scale development** – niche products in export areas, high added value products, inputs (feeds, seed) – possible joint ventures, Norway's competitive advantage would need assessment.
- **Technical supplies and services** – a range of Norwegian opportunities, but with limited market values – typically through local agents, etc

The overall perspective for Egypt would be that unless there were specific pre-existing business linkages, the potential returns to a foreign business participating in aquaculture growth would probably be insufficient to merit further attention.

4.2 Ghana

The marine sub-sector is the most important source of fish production (80 % of total supply), with an annual average of 320,000 t. Over 300 species of commercially important fish are exploited. Lake Volta is the most important inland fishery; with catches at around 40,000 t, dominated by tilapia species but including about 140 different species.

The government has recently focused on aquaculture to meet the deficit in fish supply of approximately 560,000 t. Tilapia is the major species farmed and constitutes over 80 % of production. The catfishes account for the remainder. Several systems are used, varying from intensive (commercial), to semi-intensive and extensive, with the latter two most common. Supply of good quality seed and fingerlings has been noted as a key constraint.

As a relatively prosperous and stable country, Ghana has a relatively good level of physical infrastructure. It is estimated that up to 12% of total fish product is exported, with a consistent rise in exports over the years. Key markets are the EU, Togo, Mali, Cote d'Ivoire, Burkina Faso, Benin, and Nigeria. Exports include high value tuna (whole, loins and canned), frozen fish (mostly demersal species), shrimps, lobsters, cuttlefish and dried and smoked fish. Seafood exports were over 24,000 t in 2007 for a total value of USD 51 million.

In 2006 the GDP was USD 12.5 billion, with a real GDP growth rate of 6.2 %. A legal framework for the setting up businesses and for investing in Ghana has encouraged a growing numbers of foreign investments. Ghana scores high on governance, trade across borders and protection of investors which presents Ghana as an attractive option for foreign investments.

Table 4.2: SWOT analysis Ghana

Strengths • Good social, economic and political context with regional business node potential • Good coastal and marine resources and developed export capability • Inland water resources suitable for aquaculture • Existing basis for aquaculture production; skills, service resources • Some locally produced raw materials for feeds • Sound macroeconomic policies and liberal investment legislation	**Weaknesses** • Capture fishery sector variable performance • Resource management challenges • Poorly developed aquaculture sector with limited commercial experience and weak market links • Uncertain approach to environmental management of large projects
Opportunities • Unresolved demand for aquaculture, and positive Govt support • Improved value from marine capture fisheries and development of established export links • Supply of seed, feed and environmental management services – national and regional	**Threats** • Competition with existing capture fishery processing and export linkages • Other external investment in aquaculture (Chinese project) – with significant competition impacts.

The prospects for Ghana are rather variable. There are substantial coastal and marine resources with a well developed export sector, but much of this is already tied up in existing business arrangements. The aquaculture sector would appear to offer strong opportunities, particularly in meeting domestic demand, for which a total annual shortfall of up to 460,000 t had been projected. Of this however, perhaps 30% or less might be in the potential price range where aquaculture might be able to supply product from local sources.

4.3 Kenya

The country's marine capture fisheries potential is estimated at 150,000 t, but the current national production averages 7,000 t. Its coast is located within the richest tuna belt in the Indian Ocean; much of this tuna resource is caught by distant water fishing nations (DWFN). Lake Victoria continues to dominate overall output, accounting for over 90% of total catch while marine fishing accounts for only 4%, with other lakes and rivers (3%) and aquaculture (1%). The capture fishery production in 2007 was just over 130,000 t.

Aquaculture production since 1999 has increased output to just over 4,200 t in 2007. The focus is now on encouraging the development of private, commercial large-scale aquaculture. The majority of farmed fish are tilapia species, commonly in polyculture with the African catfish. Intensive, semi-intensive and extensive systems are used, though most are semi-intensive, contributing more than 70 % of total production.

Kenya has a relatively good physical infrastructure in its major urban centres, with reasonable quality road networks, and a rail link to the major port facilities in Mombasa. The Export Processing Zones (EPZ) Authority is the one-stop-shop for all export oriented investment under the free zone programme. Kenya has a bilateral trade agreement with Norway. There are no legal requirements on the equity ownership level, although foreign firms are encouraged to go into joint ventures with Kenyan companies or entrepreneurs. Kenya has had a steady increase in its fish export peaking in 2005 with USD 60 million. The American import of fish product from Kenya has been a bit more volatile but peaked in 2007 with USD 5 million.

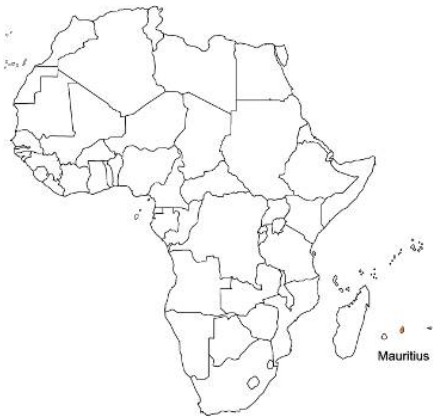
Kenya had an estimated GDP of USD 29.3 billion in 2007 and an annual growth rate in 2006 of 6.1%. The real GDP growth is forecast to subside to 4.1% in 2008 due to the violent disruption in January-February 2008. Kenya suffers from poor governance and a relatively high risk in relation to doing business.

Table 4.3: SWOT analysis Kenya

Strengths	**Weaknesses**
• Relatively undeveloped coastal/marine resources • Good inland water resources • Some aquaculture and processing skills, and some support capacity • International tourist destination • The one-stop-shop for exports	• Small-scale and relatively uncoordinated sector • Resource management uncertainties • Tourist sector stagnation, constraints in food service development • Governance and transparency concerns • Lack of ability to monitor and control marine fisheries.
Opportunities	**Threats**
• Integrated approach to value addition and export using diverse national resources • Support services for aquaculture development • Possible aquaculture production with franchise/nucleus approach • New sector policy underdevelopment	• Political and economic instabilities; public sector constraints; • Other national/client interests competing for coastal or lake resources • Illegal fishing

Political and economic conditions are improving and there are signs of increasing investment confidence in Kenya, but there are still uncertainties. However, resources are relatively good, and a rising economy will increase domestic demand (local and tourist sectors) and purchasing power for aquatic products.

4.4 Mauritius



Mauritius has an enormous EEZ of 1.9 million km². The EEZ has a good resource level, including pelagic and demersal species. Fisheries include the island-based artisanal fisheries, the offshore demersal fishery and the tuna fishery in the Western Indian Ocean. In 2004, there were 2,256 active fishermen in the artisanal fishery, 1,898 fishing boats in Mauritius and 900 in Rodrigues, producing about 1,000 t of fresh fish production.

The major industrial fishery is the tuna fishery, landings and transhipments are very important (about 15,000 t was transhipped in 2004). Foreign purse seiners operating in the Western Indian Ocean landed 64,235 t of tuna in 2005, which went to local canneries. A recent economic study into the benefits accruing to Mauritius from the offshore fishery indicated that earnings from services and licences amount to 250 million EUR annually.

Commercial aquaculture consists of the production of giant freshwater prawn, red tilapia and marine red drum. Total production from aquaculture was 570 t in 2007.

The business climate is friendly yet extremely competitive. Mauritius has a long tradition of private entrepreneurship, which has led to a strong and dynamic private sector. Firms entering the market will find a well-developed legal and commercial infrastructure. Mauritius is seeking foreign investors and the legal environment is established to accommodate this. The country is well developed and governed and is ranked well in terms of stability and risk in relation to protecting investors, paying taxes, trading across borders and enforcing contracts.

Mauritius has one of the most successful and competitive economies in Africa. It had a GDP of USD 6,959 billion in 2007, and a real growth rate of 4.6 %. EU has tripled import of fish products from Mauritius in the period 2002 to 2007, from USD 71 million to over USD 203 million. The US import has been more modest amounting to just USD 19 million in 2007[10].

Table 4.4: SWOT analysis Mauritius

Strengths • Commitment and involvement in fisheries, aquaculture and value added activities. • Good experience and record of export, particularly to the EU • Skilled and motivated people and supportive government • Well positioned for buying fish for processing	**Weaknesses** • Excess pressure on artisanal fisheries. • Previously considered a port of convenience – although government has made firm commitment to continue 'cleaning up operations'
Opportunities • Diversified value addition and market development • Further aquaculture development, including improved technologies. • Commitment to develop and diversify the sector	**Threats** • Possible overfishing and risks of inadequate control of all fleets. • Competition from other processors and exporters

Mauritius is an attractive location for investment and business development, and has a good reputation for the quality and diversity of its seafood, including an active aquaculture sector which has steadily gained in reputation and market. It has received substantial assistance through the EU in production support and value addition and is well positioned to build further in the development of the sector.

[10] FAO statistics indicate a lower export value due to differences in the classified 'origin' of the fish.

4.5 Mozambique

Capture fisheries in Mozambique is an important sector and contributes significantly to export earnings and the diet of the population. Artisanal production in 2003 was estimated to be about 67,074 t. In 2003 registered total catches from industrial and semi-industrial fishing boats were reported to be 22,037 t. Total production in 2007 amounted to 92,270 t of crustaceans, finfish and molluscs. The main commercial species are lobster, crabs, deep-water shrimp, shrimp and crayfish.

Aquaculture is a relatively new activity; though the culture of freshwater species such as tilapia has existed for many decades, whereas marine aquaculture has emerged over the last years. The aquaculture industry consists of a few commercial farms producing marine shrimp and seaweed, and artisanal farms producing tilapia. In 2007 aquaculture production was approximately 900 t. Aquaculture practices range from extensive farming (tilapia and seaweeds) with few inputs and modest output, to semi-intensive farming (shrimp) with high inputs and high output.

Fish marketing and distribution are carried out by the private sector. A wide range of marine fish products are available and marketed. Marine aquaculture production has served external market demands, while freshwater production is for household consumption. EU's import of fish products from Mozambique has been steady increasing in the 2000s. In 2007 the import represented approximately USD 85 millions. The US import is more modest with a peak in 2006 at USD 1.8 million.

In June 1993, a new investment code was approved, simplifying procedures for investment proposals. As a mean of boosting private sector activities, Mozambique has made significant efforts to upgrade its infrastructure. The massive effort in the Maputo corridor is an important project given the close economic ties between Mozambique and South Africa. Mozambique had a GDP of USD 6.4 billion in 2006, with an annual growth rate of 7.9 %. The country is struggling with governance and transparency issues that represent a significant risk to investors and many ratings place the country in the bottom of the countries presented in relation to transparency and business risk.

Table 4.5: SWOT analysis Mozambique

Strengths • Major resources for fisheries and aquaculture, with clear development scope • Growing export levels and wider appreciation of source/product • Strong Norwegian presence including large donor support to the fisheries sector	**Weaknesses** • Social and business environment risks • Major governance challenges natural resources and social development areas • Lack of infrastructure
Opportunities • Demand for development and positive response from people and communities • Large scale aquaculture development, in lake cages or coastal zones • Potential to co-ordinate and develop local and export markets	**Threats** • Further political and governance challenges and pressures of poverty reduction • Potential competition from better established regional groups • Floods and extreme weather conditions • Corruption

Mozambique has a huge natural resource potential, particularly for aquaculture, but also for sourcing raw materials. Its current political, institutional and structural constraints represent risks for foreign investors although the situation is slowly improving.

4.6 Namibia (aquaculture only)

Namibia has historically had one of the most productive fishing grounds in the world, due to the Benguela Current. The most valuable fish stocks are hake, crayfish, horse mackerel, pilchard (presently under moratorium), orange roughy, sole and kingklip. The fisheries are almost entirely industrial, with the marine fishing industry well developed and well managed. In 2007, Namibia harvested about 415,000 t of fish with a very small inland fisheries sector.

Commercial marine aquaculture is currently dominated by oyster production in Walvis Bay, Swakopmund and Lüderitz, as well as mussels and seaweed. Investors have shown a keen interest in entering the mariculture sector especially after the establishment of two aqua parks complying with EU and Asian market demands. Scallops are another kind of high-value of shellfish that show great promise in Namibia. The newly established Abalone industry in Lüderitz also appears to flourish. It is worth to note that Namibia experience sporadic "red tides" which in 2008 had a serious impact on the industry. The freshwater aquaculture sector is very small. However, good freshwater aquaculture development potential exists along rivers such as the Okavango, Kunene, Orange and Zambezi, as well as in dams.

The country exports more than 90 % of its fisheries production in various product forms, to markets including the EU, USA, the Far East as well as African markets. In 2006 the total value of fisheries exports was about USD 460 million. The EU has a substantial import of fish products from Namibia (USD 317 millions in 2007). The US import of fish products from Namibia represented USD 7.7 million in 2007.

Namibia had a GDP of USD 6.3 billion in 2006, and an annual growth rate of 4.6 %. Fisheries contribution to GDP is almost 8 %. Namibia is keen to attract foreign investors and has created Export Processing Zone (EPZ) regimes that offer tax and duty-free environment for foreign investors. It is recognised as a relatively well managed and acceptable regime to do business in (ranked third best country in this section).

Table 4.6: SWOT analysis Namibia

Strengths • Economic strength on diverse resource base • Capture fisheries resource base, port and processing facilities • Good government environment with positive approach to sectoral development • Aquaculture strategy and zoning • Well developed infrastructure and transport network	**Weaknesses** • Low FDI levels • Resource variability and dependence • Traditional role as primary producer • Distance to diverse range of markets • Dependence on South Africa
Opportunities • Higher value integrated aquaculture development • Specific options for value addition • Products and services for sectoral support	**Threats** • Further ecosystem instability/collapse • Competition from existing/regional interests • Environmental threats to the mariculture development such as red tides

The primary features of Namibia are its major resource base and trading position, coupled with good governance and very positive government support for sectoral development, including a proactive approach to aquaculture.

4.7 South Africa (aquaculture only)

Marine fisheries is important in South Africa, but this profile focused on the aquaculture sector, that can be divided into freshwater culture (1,000 t in 2006) and marine culture (3,000 t in 2006). The Western Cape is, Both in terms of production volume and crop value, the most significant contributor to the collective aquaculture output in South Africa. Various marine and freshwater species are currently cultivated in South Africa, including freshwater species of: African catfish, Carp, Goldfish, Ornamental fish, Rainbow and brown trout and Largemouth bass, and marine species of such as Abalone, various marine finfish, Mediterranean mussel, Pacific cupped oyster and Seaweed.

South Africa is a middle-income, developing country with an abundant supply of resources, well-developed financial, legal, communications, energy and transport sectors, a stock exchange that ranks among the 10 largest in the world, and a modern infrastructure supporting an efficient distribution of goods to major urban centres throughout the region. South Africa's exports have mainly consisted of fresh and frozen fish, while the value also derives from fresh crustaceans and molluscs. The South Africa Fisheries exports were 142,551 t in 2006 with a total value of USD 406,069 million.

The South African GDP in 2007 was USD 283 billion, and it had a real GDP growth rate of 5.1 %. It is highly ranked and respected as a well organised society welcoming foreign investments (only Mauritius has a better ranking among the presented countries). The Government does not require approval for investment and foreign investors are subject to the same laws as domestic investors. Non-residents may invest directly through a resident company, branch or partnership. It is worth to note that Black Economic Empowerment (BEE) has been at the centre of business-government relations for the past several years and this require some strategic thinking by investors before investing in South Africa as firms not meeting BEE are less competitive.

The EU's import of fish products from South Africa has been stable in the 2000s, slightly increasing every year to USD 324 million in 2007. US import is more modest, but has been increasing to USD 33.6 million in 2007 which places South Africa as the biggest exporter to the US market in our selection of countries.

Table 4.7: SWOT analysis South Africa

Strengths	**Weaknesses**
• Good resource base, skills and markets • Generally positive public sector environment • Active support for aquaculture • High level R&D capabilities	• Safety and security • Competitive market limiting opportunities • Emerging political and domestic instability • Emerging governance issues
Opportunities	**Threats**
• Expanding economy wanting to accommodate foreign investments • Environmentally favourable • Good infrastructure and communication • Strong Norwegian presence with long-term involvement within the fisheries sector	• Increased political instability • Deteriorating governance and increased corruption • Lack of resources to manage fisheries and aquaculture • Increased nationalism limiting presence of foreign investors

South Africa's large and diverse economy makes it an attractive option with a strong marine fishery resource base. The markets, infrastructure and communications are well developed and make establishment of new businesses relatively easy. The need for local partners and joint ventures is likely due to an increasing nationalism. The current political instability may also deter any potential investor.

4.8 Tanzania

Over recent years, annual production has levelled-off at around 350,000 t of which some 290,000 t (85 %) originates from the great lakes, 50,000 t (15 %) from the relatively unproductive inshore marine fishery and the balance from smaller lakes and reservoirs. These figures make Tanzania the second largest producer of fish from inland capture fisheries (particularly Lake Victoria) in Africa and the eighth in the world after China, India, Bangladesh Indonesia and Uganda. These figures exclude the wider EEZ which is poorly assessed (crude estimates suggest annual capacity >730,000 t) and mainly exploited by foreign fleets for tuna.

Overall, despite the numerous initiatives, the aquaculture sector remains under developed. Current aquaculture initiatives include; donor-funded development initiatives promoting small-scale or SME-based and community based aquaculture for subsistence and local markets; small-holder seaweed farming under contract arrangements for export by international processors; and large-scale commercial aquaculture operations targeting international export markets.

Nationally two distinct marketing systems exist; the filleting companies which send insulated trucks to the landing centres on the great lakes to purchase fish (about 80 % of fillets are exported fresh); and the much more informal system involves fishmongers engaged mainly in cured fish distribution and trade. Tanzania is the main exporter, producing some 24,000 t of fillets from Lake Victoria, worth EUR 210 million in 2007, equivalent to 3 % of national GDP. A recent survey of Nile Perch processors indicated lack of adequate infrastructure, lack of trained personnel and high taxes as their main business constraints.

Tanzania looks positively upon foreign investments although entry level is defined on a minimum investment of at least NOK 2.5 million from foreign investors. Tanzania had a GDP of USD 12 billion in 2006, and an average growth rate of 6.2%. The country scores relatively low on governance and although within limits of what could be acceptable in terms of private sector developments and investments.

Table 4.8: SWOT analysis Tanzania

Strengths • Diversity of coastal and inland resources • Some experience and skills in fisheries and aquaculture • Significant EU trade in sector – particularly Nile perch/L Victoria	**Weaknesses** • Infrastructure constraints • Government resources limited • Governance issues • Lack of ability to monitor and control national waters against illegal fishing
Opportunities • Generally improving social and economic conditions • Developing a co-ordinated approach to product and value addition; • Better quality shrimp aquaculture developments • Vertically integrated approaches to aquaculture with possible franchise approach	**Threats** • Other interests in development. • Resource management challenges in Lake Victoria • Illegal fishing within EEZ of Tanzania

Tanzania offers potential as a country that has steadily improving social and economic conditions and has made good head roads in improving fishery governance.

4.9 Uganda

Fisheries in Uganda play a very important role as a basis for subsistence and commercial livelihood. Lake Victoria is by far the largest, and economically most significant, of the national fisheries. Nile perch is the most important fishery with estimated catches of about 200,000 t (2007) and an additional 60,000 t estimated to be caught illegally.

Aquaculture production remains insignificant in economic terms, but the interest is on the rise from the private and public side. There are two key species contributing over 90 % of the aquaculture production; the North African catfish is the most common cultured species in the country, with production in 2007 at over 34,000 t; while the Nile tilapia produced over 16,000 t in 2007, and is predicted to overtake North African catfish in a few years, given its international market position. Industrial and/or more intensified fish culture in Uganda is only just beginning to be established. Fish feed production at commercial level is being lined up and trial runs for production and marketing by at least a couple of institutions is carried out.

Uganda fisheries exports in 2006 were over 35,000 t for a total value of USD 146,951 million. The Uganda fish processing industry is composed of 12 registered companies for fish processing and export. Main export partners are EU, Japan, Hong Kong, Singapore, Australia, Dubai, Israel and USA. The EU import of fish products from Uganda has doubled since 2002 (USD 132 millions in 2007). The current capacity of fillet processing in Ugandan factories is estimated to be at least 400 t of fish per month.

Uganda had a GDP in 2007 of USD 10.8 billion, and the forecast predicts an annual growth of 6.4 % in 2008 and 6.6 % in 2009. Investor interest in Uganda remains high and is particularly strong from continental Europe and South Africa. The Government of Uganda seeks to attract foreign direct investment and markets itself to companies in Europe Asia and the United States.

Table 4.9: SWOT analysis Uganda

Strengths • Major resource in Lake Victoria with well developed export processing sector. • Potential developments in other lakes. • Good traditional management, resources and research capacity. • Aquaculture development capabilities at varying levels.	**Weaknesses** • High dependence on Nile Perch stocks in Lake Victoria – potential vulnerability. • Growing poverty issues associated with fisheries communities. • Governance issues. • Tense situation in Northern Uganda including conflicts with DRC and the guerrilla group Lords Liberation Army.
Opportunities • Large scale aquaculture development in Lake Victoria or other major lakes. • Supply of products and services to emerging aquaculture sector.	**Threats** • Social and political uncertainties • Competition from other developers I n aquaculture and value added processing

There is likely to be a series of investments in large scale aquaculture in Uganda, and these will require a range of infrastructure development inputs. There are good opportunities for development partnerships, but the poor ranking in doing business and the social and political uncertainties will require careful investigation before any investments are made.

5 Selection of four countries for further investigations

5.1 Overview of issues

The review of individual countries has revealed a wide range of features and characteristics, some of which may in practice weigh heavily for or against the choice for further assessment. Although potential opportunities for investment could be considered in almost any of these countries or fisheries sectors, the quality of opportunity and the prospects of realising the benefits within an acceptable time-frame vary substantially. The individual SWOT assessments and summaries for each country can be used as initial guides for choice, following which some form of comparative review is required. Several issues can be noted:

- Most fishery resources in the region are near or at full exploitation levels, and may be further threatened by overfishing. Progress in effective resource management is highly variable, and consequent stability of supply remains an issue. Investment in adding value is therefore very conditional on future management directions;

- Markets in the region's national economies are starting to grow, particularly where political and social stability has increased, where the devastating effects of HIV/AIDs have slowed down, and where debt relief has permitted investment in wider health, welfare, education and livelihoods initiatives. Significant price rises in the oil and mineral sector have also bolstered some national economies;

- However in almost all cases, the role of fish in food supplies and livelihoods is very important, and with rising real prices of many foodstuffs, strategies for fishery sector development and investment need to ensure a workable balance between export earnings, national economic development and local welfare;

- In many of the countries, FDI in the fisheries sector is already present at some level, and a range of commercial partnerships is already in place. Many of these are at small-medium scale, and many are relatively undercapitalised and with little technical input; a primary focus is the supply of raw material for export, and/or import of lower-value aquatic products for domestic consumption;

- Some examples of more technically-oriented and even 'state of the art' approaches in development and value addition can be found – so far commonly for supply to EU, but it is clear that this route is workable;

- There is a relatively mobile capital commitment in many cases – particularly for foreign and joint venture fleet investment, but also with components of processing and value addition;

- There are specific technically-based opportunities in the sector which may be extended across more than one country – either in the case of shared resource conditions (e.g. LMEs, RFBs or major lakes) or with systems such as cages, harvesting and value addition strategies;

- Emerging professional associations in the region may be relevant and useful for partnership development, political support and investment security, groups such as SCAPA could be valuable partners; and

- Information and capacity-building networks are currently being developed in various themes related to the fisheries sector:
    - Improving the overall conditions for development and diversification

- Raising the competitive potential amongst other groups
- Potentially building a more diverse base for policy action, not necessarily in favour of larger scale commercial operations

5.2 Selecting for the next stages

5.2.1 Introduction

As a first step in making final choices for the next stages a number of points were noted:

- The individual SWOT overviews give a useful, but partial balance of the features of specific countries, and their potential ranking – but these suggest that most if not all of the first round selection have some potential;

- Resource in itself is important but is not necessarily a constraint; for processing and adding value, or for aquaculture, indication of the scale of enterprise likely to be of interest, can be used to determine whether resource scale is a limitation;

- Although business indicators (Figure 5.1 below) give a useful perspective of the relative merits of specific countries, these may in some cases be over-ridden by specific opportunities or existing linkages;

- While the following selection process results in the choice of four countries for more complete focus, other countries will merit continued attention – either through regional links with selected countries, or through taking longer positions for strategic partnerships in the future; and

- The value in considering the final selection holistically; to provide a good mix of geographical, context and project opportunity, including countries in which a new Norwegian initiative may be more rewarding than treading over old ground and the development consequences were considered.

5.2.2 Resource and trade levels

A reduced version of the earlier production and trade table summarises the characteristics of the nine selected countries (Table 5.1).

Table 5.1: Capture and import/export of fisheries for the nine study countries

Country	Total production 2007 (t)	Capture fisheries 2007 (t)	Aquaculture 2007 (t)	Fishery imports 2006 (USD 1,000)	Fishery exports 2006 (USD 1,000)
Egypt	1,008,008	372,492	635,516	167,741	3,495
Ghana	321,875	320,725	1,150	125,321	51,956
Kenya	136,203	131,963	4,240	8,391	55,798
Mauritius	8,476	7,906	570	214,748	160,250
Mozambique	93,177	92,270	907	31,781	96,698
Namibia	415,570	415,518	52	20,204	458,531
South Africa	682,960	677,171	5,789	152,952	406,069
Tanzania	329,711	329,301	410	1,077	188,782
Uganda	551,110	500,000	51,110	374	146,951

FAO Fishstats 2009

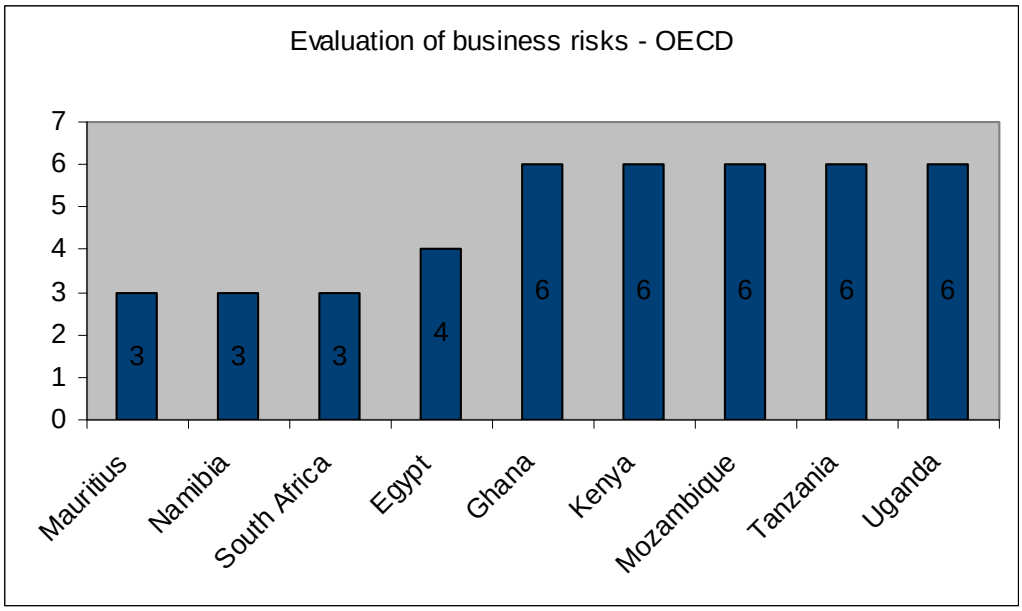
In terms of capture fisheries per year, South Africa and Namibia are clearly the top two, at 677,000 t and 415,000 t a year. At the other end of the scale, the biggest growth potential could occur in Mauritius and Mozambique, by far the two smallest production countries.

For aquaculture Egypt is by far the biggest production location. In terms of the value of exports, South Africa and Namibia are the top two, while Mauritius, Tanzania and Uganda are also significant.

5.2.3 Business risks

The OECD ranking of business risks is summarised in Figure 5.1, and suggests that South Africa, Mauritius and Namibia stand out as more secure.

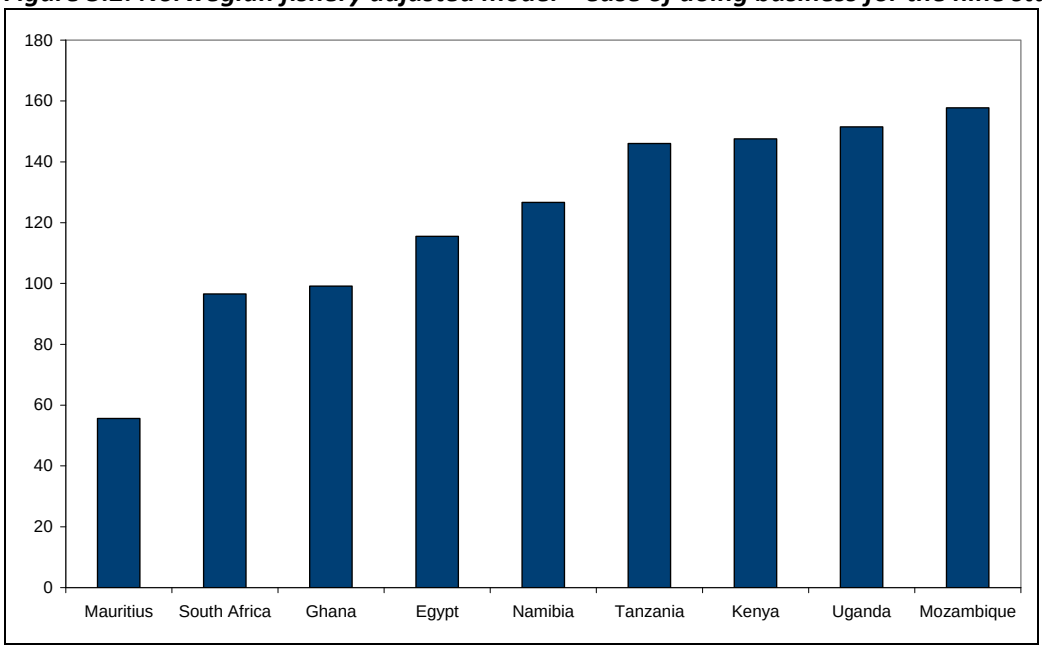
Figure 5.1: Evaluation of business risks for the nine study countries



Source: www.oecd.org

Using the adjusted Doing Business Model (Figure 5.2 and Table 5.2), Ghana also stands out regarding the factors being important for Norwegian investors, with the lower scores being more favourable rankings.

Figure 5.2: Norwegian fishery adjusted model – ease of doing business for the nine study countries



Source: WB Doing Business and teams own adjusted model

South Africa, Mauritius and Ghana always score among the top three countries. In issues like "registering property" and "trading across borders" Egypt scores among the top three, and is in the top four in the risk of doing business rating. By contrast, Mozambique, Uganda, Tanzania and Kenya do not score as well, and to attract Norwegian investors, arguments based on resource accessibility and prior or current Norwegian engagements may be needed to outweigh this.

Table 5.2: Adjusted business environment ranking for the nine study countries

Country	Doing business	Registering property	Protecting investors	Trading across borders
Mauritius	55,64	253	22	60
South Africa	96,55	174	18	441
Ghana	99,13	62	76	228
Egypt	115,52	170	140	72
Namibia	126,64	258	140	450
Tanzania	146,05	284	176	309
Kenya	147,51	238	176	444
Uganda	151,5	334	252	435
Mozambique	157,76	298	76	420

5.2.4 Other factors

Another important matter for the investors may be the level of Norwegian presence in the country today, and the long-term development cooperation in fisheries. Here, three countries stand out; Namibia, Mozambique and Mauritius. The contacts and network the Norwegian embassies have in these countries are very valuable for Norwegian investors. These kinds of contacts have been important in countries such as Sri Lanka, India and Vietnam, and will also be in this case.

The potential impact of investment has not been explored directly, but other things being equal, the opportunity for business partnerships to generate a larger positive effect will create a positive weighting. For those businesses who wish to gain 'ethical capital' by demonstrating good corporate social responsibility, prospects of linking business development with local benefit will be very attractive. For this reasons, countries such as Mozambique, Tanzania and possibly Uganda could have more attraction.

Work carried out by Norwegian research agencies in countries such as Tanzania may also be important. In this particular case, aquaculture alternatives for income generation in coastal areas were demonstrated. Tanzania is also interesting and a country which is apparently on a more positive social and political trajectory. On the other hand, although South Africa also has a range of positive features, its recent political developments may not be quite so positive.

5.3 Selection of countries

A summary of various factors influencing the final choice are given (Table 5.3) with the most favourable choices at the top going down to Egypt and Kenya that had the least attraction.

Table 5.3 Overview for decision-making

Country	Business rating	Resource/export	Presence/interest	Notes
Ghana	High	Medium-high	Medium-high	Overall positive choice
Mauritius	Low	Medium-high	High	Overall positive choice
Tanzania	Low	Medium-high	Medium-high	Useful choice and good prospects for change
Uganda	Low	Medium	Medium	Possible choice but some constraints
Mozambique	Lowest	Low-medium	High	Possible choice mainly social impacts.
South Africa	High	High	Medium-low	Useful choice but not highest ranking – new impact limited
Namibia	High	High	High	Useful choice but less opportunity for new directions
Egypt	Medium	High-low	Low-medium	Little attraction
Kenya	Low	Medium	Low	Little attraction

On this basis the team recommended Mauritius, Ghana and Tanzania as the first three countries for further investigation. NORAD assessed this recommendation from a holistic view with not only the isolated investment perspective and thus considered that Mauritius was not a priority choice and advised that the team should also consider Uganda and Mozambique.

Therefore the chosen countries for field visits were Ghana, Tanzania, Uganda and Mozambique.

6 Summary country profiles for four countries

6.1 Introduction

6.1.1 Approach to country reviews

The initial screening carried out in the first stage of the study set out and considered the broad characteristics of national resource, political and commercial environments, and identified the potentially positive attributes of four countries, Tanzania, Mozambique, Ghana and Uganda, for external investment. To validate these initial rankings and assess national fisheries sectors more specifically and realistically for investment opportunities, the team took several steps;

- Using the overview in the stage 1 study as a basis, we updated data and their implications with more specific and detailed information, if no source is listed, information has been collected through consultations with key stakeholders as listed in Section 6 of Volume IV;
- We defined a framework approach for business development, based on type, scale, risks and returns of potential sector business models;
- With specific focus on the practical aspects of development, economic and business context for investment, we assessed existing and potential commercial developments;
- This was then used to identify possible options for development, and where possible we discussed concepts and options with potential commercial principals and/or key informants; and
- We then developed ideas and suggestions, based on the national context and the commercial environment, showing ways in which these investments and their successful commercial outcomes might be realised.

The study was carried out by James Muir, NFDS and Emelie Aurell, Econ Pöyry during country visits to Tanzania from the 9th to the 14th of November 2008, Mozambique from the 1st to the 5th of December 2008, Ghana from the 26th to the 30th of January 2009 and Uganda from the 8th to the 14th of February 2009. The field visits were prepared through initial contacts by email and phone, and meetings with national and other representatives prior to the visit. Consultations were carried out with a number of stakeholders in public and private sectors.

Separate country reports (Volume IV) describe the outcome of these consultations together with the consultants' conclusions and recommendations. This chapter summarises the main findings for the four countries, and leads to the final chapter (7) on potential investments and the possible routes to their development.

6.1.2 Context for business development

A number of criteria were applied in defining the context for business development;

- The primary target was to identify possible areas for commercial investments – most likely partnerships - with the potential to deliver a competitive return on investment, with a reasonable expectation of positive cash flow within the short-medium term, and the potential to build the business and/or repatriate revenues to service capital inputs;
- Risks, whether biological/technical, market/economic or social/ political were recognised to exist in many circumstances but should be identifiable and manageable using definable and sufficiently established approaches;

- In some cases, CSR options, possibly carrying lower levels of financial return but delivering broader strategic benefits could be considered, but were not linked to the primary opportunities; likewise smaller investments linked with north-south community-to-community, or NGO to NGO partnerships might also be identifiable but were not a mainstream focus;
- As well as the generic conditions for business as described by national economic, fiscal and other criteria, and the specific support and/or incentives available for business development, the more specific issues of people and possible partnerships are also important; attitudes, motivations and expectations on both sides are important;
- Opportunities for positive social and economic impact, particularly engaging nationals in employment and/or improving food access and security could be important but might not be first order issues for choice, but a more positive development outcome would generally be a preferred option. Prospects likely to have a negative impact were not considered further, unless this could be realistically avoided; and
- While the initial focus would be on immediately apparent commercial viability, at a sufficient scale and within acceptable risk levels, longer term implications could also be important, particularly if they involved strategic positions and competitive advantages.

6.1.3 Framework for choice

To give more focus to the practical options for investment in these countries, and to identify where and in what circumstances these might be considered, we developed a range of conditions and scoping criteria, as outlined below:

Type and scale of enterprise – an initial point is to consider what levels of turnover and returns would be feasible, and be attractive for international (Norwegian) investors. The transaction costs and risk elements of developing and sustaining an overseas business would clearly tend to select only those which were large enough and/or sufficiently profitable. Distinctions may also need to be made between the simple injection of capital to expand a local business, the development of skills and capacity, or a mix of these elements. Potential opportunities could be broadly divided into:

- large commercial sector – generally requiring much higher levels of investment, but potentially generating greater income streams and contributing more clearly to strategic growth targets; may also require capacity building to move the enterprise from a nationally to an internationally competitive position;

- medium scale business; less foreign investment involved and less likely to generate enough income for many investors, but with potential for more specialised interests, possibly with higher profitability, and prospects for further growth once better established and with access to expand; may also involve specialised capacity building – e.g. in supply and service sectors;

- local /small scale business; only likely to be interest as pilot or experimental ventures, or as a natural complement to an external investor's niche business; a possible option for CSR linked activities, and potentially networked to link with a larger enterprise; and

- community enterprise; possibly of interest for CSR or NGO partnership linkages, or as a consortium partner, e.g. in organising supply or provision of services for a larger enterprise – external investment may be modest, but capacity building could be an important factor.

Table 6.1 summarises typical scale and other features of sector businesses – in value addition, aquaculture or services that might be encountered or considered.

Table 6.1: Fisheries enterprise type and scale

Enterprise type	Characteristics	Value addition	Aquaculture	Services
Large commercial sector	Internationalised, large output and turnover, major resource user, globally competitive, higher technologies and meeting international standards	Major processing and export businesses – e.g. tuna, tilapia, Nile Perch – fresh, freezing, filleting, canning output 2-10,000t/yr, value USD 3-50 million/ yr	Major single or multi-site producer, e.g. tilapia, usually cage culture, or pond based shrimp output 1-10,000 t/yr, value USD 2-30 million/yr	Possibly only feed production; 10,000t +, value USD 10 million annually,
Medium scale business	National, small-medium resource use, national markets and standards, more limited technology input, output and turnover	Medium scale processing for domestic or export markets, wider range of species, some specialised higher value – output 100-1,000t/yr, value USD 0.1 to 10 million/yr.	Medium sized cage or pond producer, tilapia, catfish, shrimp, seaweeds and/or polyculture, output 50-500t/yr, value USD 0.1 to 2 million/yr.	Feed production, 500-5,000t, value USD 0.5 to 5 million/yr and larger scale shrimp or fish hatcheries – 10s to 100s of millions seed/yr, turnover USD 0.2 to 5 million/yr
Local, small scale business	Limited footprint and market presence, artisanal to small commercial, very limited technology, small output and turnover	Range of local processing, mainly domestic and regional markets – fresh, dried, smoked, etc, 10-100t/yr, USD 1000- 100,000 annually	Small scale pond, enclosure or cage producer, range of species, output 1-20t/yr, value USD 500 to 20,000/yr	Range of seed, feed, small equipment and related service suppliers, turnover USD 1000 to 50,000 annually.
Community enterprise	Social and productive objectives, linked micro-scale enterprises, small-medium scale total output and turnover	Usually collective supply or marketing arrangements for micro-small scale processors, combined turnover USD 10-50,000 annually	Collective input or marketing of micro-small scale aqua-culture production; combined turnover USD 10-100,000/year	Networks of seed or nursery production, extension/.construct-ion/maintenance inputs, turnover USD 1-20,000 annually

Change points - it would also be valuable to consider the turning points of development, if and/or where they exist, where one or more background conditions are changing sufficiently to create significant breakthrough of opportunity, and where returns are specifically promising. There is no certainty that such conditions exist with respect to the sector at present but the challenge would be to identify what such turning points would be, how they could be identified and their significance understood. Possibilities would include:

- Prospects of opening trade with key countries or regions – e.g. with reduction of political or financial barriers, significant improvements in infrastructure and transport;

- New or emerging policy support for;
    - resource access and use – protecting and conserving existing resources, changing access, e.g. from foreign to local exploitation, allowing new resources to be accessed and developed, e.g. raw materials for value addition, aquaculture sites, feeds, other inputs;
    - enterprise development and operation – improving general business climate and specific opportunities within the fishery sector
    - market development; assisting or promoting market expansion, value addition, export growth, etc; e.g. supporting improved product development, post-harvest capacity, market linkages; and

- Specific technical innovation at key points in the fishery sector supply/value chain, shifting opportunities and/or geographical or other advantages, e.g. new species/strains for aquaculture, changing raw materials for feeds and/or manufacturing processes, changing product forms and/or transport/distribution options.

Strategic approaches **-** more specifically within the fisheries sector, opportunities for specific strategies could be identified, including:

- **Value addition** – based around three key dimensions; product, market areas and chain relationships
    - better and more valuable products from existing sources of supply (impacts of better management strategies could be critical); this would include attributes of quality and certification;
    - developing previously unrecognised options; species/products and/or markets – regionally or internationally;
    - trading directions – linking in to international supply chains, building into local/intra-regional options; and
    - chain relationships – bringing groups together, simplifying and modernising, responding to changing demands in key markets, adding value and margins at key points.

- **Aquaculture** - in most cases moving from a relatively undeveloped base towards a recognisable commercial sector;
    - building around existing species choices – e.g. (depending on country/environment) e.g. tilapia, catfish, trout, oysters, abalone, sea cucumber – expand and make more efficient/introduce better stocks and improve stock quality;
    - introduce/develop new species, where feasible - recognising that this will take some time to build to commercial output levels, and that environmental regulations may limit this;
    - systems development – delivering better factor productivity and efficiency, better integration of resources and outputs, more reliable production; and
    - build-up of critical mass of services and infrastructure, linking producers together, sharing key capital resources/skills.

- **Service/support sector** –
    - Feed supplies, hatchery seed supplies, post-harvest products and quality management; disease and environmental services, sector-targeted management and financial services;
    - Introducing new fishery sector services/products into emerging markets, developing local capacity and skill base; and
    - Developed from this, identification of possible regional manufacturing/support centre roles.

- **Overall integration** – there may also be a prospect for developing a complete integrated approach locally, e.g. building from capture fisheries to value adding, aquaculture, service provision, etc – this could also embrace areas such as energy or tourism development, or innovative community partnerships. In such a way also, if value addition and/or risk reduction through integration would merit the approach, a number of smaller-medium scale activities could be joined together to create as larger enterprise with greater turnover.

Practical aspects of investment choice **-** the practicalities of investment opportunities would also be critical; these would include typical mechanisms for investment and delivery of returns, and the identification of particular risk/negative factors;

- Specific features/options for each main sector area would include (see also Table 6.1):
    - Value addition – developing a new project or taking over/joining and upgrading an existing business, expanding or developing new products and markets – probable turnover at the medium to large scale level, or possibly at smaller scale for specialised products;

- Aquaculture – developing a new project, most probably with one or more new sites, and/or joining/taking over an existing enterprise with already established site and water rights and varying degrees of production capacity;
- Services; a range of options, in most cases developing new business areas, optionally linked with broader service provision – e.g. to the agriculture sector;
  - Feed supplies
  - Hatchery/seed supply
  - Disease and environmental services
  - Management and financial services

- Potential risks/switch-off factors for each area would include:
  - Value addition – difficulties of supply access and competition – complications or delays in the means of securing access to resource, negative impacts of fisheries policy;
  - Aquaculture – uncertainties over land or water rights, poor security of systems and/or stock, undefined/poorly covered technical risks, uncertain market options; and
  - Support/service sector – limited or uncertain rate/scale of market development, uncertain quantity/quality of raw materials (for products), limited human resources/capacity (for services).

This broad framework, though not used as a detailed checklist for each case, enterprise or location, was used to provide a generic screening approach to define the more likely opportunities and how realistic it could be to develop them.

6.1.4 Investment protection and guarantees

Norwegian Investments can be insured or guaranteed under the following facilities:

- **GIEK** is a Norwegian facilitated guarantee to heavily indebted countries (HIPC-countries). GIEK follows OECD's principles which imply that GIEK will not guarantee for transactions that contradict with the recipient country's financial-/social strategy. The policy applies only for projects with direct or indirect government involvement. It involves transactions with public buyers, government owned companies, and transactions where government guarantees from HIPC-countries exist. It does not apply for transactions with private buyers or debtors. Furthermore, GIEK offers a special Developing Country Scheme that guarantees credits and investments in developing countries where the risk is estimated too high for guarantees under the General Guarantee Scheme and certain criteria must be met.

- **MIGA:** Eligible investors for MIGA include nationals of any MIGA member country[11], provided they are not nationals of the country where the investment is being made. MIGA insures new cross-border investments originating in any MIGA member country, destined for any developing member country. New investment contributions associated with the expansion, modernization, or financial restructuring of existing projects are also eligible, as are acquisitions that involve the privatization of state-owned enterprises;

- **World Bank Guarantee Programme (other than MIGA):**
  - **Partial Risk Guarantees (PRG):** Cover private lenders against the risk of a public entity failing to perform its obligations related to a private project. Eligible for IBRD countries;
  - **Partial Credit Guarantees (PCG):** Covers private lenders against all risks during a specific period of the financing term of debt for a public investment. Available for countries eligible for loans from IBRD. No overlap with MIGA or IFC; and

[11] Norway is a member but not a donor, i.e. Norwegian Investors are eligible under MIGA

- **Policy Based Guarantee (PBG):** Support of development policy operations, cover part of bond/loan repayment against all risks. No overlap with MIGA or IFC. Eligible for IBRD countries.

- **IFC** can offer long-maturity Risk Management Products (RMP) to clients in their member countries. The risk management products (derivatives) are available for hedging purposes in terms of currency, interest rates, commodity prices and hence enable companies to enhance credit worthiness and improve profitability;

- **ICSID** is an autonomous international institution established under the Conventions on the Settlements of Investments Disputes between States and Nationals of other States (the ICSID convention). The prime objective is to provide facilities for conciliation and arbitration of international investment disputes; and

- **African Development Bank** (AfDB) offers partial credit and partial risk guarantees to all countries eligible for loan under the Bank.

As Tanzania and Uganda are members of Africa Trade Insurance Agency (ATIIA), which is an inward investment guarantee as well as an Import and Export Credit Agency, investments in these two countries can also seek the following insurance products:

- Trade Political Risk Insurance
- Comprehensive Trade Political Risk
- Foreign Direct Investment Insurance
- Project Loan Cover
- Mobile Assets Cover
- Unfair Calling of Bonds and Standby Letters of Credit
- Credit Insurance Cover

6.2 Ghana

6.2.1 An overview of the fishery and aquaculture sector

Ghana's fishery sector covers marine and fresh water fisheries, aquaculture, processing, and marketing. It is an important economic contributor, estimated at 3 % of total GDP and 5 % of agriculture GDP In various ways some 10 % of the population is estimated to be engaged in the sector. The gross value of the sector in 2002 was estimated to be USD 251.2 million, rising to USD 740 million by 2007, with the value of imports in 2006 at USD 125 million and exports at USD 51 million. Currently marine fish accounts for more than 80 % of fish consumed in Ghana, but with decreasing stock and an increased interest for aquaculture, fresh water fish is steadily increasing its share of supply and consumption. The inland fishery is mainly focused in Lake Volta and is small scale in nature using traditional fishing methods.

Fish is a staple food in Ghana and provides about 60 % of animal protein needs with a per capita consumption of 23 kg. The domestic demand is well above the national supply, with an estimated shortfall of 400 000 t, the recent trend is that aquaculture is being more strongly promoted to fill the current deficit in production. Figure 6.1 illustrates the location of main activities within capture fisheries and aquaculture.

Figure 6.1: Location of main activities (Ghana)

Ghana has 550km of **marine coastline**, with a capture fishing industry characterised by four major groups: artisanal, semi-industrial, industrial and tuna fleets. All but the tuna fleets are centred within the narrow continental shelf. The industrial vessel landing sites are placed in Tema and Takoradi and these report of 30% of total marine catch while artisanal fisheries constitutes for the rest. The semi-industrial inshore fleet and the industrial fleet are fully owned by Ghanaians with the exceptions of the tuna fleets which are joint ventures. The fleet is old and inefficient and does not meet international sanitary and phytosanitary standards. However, an upgrade of the fleet may be difficult due to overcapacity, poor returns on new investment and difficulties of decommissioning older vessels.

Lake Volta is the world's largest artificial lake with some 8,500 km², and is the most important water body for **inland fisheries**, together with other lakes such as the Bosomtwi, Weija, Barekese, Tano, Vea and Kpong, along with other smaller reservoirs. The Keta lagoon is also important for the capture of brackish water fish. Information on catches is variable but the Ministry of Fisheries estimates that inland catches are about 150,000 t fish per year.

Aquaculture is as yet in a development phase, with annual production variably estimated at 1 to 3,000 t with the majority being Nile tilapia. In water and land resource terms, there is a huge potential to increase aquaculture production. It should be noted however that rainfall in the northern regions is limited and may be subject to further variability in the future, and the reservoirs are likely to be a mix of old mining pits filled with water, and various irrigation and other water storage bodies. The Ministry has developed a strategic framework to address the main challenges within the sector.

The **legislative and policy framework** for the sector includes the Fisheries Act of 2002, a National Aquaculture policy of 1998 that is under review, an Environmental Protection Agency Act of 1994, and the Environmental Assessment Regulation LI 1652 that addressed aquaculture activities.

A number of **development activities** have been carried out in the sector and may have a bearing on its future development. These include; Ghana's important role in the hosting of the regional GEF/FAO

Canary Current Large Marine Ecosystem (CCLME) programme; Ghana as a partner in the recent DFID funded FAO Sustainable Fisheries Livelihoods Programme (SFLP), again Ghana as the host of the FAO's regional office in Accra; and the recent Spanish-funded project for the Volta. Apart from sector focused development programmes other programmes carried out in Ghana, include those working with core issues such as health, education, security, and governance that will improve the overall stability of the sector.

The **domestic market** is structured around two main channels - fresh and iced fish – often directly from catch or farm gate, or sold via small traders, and smoked, salted and dry fish. Another market is also developing for frozen fish, sold from freezer outlets and small stores, and canned fish, often imported, is distributed widely through shops and supermarkets. The smoked/salted/dried fish market accounts for some 60 % of the total domestic market. Imported fish comes from Morocco, Mauritania, Namibia, Norway, the Netherlands, Belgium, Senegal and the Gambia.

Ghana has a **strategic position in the Western Africa** region. It is a relatively stable country with good business, infrastructure and trade features, with good access to neighbouring countries such as Nigeria which have excellent market potential but may be more challenging to operate in directly. It is a member of ECOWAS, the Economic Community of West African States, which covers both the Francophone and Anglophone countries with the aim of creating a customs union that will imply that an investment in Ghana would mean access to a market of more than 250 million people and a possible 'gateway to West Africa'.

The value of **fisheries exports** has oscillated between USD 70 and 120 million over 1997-2005, but dropped to around USD 52 million in 2006, this also shows substantial change in apparent value per tonne over the period. The level and value of **imports** has risen steadily with varying values, although with the exception of the unusually high values for 2005, typically only 25-35% of the unit value of exports.

The countries infrastructure includes approximately 40,000km of **main roads** of which one third is paved and in generally good condition. More than 17 **international flight** companies operate to Accra, with a flight time to Europe of not more than seven hours, which facilitates market access by air in comparison with for example Mozambique that has a 10 hours flight to Europe and less well connected with direct flights. The **ports** and harbours in Tema and Takoradi are in good condition. A number of major **shipping lines** operate from these two ports which also has facilities to land fish of large quantities. Lake Volta has approximately 32 smaller landing sites. Reliable access to electricity has been a challenge in Ghana, as has phone and internet service, although these are improving.

6.2.2 Commercial activities in the fishery and aquaculture sector

A number of **enterprises are active on the aquaculture** scene in Ghana, with a particular focus on Lake Volta as a location for large, cage based projects. The price of tilapia on the domestic market is currently well above the world market price, so production is potentially very profitable, but with more supply coming into the domestic market, however, the price is likely to stabilise and reduce. A full range of commercial activities is provided in Volume IV, Chapter 2 with some examples provided here.

Three commercial cage farms exist; **Crystal Lake Fish Ltd** was the first cage farm in Lake Volta and was established in the late 1990s to grow indigenous tilapia in ponds and concrete tanks as well as cages, covering the whole chain from fingerling production, brood stock to full market size tilapia. Their market is mainly Accra and the demand is high with buyers paying in advance to secure the delivery of tilapia. **West African Fish Limited** near Akosombo is a newly established company with Ghanaian and Danish ownership. Although now setting up their aim is to produce up to 5,000 t of tilapia annually for export into European markets. **Tropo Farms** started producing indigenous tilapia in 2003 with a production of approx 1,000 t per year for supply to restaurants and hotels.

Aqua Farms, near Accra is a Lebanese owned commercial pond that focuses on small scale agriculture and aquaculture, including breeding facilities, farming and small scale feed production with integrated animal/fish production (with poultry and pig wastes falling in to the ponds to fertilise them). All the farmed fish is sold at the farm gate within hours due to the high demand. **Sustainable Aquaculture Ltd** is a small female-owned company cultivating tilapia on lake Volta, breeding tilapia fry and fingerlings in concrete nursery ponds before transferring them to cages in the lake. The company hopes to expand production of fresh, whole tilapia from 240 t to more than 4,000 t by 2009. SAL's increased output would allow it to expand full-time employees from 70 to 120, and help it assist local fishing communities expand production by sponsoring a pilot out-growers programme.

In relation to **value addition** about 80 % of the landed fish is processed while the remaining is consumed fresh. 60% of the processed fish is smoked, 20 % is sundried and the rest is salted. Freezing and canning are only for export. Ghana is strongly dependent on a small number of major customers; France and the UK account for some 74 % of canned tuna exports, and Spain takes about 50 % of export volumes of frozen fish, Togo almost 90 % of salted and smoked fish exports, and Greece and Italy almost 70% of crustacean exports.

The Pioneer Food Cannery (PFC), a subsidiary of the US Heinz Corporation, is the largest tuna canner, located in the free port zone of Tema. In 1997 they processed about 39,000 tons of tuna per year, about 70% of national output. Tuna is supplied by TTV Tema Tuna, a French-owned locally operating company. PFC exports about 95% of its production, mainly to the UK, but also to Spain, France, Italy, Germany and the Scandinavian countries. **The Ghana Agro-Food Company, (GAFCO**) has activities in tuna canning and is a parastatal joint venture with the Swiss based Industrie-Bau Nord AG. It has a capacity of 50 t per day for retail and catering packs of canned tuna, in brine and various types of oil and spices.

Shrimp are processed and packed on board the vessels for export. High priced demersal species caught by the artisanal, inshore and industrial fleets are either sold at the local market or frozen and exported. A number of companies operate in the fresh and frozen fish and shellfish sector, also mainly in the Tema/Takoradi areas, including **Dakomer Seafoods Limited, Eborns Seafood Co, Ltd**, **Greenfish Exports,** and **Quest International**. Most of these enterprises are small-medium scale, highly dependent on seasonal supplies and reportedly face continued difficulties of supply.

The processing of aquaculture product has been considered but not yet developed, as local demand for fresh product has been very strong.

Service and support activities include; **hatcheries for aquaculture** but on only a limited commercial basis, mostly relying on small farmers harvesting fry and fingerlings from mixed sex tilapia production, with no selection or other forms of quality control. Access to good quality fish feed therefore is a major constraint to development of aquaculture in Ghana, with no **commercial feed production** currently in place, farmers either attempt to produce their own feed, typically moist mixes, or simple sinking pellets, or at considerable cost, import more specialised feed.

6.2.3 Overview of sector business health

Overall, the Ghanaian fish sector faces a strong future for growing value as the demand for fish products is high, but a number of challenges need to be addressed before the full potential can be exploited. In terms of capture fisheries, the likelihood of development or expansion is limited unless a more effective management regime can be put in place, together with good resource monitoring. There are prospects for extending and improving the efficiency of value addition for capture fisheries, but with supply uncertainties and existing investment in place, significant investment is currently difficult to justify except for possible niche markets unless further supply can be secured via aquaculture.

Aquaculture is clearly seen as the main channel to fill the national demand gap. Lake Volta in particular has major capacity and excellent year-round growing conditions for tilapia, creating the prospect of becoming a significant domestic source as well as a highly important regional and international export resource. Such is the scale and potential that it stands together with only a small number of other African resources, as being a globally significant contributor. The key elements to this will be availability of good quality seed and the supply of quality feeds at internationally competitive prices, both of which appear to be feasible.

In terms of larger scale cage farming, a number of initiatives are already under way, and there are strong signs that the sector will develop more rapidly within a short time period. There are still a few gaps in the input supply chain but it seems that the sector is becoming mature enough for decisions to be made to fill these gaps. Historically, there has been the problem that without good seed and feed, investment in ongrowing had been restricted, while without prospects for good markets, potential developers of hatcheries and feed producers have also been reluctant to commit. For feed in particular, the capital cost of extruded pellet systems pushes to distinct economies of scale, and assured volume sales would be required. The potentially rapid scale-up of cage culture operations, plus the steady build-up and potentially intensifying small pond sector is likely to make this much more viable, and Ghana appears to be at break-through point for the sector.

6.2.4 Conditions and mechanisms for investment

It is estimated that for 2008, Ghana had a GDP growth of 6.3 % and an inflation rate of 16.4%, which is well above the inflation rates for the other three countries included in this study. The overall ranking of Ghana in key international reports was discussed in Chapter 3 and out of the four countries visited; Ghana is ranked highest by Transparency International Corruption Perception index[12]. The World Bank Doing Business Report 2008 rated Ghana as one of the top ten reformers, ranked at third, after Egypt and Croatia. The report argues that the country has increase efficiency of its public services, especially mentioned is the increased efficiency at the company registration office and environmental office.

To **facilitate investments**, the Ghana Investment Promotion Centre (GIPC) was established following the Ghana Investment Promotion Act 1994. The GIPCs primary objectives are to encourage and promote investment in the Ghanaian economy and to coordinate and monitor all investment activities by:

1. facilitating and liaising between investors and relevant Ministries, Government departments and agencies as well as institutional lenders and other authorities;
2. providing and disseminating up-to-date information on the available incentives; and
3. assisting incoming and existing investors by providing support service as needed.

The Ghana Exports Promotion Council (GEPC) assists the private sector with market information and statistical trade data services. The Ghana Free Zones Board (GFZB) manages the Free Zones Scheme, an integrated programme to promote processing and manufacturing of goods by establishing specific Export Processing Zones. The Export Development and Investment Fund (EDIF) and the Ghana Investment Fund (GIF) were established to overcome some of the barriers to private sector development. The EDIF provides financial resources to address problems associated with constraints in the exporting sector while the GIF aims to provide loans to SMEs at concessional rates.

Other agencies include the Association of Ghana Industries (AGI), a not-for-profit organisation aiming to contribute to growth and development of the industries in Ghana and to create an enabling business environment, and the Ghana National Chamber of Commerce and Industry (GNCCI), whose vision is to provide 'leadership for the growth and prosperity of business in Ghana. For the fisheries sector, industry associations including the National Fisheries Association of Ghana (NAFAG) the umbrella fisheries

[12] http://www.transparency.org/policy_research/surveys_indices/cpi

organisation, the Ghanaian Tuna association and the Ghana Fish Processors Association also have the potential to facilitate potential foreign investment.

In relation to **risks and constraints** the ONDD[13] rates Ghana 4-6 on their political risk, ranging from short term to long term risks. Risk of expropriation is low at 3 while transfer risk is higher at 5. Commercial risks are rated at C which is equal to high risk. A US Commercial guide for Ghana[14] suggests that recent monetary policies introduced by the Bank of Ghana have lead to a better control of inflation, reduced official reserve requirements for banks, and increased competition in the financial services sub-sector which in turn has lead to the establishments of new banks and financial products. The Government of Ghana is highly motivated to attract larger investments and have taken a number of steps in order to try to decrease the bureaucratic burden, as well as disincentives for business activity. One such step is the gradual reduction in corporate tax rate from 32.5% in 2004 to 25 % in 2006.

The US Commercial Guide list typical challenges at the Ghanaian market as complex land tenure system, unreliable supply of electric power and limited commercial information of the markets. On the positive side a peaceful and fair election process has just been finalised, and has been praised as a front running country in terms of democratic processes and peace keeping. Also in order to facilitate business development, the government has set up a special fast track court system in order to more quickly respond to and solve disputes and enforce contracts

The current commercial banks are apparently rather reluctant to get involved in the aquaculture sector, in spite of the obvious enthusiasm of the Government of Ghana and of various individuals. They argue that the sector suffers from a lack of management and have little knowledge of potential cash flows. Stanbic did however express interest into getting involved in processing businesses.

In relation to **Nordic involvement**, the Royal Danish Seafood that has invested a 75% share in the company West African Fish Ltd, the single Ghanaian partner holding the rest of the shares is a former public servant within the Ministry of Environment, who currently sits on the board of the EPA and is hence well positioned to assist counterparts with business procedures. Royal Danish Seafood representatives had been visiting Ghana during a number of occasions to screen for opportunities and when the Ghanaian counterpart won the award of best farmer 2005, the link between the two was made via the Danish Embassy in Accra. The Norwegian Company NorPalm established an operation in Ghana in 1998. They grow palm trees and manufacture crude palm oil, palm kernel oil and cake. In 2007 they produced 8,643 t of crude palm oil with a price ranging from USD 600 to 945/t. The company has 160 permanent people employed in Ghana as well as up to 600 seasonal workers.

An investor wishing to **establish a business and invest in Ghana** must go through the GIPC, their website provides full information on incentives such as; customs duty exemptions; income tax incentives; and options to carry over tax losses. The **Ghana Free Zone Board (GFZB)** also promotes the processing of fish products and a free zone investor does not require a minimum capital investment as is needed by GIPC. The main requirement is that the investor should indicate that they will export at least 70% of their production. Business established in a free zone can import and export goods without any taxation and are exempt from other direct and indirect taxes. Norwegian Investments in Ghana can be **insured or guaranteed** under a range of facilities such as GIEK or MIGA. Overall investment procedures require foreign investors to register with the GIPC and meet a specific equity contribution (in cash or in kind). The GIPC website provides a wealth of information on the business environment in Ghana and the specific process that apply.

Overall, the conditions appear to be positive and encouraging for private sector investments. Other people establishing themselves in Ghana received good support from GIPC and expressed that it was a

[13] ONDD is the Belgian Export Credit Agency **www.ondd.be**
[14] US Commercial Service, 2008, "Doing Business in Ghana: a country commercial guide for US companies"

smooth process of getting registered. A range of joint ventures across a wide spread of sectors also supports the case that conditions are positive and investors perceive Ghana to be a sound location for opportunity and business development. A summary of the investment conditions for new external investors is set out in SWOT format in Table 6.2.

Table 6.2: Investment climate SWOT analysis (Ghana)

Strengths	Weaknesses
• Access to large regional market (ECOWAS and especially Nigeria) • Government is committed to create an enabling environment for investors • GIPC established to facilitate investments • Politically stable	• Weak but upcoming financial sector • No firm regulations in place for aquaculture
Opportunities	**Threats**
• Improving social and economic conditions • Large areas of available land and water bodies for aquaculture • A number of potential investment partners	• Impact of Hiv on workforce • Potential reduced price of tilapia • Many actors already established

6.2.5 Investment opportunities

Ghana has an active fisheries sector with a strong domestic market and medium scale export market, mainly focused on canned tuna. There has been investment interest in the sector from both domestic and external investors, with aquaculture being the primary focus of interest, with the most recent investment coming from Denmark. Considering both the broad criteria for investment selection set out Section 6.1, and the practical issues emerging from discussions in Ghana, a number of options could be identified.

An investment in a **medium to large scale cage culture** operation for tilapia, potentially through a joint venture with local partners could provide for good short term returns and excellent future potential for growth. Current operating scales of 500-2,000 t annual production could be a guide for development, and scale-up towards 5-10,000 t or more annually could be feasible, perhaps based on 2 or 3 sites, subject to market opportunities and site conditions. This could be based on modern large circular cages (e.g. PolarCirkel systems) of 1,000-5,000 m^3 or simpler artisanal cages of 200 – 300 m^3. In most cases, access would be by boat, with a range of feeding and harvest options. The business model could be based on complete ownership and control of production, or could have varying levels of outgrowing with local individuals or co-operative groups, typically with local training and various sale/repurchase arrangements.

A **Joint venture or buy-in of an established operator** would accelerate this process, and allow immediate site access and potential to expand. However, the potential profitability of such an enterprise should not be based on the shorter term market prices for tilapia, which are most likely to drop towards international price levels as production expands and the domestic market is more widely satisfied at the price points concerned. It is difficult to place a boundary on this without more detailed market studies, but a working estimate based on income groups is that current markets may be satisfied when the combined output from Lake Volta reaches around 5,000 t, and while overall market size is much larger, its price levels will be much lower. Given the existing production in the lake, it should be necessary within 2-3 years, to demonstrate profitable and competitive operation in regional and export markets.

An investment at this level could be integrated to **incorporate hatchery production** – using simple onshore fry facilities and cage-based fingerling production. This could be cost effective at a range of scales. Integration could also include feed production, potentially also at a large enough scale to be internationally competitive and hence most likely to be selling to other producers. Depending on raw material prices and access, feed production levels of 5-10,000 t annually would be a realistic target,

though lower output levels could be acceptable while competing feed price levels remain relatively high.. Regional demands – e.g. in Nigeria, are also growing. Alternatively, if reliable and competitively priced seed and feed supplies were available, the investment could focus on cage culture alone. Any investment decision, particularly relating to local markets, input supplies and local community linkages should be made in close collaboration with Ghanaian partners.

A stand-alone investment in fry or fingerling production could be feasible at a range of scales, and broodstock and seed quality would be important competitive factors. Depending on market size, each 1,000t of tilapia produced in the ongrowing sector would require 5-6 million fry or fingerlings, which would represent a turnover of eg USD 500-600,000 annually at 10c/fish. A profitable smaller scale business could also be feasible, and again, depending on locations of outgrower links with local small producers, buying fry to produce fingerlings could be considered. This could also be developed as a public-private partnership, particularly if linked with technical support and government accredited broodstock to ensure stock quality.

A further and more specialised opportunity might lie in **supporting and developing a range of public-private partnerships in aquaculture based enterprises**, involving small local businesses, NGOs or community enterprises, building and developing supply and value chains. Working also with the larger mining companies and potentially also with larger agro-industry/plantation companies, practical options for site and environmental rehabilitation, integrated production, and local food supply and food security could also be possible.

Investment partnerships in **value added areas** may also be feasible, but at smaller to medium scale levels. Technical skills and market access from external partners could be linked with local supply linkages and in some cases business premises which could be directly used or relatively easily upgraded. Options would include specialised tuna products and small scale value addition associated with high value coastal demersal species. However, supply limits will be key constraints, and product flows may only be several hundred tonnes annually, with corresponding turnover. Competition for supply from other established businesses would also be an issue. There may however be newer opportunities for linking value addition with community fishing groups, as the government is supporting their development and improving local infrastructure. This may take longer to build, and to secure effective partnerships at a level on which commercial investment could be soundly based. In the slightly longer term, opportunities are likely to exist for medium scale businesses in value addition e.g. tilapia filleting, portioning, and other preparations, based on aquaculture raw materials, for local, regional and international markets.

Some opportunities for **investment partners** came to light during the field visits and these are detailed in Volume IV. They include the company, Crystal Lake, who are interested in finding a strategic partner to invest in the operations, in order to scale up to 2,000 t of production of tilapia, either a part or full acquisition of the company or a lease contract for productive capacity. The owner of Aqua Farms also expressed interest in principle in joining with external investment in further aquaculture development, and would also welcome further opportunities to link with external expertise to develop skill and capacity building. With respect to feeds development some opportunities also exist for external partner to enter the market, recognising Nigeria as well as Ghana as a potential market. Also the potential to link with local NGOs and community groups appears to be very positive and would accord well with Government concerns for building skills and creating employment in coastal and rural communities. A number of initiatives involving women in the fishery sector have already been pursued, and there would be good prospects of linking these and others with more commercialised sectoral approaches.

6.3 Mozambique

6.3.1 An overview of the fishery and aquaculture sector

The fisheries sector has an estimated annual production level of some 100,000 t of which 90 % comes from artisanal fisheries. In 2006, export earnings from the sector were valued at USD 90 million, which emphasises their significant role in the sectoral economy. The main fisheries in value terms are shallow water shrimp and deep-water prawn with the small pelagic *kapenta* fisheries in Lake Cahora Bassa being the third most important export oriented fishery. The coastal region fishery includes the vast number of small-scale crafts and 330 semi-industrial vessels and 200 industrial vessels. The industrial fleets faces a number of challenges including decreasing stocks, falling real prices and recent fuel price rises as well as future concerns on the impact of climatic changes, and oil exploration.

Annual production levels for **aquaculture** are approximately 1,000 t, 75% of which is accounted for in large scale commercial shrimp culture. There are some small scale activities in tilapia and carp farming in inland waters. Figure 6.2 illustrates the location of the larger fisheries activities in Mozambique.

Figure 6.2: Location of major activities (Mozambique)

Source: Map from www.mapsofworld.com

The **Ministry of Fisheries** was created in 2000 and has the overall responsibility for the management and administration of aquaculture and fisheries in Mozambique, the head office is in Maputo with

Departments at provincial levels. There is a range of Acts and policies relevant for the sector including a Fisheries Act of 1990.

The main activities in the **capture fishery sector** are focused around the shallow water shrimp resource. However, as this resource is under severe pressure, with sustainable landings estimated at 40 % of current levels, the sector is facing a major challenge in stabilising the stock while also maintaining adequate returns. Fisheries management and enforcement are critical issues with illegal and unrecorded fishing and offshore transhipment of illegal catch widespread.

The main challenge for the Government is to manage resources more effectively, to develop the value adding sector as well as to encourage the large tuna fishing fleet to land and process the catch in Mozambique. Though not currently seen as problematic, better management of the artisanal sector may also be required, as increasing fleet size and fishing pressure from small boats can have a significant effect on resources. A management strategy, particularly if reducing access or fishing capacity, will have to be well balanced as many people in the sector have low income levels and are socially and economically vulnerable.

Development assistance has included Norway as a strategic partner and the principal donor to the sector both in value and duration, with an emphasis on research and management of the fisheries resource but also in small-scale fishing, trial fishing and support to the fisheries school. Currently, NORAD is funding a patrol vessel as well as two resident advisors to the Ministry, primarily focusing on IUU fishing and MCS issues. ICEIDA has provided development assistance to the sector including to the Fisheries School with scholarships to the United Nations University Fisheries Training Programme in Iceland. The only involvement from the EC Delegation in Maputo in the fisheries sector is through the Fisheries Partnership Agreements through which EU flagged vessels are allowed to fish in the EEZ of Mozambique. The vessels are required to pay a license and EU also contributes to a government fund that is intended to support investments in management and resources. The most recently agreed contribution level is EUR 900,000/yearly. A range of other development programmes have been active in Mozambique, many of which address fundamental issues in health, education, infrastructure, security, and governance, as well as introducing economic reforms and rationalisation of the public sector and its support and service functions.

Small local markets have developed around the over 700 artisanal landing sites, and there are commonly small artisanal processing operations. Even though Mozambique is a notable fish producing country, the domestic distribution system is very limited, especially for fresh fish with most artisanal catches being eaten for subsistence or sold in local markets by the landing sites. Except for shrimp only a small fraction of the artisanal catch goes for export. Fish at landing sites is sold by the fishermen to wholesale traders; usually women who buy small quantities that are transported to local fish markets and sold fresh. Some also buy for processing (drying, salting, smoking). Processed fish are usually packed and transported to local fish markets.

The **per capita fish consumption** is low at around 3kg/year in 2000, even so, the potential domestic market for a population of 21 million is 63 900 t. Despite its landings, Mozambique is still highly dependent on fish imports, mainly horse mackerel, to meet consumption deficits, and it is estimated that 25-30,000 t are annually imported from Angola and Namibia.

The main regional **export markets** are countries in the Southern Africa Development Community, (SADC), which offer a potential market of a population of 215 million, equivalent to 1.7 million t, as well as the Southern Africa Custom Union (SACU). The SADC and SACU markets account for about 40 % of all Mozambican fish exports. The international market for Mozambique's fish products is wide, and includes other parts of Africa, Asia (Hong-Kong and Japan) and Europe (Italy, Portugal, Spain and the UK). The supply chain for international trade is more advanced than for the domestic market, particularly if key quality and hygiene standards are to be met. Most of the catch earmarked for exports is caught by the industrial or semi-industrial fleet and then either frozen on board or landed fresh and frozen or

processed in land-based processing plants. Most of the catch is then exported frozen, in freezer containers to the international markets. The processing plants that are unaccredited to access the larger international markets ship their products to South Africa for further processing. High value prawns are the principal export product currently being exported to the EU and Japan. Deep-sea prawns are exported to Italy and South Africa. The value of exports from Mozambique to the international markets was USD 31.8 million in 2006. As the aquaculture sector is relatively undeveloped, markets have not been developed in terms of farmed tilapia. Very limited market information exists and the value chain has not been defined.

Shallow water shrimp is fished to its maximum and it is stated that fishing effort should be reduced by 40 %. Deep water shrimp fishing is reported to have the potential to be increased by some 40 %, though returns to fishing the shrimp alone look increasingly unviable, and the bycatch is becoming increasing important, and targeted by the deep water fleet. The tuna fishery is offshore, with effectively no raw materials being available for value addition within Mozambique, and payment for resource access was apparently not completely transparent. Licenses for prawn fishing are in the range of USD 3,000-4,000 per boat per year and for line fishing USD 2,000 per boat per year. However, the licence costs tend to increase every year, creating an uncertainly among fish companies in terms of future costs. Overall, views are that the management of the resources must improve to make the sector profitable.

6.3.2 Commercial activities in the fishery and aquaculture sector

The **industrial fishing fleet** is dominated by three companies, which hold 6,500 t of the 8,000 t quota for the national shrimp quota; Pescamar with 4,400 t; Crustamoz with 1,000 t and Sociedad Industria de Pesca (SIP) with 1,100 t. The **semi-industrial fleet** ranges from medium to family type businesses with 1-3 boats catching prawns or fish, with the majority of catches being transported fresh in refrigerated trucks to South Africa.

The **artisan fishery sector** is estimated to involve 136,000 fishermen, 39,000 boats and 1,200 landing sites. Overall, the fishing sector has been suffering from rising fuel prices in combination with lower market price for shrimp and many semi-industrial and small industrial have severe financial problems in terms of investing in improved gears, boats and diversifying the business. In total, 78 vessels are registered and certified for fishing for the EU market.

Aquaculture production is at an early stage of development, at 907 t in 2007, of which giant tiger prawn and Indian white prawn accounts for 76%, and undifferentiated Tilapia most of the remainder. Mozambique has extensive natural resources suitable for aquaculture, particularly in coastal regions, where prospects for shrimp aquaculture had been considered to be very promising. Three large scale initiatives had been developed in this sector: one

- Sol e Mar in Beira, Sofala Province (500 ha): Chinese owned; the team was informed that they are looking for a buyer. The facilities are not yet up to EU standards and hence they are selling mainly to the regional market;
- Aquapesca, Quelimane, Zambézia province (1,000 ha): the only company currently in full operation and said to be expanding and investing in their own hatchery in Camela; and
- Indian Ocean, Pemba, in Cabo Delgado province (980 ha): had been run by an American company but the business collapsed, thought to be due to internal problems. The American owner has sold their shares to their Mozambican partner but there are also rumours that they will return to resume operations.

An area of some 1,700 km^2 of coastal lands, including mangrove, has been identified as having potential for shrimp or prawn aquaculture. This is an immense resource, and though current good practice will preclude most if not all of the area designated as mangrove, even 10% of the area, 17,000 ha, could

support annual production of 40-50,000 t of shrimp in semi-intensive systems and more than double that quantity in more intensive production.

For **freshwater aquaculture** there are an estimated 6,000 small scale carp or tilapia ponds, but these are poorly productive due to inadequate seed supply and the lack of feed. Fresh water aquaculture on a larger scale has been discussed for Lake Cahora Bassa but due to the lack of infrastructure in the area, access to markets is a problem as is the supply of fingerlings and feed. An inventory of potential sites for aquaculture is currently being undertaken and is to be published early 2009.

All of the industrial and some of the semi-industrial companies have **processing plants**, usually for grading, freezing and packing and mostly shrimps. All catch from semi-industrial vessels is landed onshore, processed and then exported or sold at local markets. There are 31 processing plants and 16 ice plants around the country. Out of these, eight to ten are approved for export to the EU market. Limited transport infrastructure may still make it difficult for landings in some areas to have access to value addition.

Service and support activities include a range of traditional services functions for the fishing industry exist, eg boatyards, engine and gear repair, and simple provisioning, but their activities and potential profitability are modest. For aquaculture, there were reportedly some initiatives in setting up hatcheries and possible feed factories but no specific project was possible to confirm.

For **infrastructure** the massive effort in the **Maputo corridor** is an important project given the close economic ties between Mozambique and South Africa and the potential benefits of improved bilateral transport links. The ports and harbours in Mozambique are well developed with adequate fishing ports in Maputo, Quelimane and Beira. Generally, the road network is in worse condition in the north of the country, though it is noted to have improved substantially in the last couple of years with new road and bridge construction projects. Road links with South Africa from the southern part of the country are generally good. The country is well connected in the south to Johannesburg with only a one hour flight, while direct flights operate between Maputo and Lisbon. The country has 22 airports with paved runways mostly operated by small private planes. In terms of shipping by air, freight cost can go as high as 2 Euro per kg, a major added cost for shipping fresh product to European markets. Final prices in Portugal for fresh marine fish would estimated at some Euro 8/kg. While the telecommunications and electricity supply are generally not reliable.

6.3.3 Overview of sector business health

The Mozambican fish sector is characterised by a small number of industrial fishing fleets, mostly owned by the Spanish company Pescanova. The semi-industrial fleet is mainly operated by Mozambicans, a majority of whom have Portuguese or Asian backgrounds. Access to domestic finance and wider international markets are constraints among the domestic firms, providing a clear competitive advantage for Pescanova. If shallow water shrimp stocks are decreasing while other sectors have further potential, the Pescanova companies may be more able move capital into new opportunities. Wider business linkages with domestic companies, whether with regional (e.g. S African) or international partners, are not impossible, but with the small share of quota held by domestic companies this may not be very attractive, unless current non-quota species can be accessed in greater quantities.

Although substantial investment has entered the shrimp aquaculture sector it does not appear to have prospered. The reasons had not been entirely clear, but a common problem with projects of this type has been that it is difficult for heavily capitalised and indebted company structures to be supported by profitability which proves to be much less than projected. Feeding, water quality and disease problems are common issues contributing to this, and increasing competition in international markets from Asian suppliers shifting from tiger shrimp to more productive and profitable white shrimp has created further challenge. More generally in aquaculture, including the inland sector, gaps in the input supply chain,

particularly for feeds and seed, are a key constraint. As for Tanzania, the market and supply chains are suffering from a lack of capacity and the overall sector is in a development impasse in which investment in production is unattractive without the infrastructure and services, while no-one finds it profitable to invest in the necessary infrastructure and services unless there are buyers.

On the public sector side, there is a lack of capacity to assess and analyse he sector in great depth. For example, the Ministry has a department for fisheries economics but when asked if they had any economic studies and market analysis available, the team got the response that they had not done any such studies.

For an investor with a long term target to establish aquaculture operations in the southern African market, Mozambique could be a potential starting point as local competition is not yet too strong and the regional market offers a potential promising market. However, the South African actors are likely to offer some strong competition.

6.3.4 Conditions and mechanisms for investment

It is estimated that for 2008, the country had a GDP growth of 6,9 % and an inflation rate of 11,2%. The overall ranking of Mozambique in key international reports was discussed in Chapter 3, with the country ranked between at 141 in the overall assessment in the World Bank Doing Business Report.

To **facilitate investments**, the Investment Promotion Centre (CPI) was established in 1993 with a mandate to assist national and foreign investors to establish businesses in Mozambique and to access incentives offered by the government. The organisation has 145 members with a combined investment of 2.6 billion USD, their website provides a wealth of information on the investment framework, land issues and environmental regulations in English and Portuguese. Four Associations could also act as facilitators for potential foreign investors and the Institute for Export Promotion (IPEX) and the Mozambique Chamber of Commerce could also be consulted.

The Finnish Embassy in Maputo compiled a report highlighting Investment and Trade opportunities for Finnish Companies in 2005, this report provides a lot of generic information that would also apply to Norwegian actors. The International Chamber of Commerce (ICC) together with UN Conference on Trade and Development (UNCTAD) published an Investment Guide to Mozambique in 2001[15], which although slightly old, it still provides a good overview of key issues.

The Belgian ONDD[16] rates Mozambique 4-6 on their **political risk**, ranging from short term to long term risks. Risk of expropriation is low at 3 while transfer risk is higher at 6. Commercial risks are rated at C which is equal to high risk. According to the assessment in the ICC/UNCTAD report, the main constraints facing investors is the lack of administrative capacity, the labour law and the regulations concerning labour relations and lack of skilled labour is a challenge. The report also noted that land cannot be owned but rather is leased on a 50 year non-tradable contract. This creates a barrier in terms of accessing credit as such land title cannot be used as credit collateral. The **exchange rate risk** is high but mainly for local Mozambican companies with limited capacity to secure themselves against exchange rate fluctuations. An international company would be able to make use of international guarantee facilities to cover for this.

Generally, the **bank sector** in Mozambique is reluctant towards investments within the fisheries sector. The track record in terms of access to finance from the bank sector is not good. Another issue, particularly for aquaculture would be that facilities would have to be **guarded continuously**.

[15] ICC/UNCTAD, 2001, "An investment guide to Mozambique"
[16] ONDD is the Belgian Export Credit Agency www.ondd.be

In terms of other Nordic interests in the country, UPN and Stora Enso of Finland announced in November 2008 that they have advanced plans for investing in the forestry industry in Mozambique. Feasibility studies are about to be finalized after which finance will be raised.[17] During the field visits, the team was also told that the Norwegian company Jara is about to invest in the agricultural sector. However, the team was not able to obtain more information on this.

Incentives and guarantees of importance to an investor include; exemptions on importation duties on equipment of Class 'K' of the Customs Tariff Schedule; and reduction of 50% on the real property transfer tax on acquisition of immovable good for industry. The **Industrial Free Zone** Developers enjoy various exemptions - however, processing of fish and prawns are not acceptable industrial free zone activities at present. Norwegian Investments in Mozambique can be insured or guaranteed under a range of facilitates such as GIEK and MIGA.

According to the Doing Business Report 2009, ten specific procedures are required to start a business in Mozambique. The perception gained in discussions is that it is advisable to hire a local consultant who specialises in assisting international investors in setting up businesses. The prospects for developing a business are sufficiently positive to consider, but our overall understanding is that a broad network of contacts has to be engaged in order to get established and operate effectively. As such, unless a very long view is to be taken, teaming up with an already existing company may be the surest way into the market, for the necessary contacts and political access, and also to address practical language issues. Table 6.3 provides a summary of investment conditions in the form of SWOT description.

Table 6.3: Investment SWOT analysis (Mozambique)

Strengths	Weaknesses
• Access to large regional market (SADC) • Government is committed to create an enabling environment for investors • Investment Centre to facilitate investments • Fast growing economy and increase in MEGA projects • Improving regulatory environment and administration • Norwegian development assistance	• Lack of infrastructure in terms of electricity and road network in the North • Low human resource base • Red tape and corruption, • Cumbersome processes, lack of transparency • Weak financial sector
Opportunities	**Threats**
• Large areas of available land and water for aquaculture • A few small scale potential investment partners	• Impact of HIV on workforce • Natural hazards (been hit hard by floods in recent years) • Dependency of foreign aid • Situations in neighbouring countries such as Zimbabwe (currently hit by cholera) • Long term political power by one candidate that could create tensions with the opposition

6.3.5 Investment opportunities

Mozambique has an active fisheries sector with the main focus being the fishing and export of shrimp. A significant tuna catch is landed outside the country, and a substantial amount of other catch is reported to be transhipped. Governance in the capture sector is generally recognised to be problematic. Based on recorded per capita consumption, the domestic market is not very strong, though there are substantial imports of lower price fish from the region. To date the main investments from foreign companies have been channelled towards the industrial shrimp fleet, mainly from the Spanish PescaNova, and in large scale shrimp aquaculture. Considering both the broad criteria for investment selection set out in Section 6.1, and the practical issues emerging from discussions in Mozambique, a number of options could be

[17] http://www.afriquenligne.fr/news/africa-news/finnish-paper-mill-company-to-invest-in-mozambique-2008110815476.html

identified.

In 2007, the Ministry of Fisheries produced a document '**Investment in Mozambique's Fisheries Sector**' with various lists of opportunities. Those for the industrial sector offer little positive merit for the Norwegian commercial investor while the small scale sector offers more viable opportunities but on a small scale that is unlikely to attract serious external commercial investment, although could appeal for SME interests. Some will be more readily developed than others, all will require good interaction with local communities, and some – eg shark fishing, would be unacceptable for many markets in broader political/conservation contexts. These areas may however be useful components in an integrated approach which linked community development with raw material collection and processing, perhaps with a socially-responsible ethic, to be exported to niche markets. They could also be part of a CSR programme (e.g. for an energy company) or an NGO support initiative.

Large scale shrimp culture remains the highest priority for the Ministry but opportunities are also seen for culture of oysters, mussels, algae and pearls. Four locations have been identified as suitable for shrimp culture and surveys of potential sites have been carried out. The Aquaculture Master Plan is soon to be published and will provide more guidance; however, it is not likely to include any economic and financial aspects associated with developing these identified sites. The constraints of shrimp culture have been noted; more detailed assessment of site and development conditions would be required; smaller scale coastal aquaculture could be viable, but as with artisanal fishing may not be too attractive for external investment except at SME/community support level. External investment in fresh water aquaculture has been given less focus; this is more likely to be developed in relation with a larger agro industrial scheme and not in isolation.

Post-harvest and processing is based on the wish to increase the value adding industry especially in processing of shark, shrimp from artisanal operations, by-catch from the shrimp fishery and production of frozen fillets of prime fish; industrial scale drying and smoking of fish; and cottage type industries manufacturing ornamental products from shell and coral. These will be subject also to the limitations of small-scale activities linked with artisanal production, and will depend on the sustainability of the underlying resources and their management regime.

Most if not all investments in the Mozambique fish sector should be taken with a perspective that returns would not materialise in the near future. The sector is still building up capacity, in the public as well as the commercial aspects, and quick wins are likely not obtainable. The fisheries management context at both artisanal and industrial level poses limitations, and these will have to be overcome if sound longer term returns are to be realised. To date larger investments in shrimp aquaculture appear not to have been very viable, and a careful appraisal would have to be made of sites, operating conditions, production risks and international competitiveness. Nonetheless, the quality of Mozambique's coastal environments could in the longer term provide positive opportunities.

Other areas of opportunity would involve linking with the artisanal and local industrial/semi-industrial fleets to obtain supply and by requiring standards of responsible fishing – in effect using private sector market incentives, develop a range of shrimp, fish and other products, possibly also leading to a **national brand identity**, linked with sustainability and fair trade attributes.

Aside from **shrimp aquaculture** and the possible incorporation of small scale coastal aquaculture into high value/high ethics export markets, there may be opportunities to develop fish feed and fry production businesses, though these would have to match the development of ongrowing production, whether in Cahora Bassa or in wider networks of pond producers.

In terms of investing in the **supply development/value-added sector**, a realistic approach would be to start working with a few of the semi-industrial companies, and local fishing groups, build up partnership agreements, and possibly merge a number of elements into one entity company for stronger market power. The Norwegian investor could provide finance, technology and knowhow. However, there seem

to be a reluctances towards this approach as it feels like a takeover and that there is no balance in power of control between the international investors and the Mozambican nationals. However, one of the semi-industrial owners expressed a greater trust in Nordic companies than they did in Spanish, French and English companies.

Other opportunities are also described more fully in Volume IV chapter 3 and include: seeking commercial partnership with any of the ongoing new aquaculture activities operations, some of whom are actively seeking investment partners to diversify into new aquaculture projects. Or other less defined opportunities such as: processing of canned sardines for the domestic market, as Mozambique is currently importing from Angola and Namibia; processing of tuna onshore or to enter into the Public Private Partnership project in Cabo Delgado that involves University of Benguela, IPP and a South African company to develop fish feed and fingerling production.

In terms of **partners**, within the industrial sector, 4S is looking for an investor in order to be able to expand their businesses. From the semi-industrial fleets, Pesca Rego and Pescas do Sul have both indicated an interest in entering into partnerships with foreign investors but this would be on a very small scale in the beginning with a long-term target to increase the size of the operations. Within marine aquaculture, at current only one company is in an active business operational status and the other two could be potential targets for a takeover by a new investor that is Aquapesca in the Zambézia province or Indian Ocean in Cabo Delgado province.

6.4 Tanzania

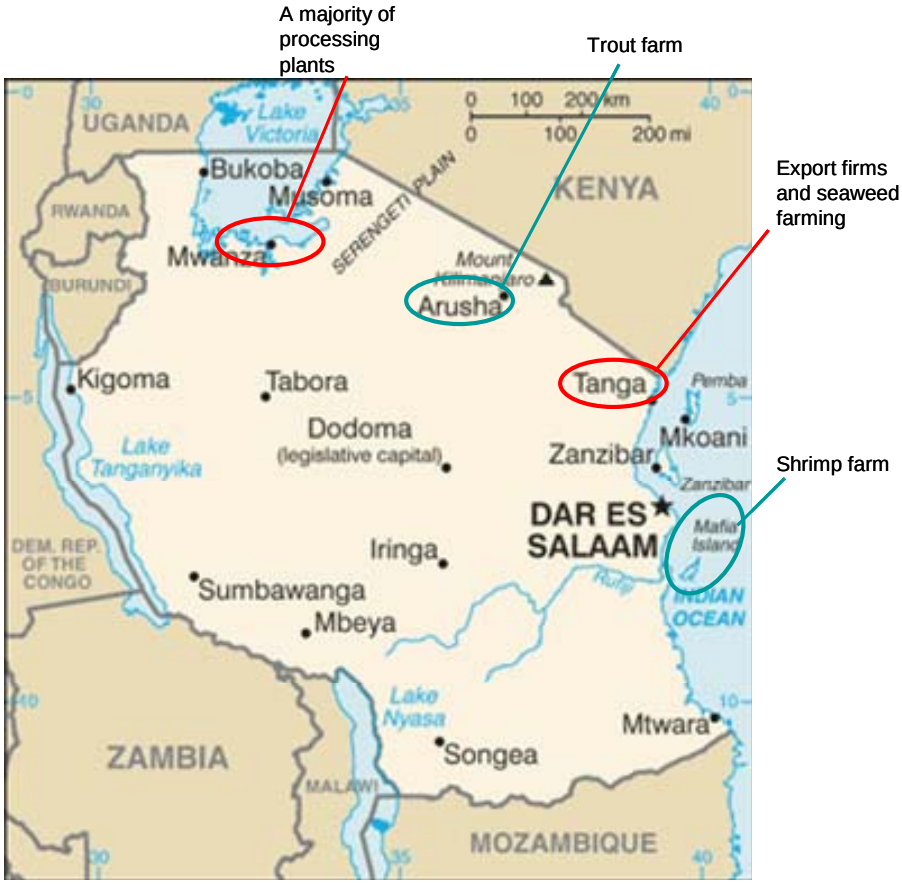
6.4.1 An overview of the fishery sector

Tanzania is well endowed with water resources and shares three major lakes with its neighbouring countries. The sector has mainly been built up around Lake Victoria and the main processing and exporting activities are based there. The domestic market for fisheries products is below the global average at only 7 kg per capita per year contributing to 27 % of total animal protein consumption. The sector contributes about 2.9 % of GDP with production levels in 2007 of around 330,000 t, of which some 85 % comes from the greater lakes. Lake and inshore marine fisheries are only carried out by artisanal fishermen using small seven to ten metre boats, some have outboard engines. A survey from 2006 indicates that for fresh waters alone approximately 40,000 boats, dhows and canoes are used in fishing.

The main processing activity is located in and around Mwanza, by Lake Victoria and processes and exports Nile Perch. The sector produces up to 50,000 t of fillets annually, although this has fallen. Exports were worth USD 189 million in 2006. In 2006 the price paid by the processors rose by 60 % to USD 2/kg reflecting a fall in supply of Nile Perch, associated with heavy fishing pressure. The proportion of Nile perch in the total biomass of the lake fell from 90 % to under 50 % between 1980 and 2005. Its decreasing stock has forced a number of processors to close down and the majority now operate well below capacity.

The aquaculture potential in the country is yet to be exploited on a large scale – with the total aquaculture production under 0.5 % of the total fish landings its contribution to national food security and economic development is rather insignificant. Figure 6.3 gives an indicative illustration of the location of main activities within capture fisheries and aquaculture.

Figure 6.3: Location of main activities within capture fisheries and aquaculture (Tanzania)



The **Department of Fisheries** has recently moved to the Ministry of Livestock Development and Fisheries (MLDF), in a move to make it more visible. Under the Department of Fisheries, two major Directorates are established, one for Fisheries and one for Aquaculture. There are plans to make a Deep Sea Fisheries Authority (DSFA) between the mainland Tanzania and Zanzibar with a mandate to manage and control deep sea fishing in the Exclusive Economic Zones (EEZ). Commercialisation of aquaculture has been identified as a priority consistent with economic liberalisation goals, overexploited capture fisheries and a growing population. The **National Sector Policy** was published in 1997 but it is currently under revision, which is expected to be approved by May 2009.

In relation to **development assistance** the World Bank has been active in the sector for several years with MACEMP, the Marine and Coastal Environmental Management Programme. The programme aims at improving sustainable management and the use of the EEZ, territorial seas and coastal resources. The Sustainable Environmental Management through Mariculture Activities (SEMMA) programme is coordinated and implemented by a US based private NGO the project is reported to have supported a community to establish an Association in order to access loans to be better able to purchase their own farming inputs and gain better negotiation status towards the monopolistic buyers.

The **major challenge**, recognised in broad terms by the Government of Tanzania, is to manage the fisheries resources more effectively, and develop value, while retaining sufficient levels of the social and economic benefit accruing to the many dependents on the sector, many of whom have low income levels and are subject to multiple causes of vulnerability. The development of aquaculture is seen as having a major role in this; however achieving this is still a long way off.

The **domestic market** for fisheries products with a population of 40.2 million has a potential market of 281,400 t annually. By applying a conservative estimate of the global average of 10 kg/capita/year on the potential East African Market with a population of close to 110 million, this would result in a market size of 1 million t. In addition, Tanzania is a member of SADC with a market of 215 million people.

According to FAO, the **aquaculture sector** is dominated numerically by small-scale production, with an estimated 14,100 freshwater tilapia ponds scattered across the mainland of Tanzania, usually very small sizes, sometimes integrated with other farm production. In recent years seaweed farming has become popular in coastal zones, some of which are run specifically by groups of women and youth. There is good potential for coastal shrimp aquaculture but it is an extremely sensitive topic due to environmental impact.

In terms of **infrastructure**, Tanzania has 78,891 km of road network, of which only 4.2 % was paved in 1995. The mainland has two International airports: Dar es Salaam International Airport and Kilimanjaro International Airport while Zanzibar has one that accommodates flights from Tanzania and Kenya. Other airports in Arusha and Mwanza also have regional connections. As an estimate of regional costs, air freight transport costs from Mombasa to Europe are quoted to be USD 1.40 per kg of fish. Currently, no harbour has full facilities to receive larger fishing vessels to land deep sea catch. Though several ports are deep enough, cold storage and other facilities are not in place. The telecom network is now relatively well developed, but the electricity supply is still a limiting factor.

6.4.2 Commercial activities in the fishery sector

The **main private sector** involvement in fisheries is associated with fish capture in Lake Victoria, by Mwanza as well as along the costal, all of the fisheries are characterised by artisanal methods except for the Nile Perch fishery that supports the only commercialised activities in the post harvest supply of fresh and frozen fillets to international markets. Activities are seasonally influenced, both in terms of catches and in artisanal processing options, and new Beach Management Units are now enforcing regulations.

In Aquaculture, Prawnto Ltd is a shrimp farming business development company established in 2003. The business strategy is to export high quality prawns to the international market by facilitating development of a network of small farmers. The company has established a pilot hatchery at the Mbegani Fisheries Development Centre with a design capacity of 20 million PLs per year. Prawnto has built its first demonstration farm in Tanga and procured 100 ha of land for expansion in Pangani and Tanga districts. The main bottleneck is lack of investment capital and operating capital to initiate the first round of program expansion.

Ngare Seru Mountain Lodge started a **Trout Farm** in 1979 near Arusha, with ten raceways of 27 x 2m including a hatchery and fry production area. The production is currently at 7.5 t per annum, about to rise to 9 t, and then to 12 t in two years time, with a longer term target of 30 t. They manufacture their own air dried pellet feed. Their product is marketed as whole fish gilled and gutted deep frozen, Fresh Fillets deep frozen, smoked whole fish and fillets chilled as well as pate. Ngare Seru has also studied potential for tilapia farming in the area over several years. They argue that with the newly developed international market for fresh water fish, the time would ripe to enter into this venture. In addition in the 1980's they did a major study on a prawn farm on the coast near Bagamoyo partly financed by the European Development Bank. However, the project was never taken to the next level but they did carry out preliminary design for the farm.

For **processing plants**, the majority are situated in the Lake Victoria Region - twelve are established in Mwanza for Nile Perch filleting for export. The majority are foreign owned, belonging to the same parent company. Most are running on 40-50 % capacity due to the decreasing stock.

In **the coastal area**, three main companies operate, Sea Products Ltd, Alpha Krust and Bahari Foods, of which Alpha Krust is the biggest. It also owns two processing plants by Lake Victoria as well as the country's only larger aquaculture investment, the shrimp farm at Mafia Island. The Alpha group is the largest fishery business in Tanzania and has operated in Sub-Saharan Africa and the Gulf Countries for 50 years. It is well established in Kenya and Uganda, is well placed in the regional market and is likely to be a

strong competitor. Their products are marketed and distributed in the Middle East, Europe, America, Singapore and Hong Kong. The group employs over 6,000 people in total with an annual turnover of USD 150 million. In Tanzania, its filleting capacity is 15,000 t per annum with a plant approved for export to EU, and all processing carried out to HACCP standards. The processing plant also has its own generator due to the unreliable electricity supply. The company has 25 approved fish suppliers that deals with over 5,000 artisanal fishermen[18].

Service and support functions for the fisheries supply and value chain are not well developed and many of these are done directly – e.g. exporters may commonly cover the complete marketing chain, from direct purchase of fish from the artisanal fishermen, transportation, ice supply, to the export market. Things are broadly similar for the aquaculture sector, where the supply chain is not yet developed, and intending aquaculture producers need vertically integrated operations covering fish feed production, hatchery and grow out facilities. In terms of equipment and gear, a few vessel manufacturing and repair companies exist in Dar es Salaam but there is no equivalent sector for aquaculture and cage farming. For artisanal fishing and aquaculture, much of this function – construction and repair - is taken up locally by producers themselves.

6.4.3 Overview of sector business health

Overall, the commercial aspect of the sector is characterized by artisanal fishermen channelling their catch to a number of processing firms, a majority which is owned by a few companies. The outlook for expansion on this basis looks poor unless strict management rules are enforced to control the stock in the lake and in the inshore marine waters. Currently, market and supply chains suffer from a lack of capacity and there is the dilemma that no one strives to invest unless the necessary infrastructure is put in place, while no one finds it profitable to invest in the necessary infrastructure and services unless there are buyers. Hence, at this stage, significant development is likely to require a long term perspective, in most cases building up from small scale businesses growing into larger establishments rather than larger establishment investing from scratch.

For aquaculture, a number of initiatives are ongoing, mostly of small scale and/or still in planning stage. Due to the reduced stocks of Nile Perch in Lake Victoria, the excess processing capacity and other infrastructure, there is likely to be an increased interest in the development of cage farming in the lake, but no specific initiatives had been described by informants. Until very recently Tanzania had been reluctant to allow the legal changes required to permit this use of Lake Victoria, but as of late 2008, through the tripartite Lake Victoria Fisheries Organisation (LVFO), this had been approved. The potential for coastal aquaculture is variable; while larger scale ventures for shrimp culture might have difficulty obtaining environmental approvals, operations linking shrimp, fish, seaweed and other production with community development and management could have scope to develop.

Shortly before the field visit, the Department of Fisheries was moved into the Ministry of Livestock Development and Fisheries after having a rather hidden role within the Ministry of Natural Resources and Tourism. This could potentially create a boost to the sector, specifically through the development of a new aquaculture strategy.

Several of the current establishments, both within processing and within aquaculture, are driven by the pro-active and entrepreneurial approach of one single person. As far as the team was informed, only the operations of Alpha Krust and Tilley are backed up by larger regional and/or international companies. Hence, the operations are of small scale and dependent on the engagement of a few individual. For the sectors to take off and develop its maximum potential, backing up by larger companies with access to capital will be necessary in the long run. For an investor with a long term target to establish operations in the African market, Tanzania could be a potential starting point as competition is not yet too strong and the regional market potential promising.

[18] www.alphaafrica.com

6.4.4 Conditions and mechanisms for investment

It is estimated that for 2008, Tanzania had a GDP growth of 7.1 % and an inflation rate of 9.3 %. The overall ranking of Tanzania in key International reports was discussed in Chapter 3 and over the years that the World Bank Doing Business Reports have been carried out, Tanzania has showed a minimal improvement in number of procedures and days for starting a business but the ranking of the country among the sample for the indicator 'starting a business', has worsened, from the rank 97 in 2008 to 109 in 2009, indicating that the situation has worsened relative to other countries even if it improved in absolute terms.

To **facilitate investments**, a number of institutions exist to assist investors. Tanzania Investment Centre (TIC) was established in 1997 as a one-stop-shop for investors and facilitates the necessary procedures for project start-up and to answer inquiries and questions from investors. A new Business Registration Act was approved in 2007 while the phase II of the review of the labour law is in an advanced stage. The mission of the Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA) is "to strengthen the private sector in Tanzania by promoting and assisting businessmen and businesswomen in their efforts to succeed". TCCIA wishes to represent the business and lobby for a "good and ideal" business climate in the country.[19] The Tanzania National Business Council (TNBC) was established in 2001 it has regional business councils to support private sector development throughout the nation and, at national level, facilitates Investors Round Table to debate the investment environment in Tanzania with both local and foreign investors.[20]
In relation to **constraints and risks** the Belgian ONDD[21] rates Tanzania 2-6 on their scale of political risk, while risk of expropriation related to direct investments scores 5. The commercial risks are rated C which is equal to high risks. The IFC carried out a survey on the investment climate of manufacturing firms in Tanzania in 2003. The main barrier to operations and growth is considered by some to be tax rates as the corporate income tax is similar to that of other countries, but the VAT is sometimes higher and enterprises may face a number of additional national and local taxes. Other barriers for conducting business in Tanzania were unreliable power supply; access to finance and high interest rates; unofficial payments to government; and customs and trade regulations.

The International Chamber of Commerce (ICC), in collaboration with UNCTAD, has also published an **Investment Guide to Tanzania** which outlines details on operating environment, areas of opportunities and regulatory frameworks in place[22]. It argues that the main weakness with the investment climate in Tanzania is the low human resource base and the inadequacy of infrastructure, while the benefits are the politically stable environment, the abundance of natural resources, the ease of communicating with government, and the size of market. Things that needed improvements include investments in labour skills, infrastructure, bureaucracy and corruption.

In addition, the ownership of land is regulated by the Land Act 1999 which stipulates that foreign companies cannot own land. However, investors can apply for a lease contract for 33, 66 or 99 years. The level of corruption is decreasing according to some sources, especially following the establishment of the Anti-Corruption Commission at both national and regional levels. Several foreign banks are established in Tanzania, such as Barclays, Citibank and Standard Chartered.

An investment in the country, within the fishing and/or aquaculture will be watched carefully by local and international NGOs for environmental suitability, hence, a close relationship with NGOs and Community Based Organisation (CBOs) will be an important strategy for any investment in the country. As the Government is also aiming to alleviate poverty through private sector involvement, working with local groups and organisation will likely strengthen the investment proposal.

[19] www.tccia.co.tz
[20] www.tnbctz.com
[21] ONDD is the Belgian Export Credit Agency www.ondd.be
[22] ICC/UNCTAD, 2005. "An investment guide to Tanzania, opportunities and conditions"

The easiest way for an investor to establish a business and invest in Tanzania, would be to either go to TIC or through EPZA. The incentives and guarantees of importance to an investor include: corporate tax of 30 %; import duty and VAT exemption on project/capital/deemed capital goods; import duty draw back scheme; a refund of duty charged on imported goods used for producing goods for exports; immigration quota for up to 5 expatriates; and transfer guarantees. In addition, for projects over USD 20 million that also offer specific impact for the society and/or the economy, the investor can request for special incentives from the government.

There is both the **Export Processing Zones Authority** (EPZ) that has an incentive scheme where more than 80 % of the production is going for export and it only targets the manufacturing and processing industry. All inputs imported for the use in manufacturing and processing in the designated EPZ areas are exempted from import duty and other taxes. While the **Special Economic Zones (SEZ)** such as the Benjamin William Mkapa SEZ allows investors to produce for the domestic and export markets and to benefit from differentiating taxes. Economic activities under the SEZ are not subjected to customs duty, VAT and other taxes payable in respect for goods purchased for use such as raw materials, equipment, machinery including all goods and services.

Zanzibar Investment Promotion Authority (ZIPA) is a one-stop-shop for investors. To be eligible for incentives under ZIPA foreign investment must be above USD 1 million within the fishers sector. The incentives provided are exemptions from imposed duty, exemptions from corporate tax (percentage and number of years will vary with business) and other tax exemptions.

The Department of Fisheries will assist an investor with identifying specific investment opportunities and the TIC will also assist the investor to obtain the required certificates. For Investors establishing a business at Zanzibar they will need to apply through ZIPA.

The assessment of the investment climate is that overall the situation in Tanzania is improving with the Government taking necessary steps to create an enabling environment for investors. In terms of challenges and barriers facing investors in Tanzania it should be highlighted that these are not very different to challenges and barriers existing in other sub-Saharan African countries and hence should not work to the disadvantage to Tanzania.

Table 6.4: Investment climate SWOT analysis (Tanzania)

Strengths	Weaknesses
• Large international community • Access to large regional market as well as EU and US • Investment Centre to facilitate investments • Politically stable	• Lack of infrastructure in terms of landing sites and road network • Low human resource base • Petty corruption
Opportunities	**Threats**
• Improving social and economic conditions • Large areas of available land for pond farming and water bodies for cage farming • Strong community based organisation for potential CSR programme	• Impact of HIV on workforce • A sense of scepticism towards large private international investments.

6.4.5 Investment opportunities

Tanzania does not yet have a well developed fisheries sector, and the market is still primarily artisanal except the Nile Perch processing industry by the Lake Victoria. So far, with exception of the processing of Nile Perch, very limited investment interest has been shown in the sector from either domestic or external investors. Considering both the broad criteria for investment selection set out in the initial section of the report, and the practical issues emerging from discussions in Tanzania, a number of options

could be identified, as noted later, but many of the potential prospects would require long lead-in periods.

Both the Department of Fisheries (Mainland) and Tanzania Investment Centre (TIC) had identified broad areas for potential investments. The Department of Fisheries is currently preparing a Guideline for Investment Opportunities within the fisheries and aquaculture sector. The following are some of the more hopeful areas for investments for capture fisheries include: **Fishing and processing of small sardines**: they are currently processed at artisanal level with large post-harvest losses. The market price for unprocessed sardines is low but with added value, such as canning, a better value can be generated. As of today, Tanzania imports all of their canned sardine products. **Value adding activity from by-products of Nile Perch filleting**: as of today, all of the by-products are exported unprocessed, for processing abroad. **Supply of fish inputs**: currently the manufacturing of nets and boats are not effective, according to the Department of Fisheries.

While for aquaculture **Oyster farming** is piloted at the university and could be a potential for the export market, both for their pearls and for consumption. As nothing is done on this sector at current stage, an investment in this sector will require a longer start up phase to prepare the grounds. **Deep sea fishing** may have potential, but requires well regulated management to support it, and an effective means of landing and then adding value.

The TIC has prepared a brief note on opportunities in the fish sector in their Investment Guideline. They argue that opportunities lie mainly within the areas of;

1. Processing, canning and packaging of fish products for export; *similar constraints to those noted earlier – organising and maintaining supplies, variability of supply;*
2. Manufacturing of fish gear and other equipments, refrigerated trucks and cold storage facilities; *some local manufacture could be feasible as a small scale workshop level; provision of refrigerated trucks and cold storage, as a service function is interesting but requires sufficient market throughput, and might be difficult to compete with small individual market operators; and*
3. Pond fish farming: existing location for pond fisheries are identified as follows and could potentially be targeted for expansion and improvement: *some of these locations may be worth examining but project scale is very modest, and scope for much expansion may be limited. One or more could however be adapted to specialise in hatchery production.*

After discussions with various stakeholders in the sector, large scale aquaculture is not likely to be a direct investment opportunity as that is related with a number of environmental and socioeconomic concerns. If aquaculture is the preferred target area, investors would have to start in a small scale manner, building up relationships with communities and expanding the business step wise.
More opportunities are likely in the coastal area but this will have to be on a small scale. Large scale investments are thought to be too difficult in a short term due to lack of necessary infrastructure and the lack of icing and other facilities. As it stands now, ice is transported to Tanga from Dar es Salaam in some cases, which illustrates the state of infrastructure necessary for the sector to run properly on a profitable basis. Small scale opportunities could be identified in coastal zones and on Mafia Island and Zanzibar, mainly in integrating coastal fishing with small scale mariculture, including shrimp, fish, sea cucumber and seaweeds, and co-ordinating with community management units. Prospects for eco-labelled, ethical and fair trade production are also positive.

Based on the recent developments related to the management of Lake Victoria and the agreement signed in late 2008[23], a new interest has arisen for cage farming in Lake Victoria. At least two of the active processing companies have expressed an interest. As the field visit to Tanzania took place before this was signed, this had to be followed later up by email, and so it was more difficult to get in touch with or gain

[23] The joint communiqué of the Council of Ministers of the LVFO issued in Kampala, Uganda on 29th October 2008

responses from all the key companies. However, the two firms that expressed interest are Alpha Krust and VicFish.

In relation to **investment partners** one of the processing plants along the coast has expressed an interest in selling of the business. Sea Products Ltd, that process a full range of seafood caught from artisan fishers along Tanzania's and Mozambique's coast for export mainly to the EU market, expressed an interest into entering into agreements with potential investors/partners looking to invest in seafood processing in Tanzania and/or Mozambique. The company is looking to enter into a joint venture or sell full shares to potential investors.

The only larger aquaculture activity, Tanpesca, is situated at Mafia Island outside the coast of southern Tanzania. Tanpesca is part of the Alpha Krust Group and is keen to venture into cage farming in Lake Victoria. This is one of the largest players in Tanzania, who knows the market, have the export links through their engagement in the processing sector and could be a strategic partner. Alpha Krust also have establishments in Kenya and Uganda and is hence a strategic partner in terms of access to the East African market. VicFish, as mentioned above, also showed an interest in enter into cage farming in Lake Victoria but the team has failed to obtain further details on the scope and type of such operations.

The Ngare Mountain Lodge has three initiatives to which they seek investment partners covering; the need for a market in Europe for value added trout products; tilapia; and prawn (shrimp) farming.

6.5 Uganda

6.5.1 An overview of the fishery sector

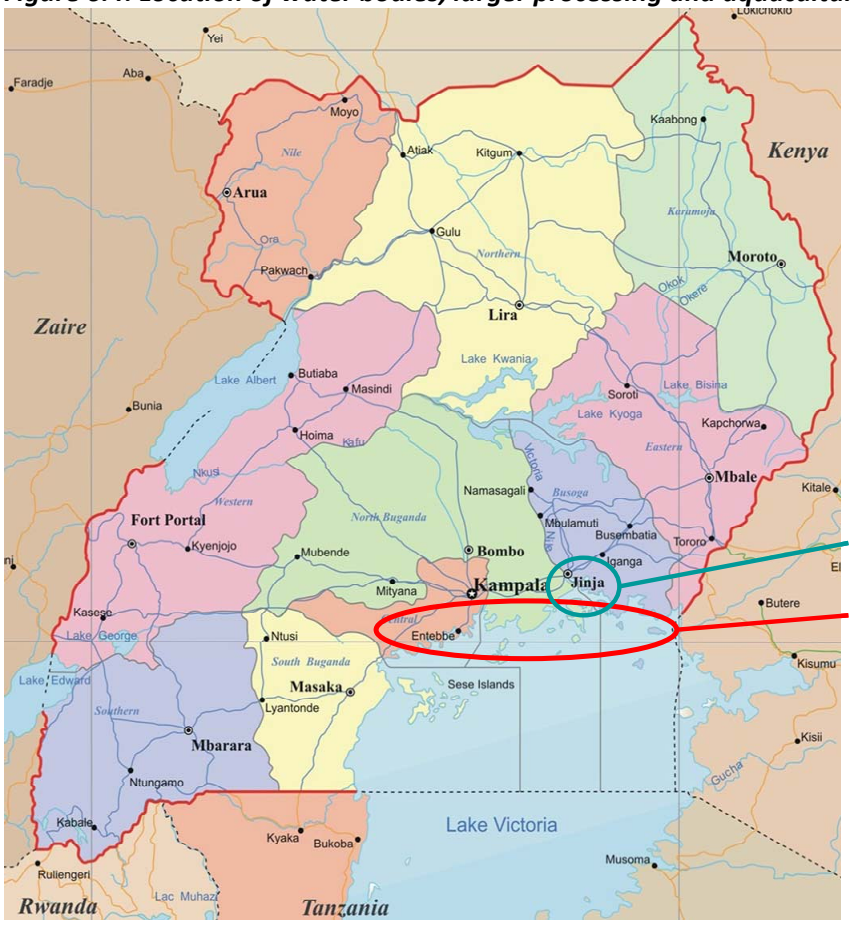
Uganda has an abundance of water resources, covering almost 44,000 km^2, including lakes, swamps, rivers, and including the major shared resource of Lake Victoria. These resources support a well established fishery sector, supplying both domestic and export markets. The sector is noted as the country's most important non traditional export making a contribution by fish and fish products to the country's GDP at about 2.5 %. The recorded value of fish exports had increased significantly from USD 1.4 million in 1990 to USD 147 million in 2006. Other revenue sources include; licenses, fishing permits, landing fees, fish movement permits and tender charges.

Domestic consumption accounted for some 75 % of total catch[24] , and aside from Nile Perch which is mainly exported, substantial amounts of national catch still enters into regional trade, particularly to Rwanda, DRC and Kenya, and increasingly through Northern Uganda to Sudan. Artisanal fish processing methods include: sun drying, salting, smoking and fresh forms while industrial processing includes: chilled fillets, smoked whole fish, swim bladders and fish steaks.

After an earlier EU ban on exports, processing facilities and procedures had been substantially upgraded and fish production in Lake Victoria had markedly increased, with a rise in its contribution to the total catch, peaking in 2006. The number of fishers on Lake Victoria also rose from about 35,000 in 2000 to about 55,000 in 2006. Figure 6.4 below illustrates the location of larger processing and aquaculture activities. Small scale farming is spread across the country and not detailed here.

[24] Govt of Uganda, 1996

Figure 6.4: Location of water bodies, larger processing and aquaculture activities (Uganda)



Commercial Tilapia farming

Export and Processing Plants

The dangers of over exploitation and declining yields, and the need to develop a sustainable fisheries management policy are reflected in the mandate of the Fisheries Department, which also recognises the potential of aquaculture to contribute to the growing national demand, and generate new export-orientated activities. This includes new production activities, improved post harvest management, and new product development. Currently (2007), Uganda's aquaculture production amounted to over 51,000 t. Whilst there have been several proposals for large scale commercial operations, none have yet been fully developed. Key constraints for further expansion identified include availability of stock, technical capacity, and appropriate institutional support.

The **Department of Fisheries**, under the Ministry of Agriculture, Animal Industry and Fisheries, is the competent authority for the sector. The Local Government is responsible for Fisheries Extension Services at local level. The National Environmental Management Authority (NEMA) is a semi-autonomous body established in 1995. NEMA is the principal agency mandated with the responsibility of coordinating, monitoring, supervision and regulating all environmental management matters in Uganda.

The **Lake Victoria Fisheries Organisation** (LVFO) was established in 1994 by the states of Uganda, Tanzania and Kenya. The headquarters is located in Jinja, Uganda and is currently headed by the former Ugandan Fisheries Commissioner.

The Ugandan fisheries sector has been the recipient of a range of **development inputs**, most of which, such as the major EU funded Lake Victoria Environmental Management Programme (LVEMP) have focused around Lake Victoria. Initiatives such as the DFID ILM (Integrated Lake Management) programme, focused on Lake George and Lake Kyoga have looked at fisheries management in other water bodies, and within a community and livelihoods framework. External support for aquaculture has been variable, with a small component of the LVEMP dedicated to exploring local species, and a sectoral support programme funded by DFID - Fish Farming For Income Generation And Food Security (FISH)

programme over 1999-2004, this was followed by a USAID programme, also entitled FISH (Fisheries Investment for Sustainable Harvest) from 2005-2009 whose aim was to 'jump-start' commercial aquaculture through the use of model fish farms and farmer-to-farmer knowledge transfer.

The Government of Uganda provided an important stimulus to **hatchery seed production** through its lake restocking programme, and although the impacts on fish stocks were uncertain at best, the market created an important surge of local investment in hatchery capacity. A recent programme by the African Development Bank provided 500 farmers with vouchers for a mix of inputs, including as preferred by the farmer/advised by local extensionists, seed, feed, pond or cage construction, aerators, or other equipment. A further component was to have rehabilitated four national public sector hatcheries.

Fish is consumed across the country with a per capita consumption of 10-15 kg. Local demand for fish is estimated variably in the range of 200,000 to 525,000 t with good opportunities for further regional sales. Current fishery imports are relatively low (326 t in 2006), with moderate but rather variable average values, as expected for a major fish producing country, while exports are substantial (36,935 t in 2006), with much higher average values.

As for infrastructure, Uganda has approximately 70,746 km of main roads of which 23 % is paved and heavier vehicles are generally needed to travel in the rural remote areas, particularly in poor weather. Fifteen international flight companies operate from Entebbe and the flight time to Europe is approximately nine hours. All of them offer cargo space daily for chilled products while frozen products are taken to Mombasa port, a three day journey by road. The approximate cost for export transport is chilled by air at 1.6 USD/kg or frozen by sea via Mombasa (container) 50-60 USD cent/kg to EU. Reliable access to electricity has been a challenge in Uganda, but along with phone and internet service it is steadily improving in the country.

6.5.2 Commercial activities in the fishery sector

The LVFO examined the value chain of the Lake Victoria Nile Perch fishery in 2008[25] and concluded a total production capacity of 1,148 t/day of raw material, with four major actors in the processing business: Tilley, Marine and Agro, Alpha and Vicfish-Bounty, the four groups controlling 71 % of current production. The study emphasised the significant changes in value and the high levels of value capture at the downstream, European part of the chain. Note that additional returns are available to processors in the domestic sale of heads and frames, and the development of other products.
The average **value of Nile Perch for export** is 0.90 USD/kg, tilapia 0.54 USD/kg and mukene/dagaa 0.09 USD/kg from the Lake and the contribution of Lake Victoria to recorded national catches is substantial, usually at least 60 % of the total. Apart from the capture of the small pelagics, the mukene or the dagaa, for which it is estimated that some 200-300,000 t could still be harvested annually, this sector shows signs in most cases of full or over exploitation.

According to FAO, up to 51,000 t of fish were estimated to be produced from **aquaculture** in 2007, including small-scale farmers (2,500 t) an estimated 200 emerging commercial fish farmers (3,000 t), stocked community water reservoirs and minor lakes (9,500 t). Production, often in polycultures, is based on Nile tilapia and clarias catfish, with small numbers of other local species also produced. Some producers are now intensifying and focusing on monoculture of catfish, which has a good market for direct consumption, and is increasingly valuable as a baitfish, particularly around the northern Lake Victoria margins. A recent ban on the use of captured baitfish has intensified this demand.

Various initiatives are under way to develop this sector. The Uganda Cooperative Alliance (UCA) is an umbrella organisation who administer a project, funded by the Swedish Cooperative Centre and the Royal Norwegian Society for Development (Norges Vel), and called 'Empowering Farmers through Agribusiness and Financial Services' running from 2007 to 2010. Through this project, small scale fish

[25] Pollard, 2008, "Description and Analysis of Value Chain of the Lake Victoria Nile Perch Fishery"

farmers have received training in improved fish farming techniques covering pond construction, stocking, feeding and harvesting.

A small number of larger **commercial pond producers** have now emerged in Uganda, though to date these are not significant in scale. In particular, the Fourways Group of Companies, primarily engaged in fish processing and other sectors, initiated collaboration with GenoMar (Norwegian company supplying GIFT tilapia and related services) to develop tilapia seed and market production. However, though the company has six ponds, and planned to establish up to one hundred, this was halted following GenoMar's strategic decision not to develop their African business. However, Fourways are still keen to diversify and enter into new ventures, particularly as the stock of Nile Perch is depleting. The water system is in place, as are all required permits and licenses, and an approved EIA, but they are not currently in production as they had preferred to develop with GIFT rather than local tilapia. However in discussions with the consultants, they were potentially open to using locally improved strains, though they still noted the constraints of obtaining suitable feeds.

Cage farming is yet to take off though are several potential entrants. A recent concept paper developed by the Department of Fisheries[26] estimated that in terms of environmental capacity, the large water bodies can support some 328,000 t and rivers some 244,000 t of cage culture production annually. Together with the development and intensification of ponds this suggests great potential for expansion. The main constraints to expansion of larger commercial aquaculture are stated to be the gaps in the value chain such as lack of fry and fingerlings of good quality, lack of good quality feed and technical knowledge. In late 2008, through the LVFO, the Fisheries Ministers of the East Africa Council confirmed and agreed to permit cage farming in Lake Victoria, provided it followed best international farming practice.

The **Source of the Nile Fish Farm** (SON) is a tilapia farm started up in a partnership between Lake Harvest, Zimbabwe and Greenfield Ltd, Uganda in 2005 with an initial investment of USD 0.5 million. They are located in Jinja with a 20 year lease agreement of 900 acres of land, which they are currently trying to extend to 49 years. They have a hatchery for tilapia and are developing a locally improved strain. Currently, the farm produces 500,000 tilapia fry per month, sold to nearby small-scale farmers or stocked. They produce their feed in-house to secure high quality. SON is planning to invest some USD 5 million, with a target of 2,500 t annually. Of this, some 50 % is aimed for the regional markets, of which around 20 % is expected to go to the Ugandan market alone, i.e. 250 t, the rest to the EU market.

The processing industry in Uganda has built up a strong position during the last ten years. The processing technology and sanitary procedures are in line with EU and USA procedures and the entire industry has achieved ISO 9001 status. There are 18 plants with 12 in operation and most do not operate on full capacity due to the reduced supply from the capture fisheries. The majority of the processing plants are focused on capture fisheries, with Nile Perch and more recently tilapia, though depending on supplies, some are also considering sourcing from farmed product. Greenfields Uganda Ltd started in the late 1980's with a fish processing plant near Entebbe, an investment of USD 100,000. They acquired full EU standards in 1997 and ISO 9001:2000 since 2003. They employ 200 people and have a capacity of 40 t/day. They currently generate in excess of USD 6 million from export of over 4,000 t of fish products to Europe and America. Greenfields is one of the two partners behind Source of the Nile cage farming. They are also entering into sustainable fishing using long-lining and are aiming to set up a 'one-stop-centre' type landing site to improve artisanal fishing and assure sustainability.

Fourways Group has two processing factories, Ngege Ltd and Gomba. Ngege produces chilled and frozen freshwater fish and fish by-products for export. Supply is very seasonal and they have seen a clear downward trend hence their interest in diversifying their activities into aquaculture. Gomba Fishing was one of the first companies to export chilled and frozen fish from Uganda.

[26] Department of Fisheries, "Concept paper for reservoirs and minor water bodies development and management"

Alpha Group, also present in Tanzania, has two factories in Uganda with the capacity to produce 80-90 tonne/day. Processing operations in Uganda go under the name Uganda Fish Packers Ltd. Marine & Agro Export Processing Ltd is the largest processors and exporter of fresh fish in Uganda. Other processing plants for which more detailed information was not obtainable are listed in the Annex.

There are around 20-30 **small scale hatcheries** around in the country out of which 30-40 % are considered to be sustainable over a longer term. Most informants stated that access to fish feed is the major constraint to the development of aquaculture in Uganda. Although feeds had been available, there were problems of poor or variable quality, uncompetitive prices and supply irregularity. Though some farmers produced simple on-farm feeds these were not generally viable and gave poor stock performance. The production of better quality floating feeds would require significant capital investment for which returns through existing feed markets might be questionable. Nonetheless a number of initiatives are being launched.

Ugachick, the country's leading **animal feed** manufacturer, was one of the first groups to move into fish feed production, its "Aquafeed" a sinking pellet feed, based on a formulae provided by a Dutch feed expert. Kahoora Enterprise is also about to start producing floating fish feed. They are currently producing local beer from maize, sorghum and millet and hence have a network to source for some of the raw material required. The Bolton Group is a regional enterprise providing agricultural and building supplies, together with other input materials as requested by customers, they are now looking at supplying aqua-culturists at various levels with supplies, technical advice, construction services and equipment. Fish feed production by SON has already been noted. This is the only group to have produced tilapia feeds for commercial use to date, and it appears that their feeds are well appreciated, the management having a rigorous approach to quality control.

Uganda **Fish Nets** is part of the IPS Group under the Aga Khan Fund for Economic Development with main focus the production of gillnets for capture fisheries. They are however positive to the prospect of diversifying into cage production if the demand will increase. They have started to produce nets and equipment for cage farming but at this stage it is only an 'on-demand' service. They had also stated that they would be able to consider leasing arrangements for facilities and workforce, but would not wish a direct partnership.

6.5.3 Overview of sector business health

In broad terms, the fishery sector in Uganda, although somewhat constrained by the decline in Nile Perch stocks, is in reasonable condition, with a diverse range of enterprises and a reasonable level of optimism that with good domestic and regional markets, opportunities for business remain reasonable and it merits potential future investment. Though export processing businesses are currently running under-capacity and in some cases have had to cut staff, earlier profitability has helped recoup the major capital costs and it is generally possible to make a working return with reduced operating levels and costs. More widely the interest in commercial development in the sector is relatively strong and there are wealthy and diversified commercial groups who would welcome opportunities. This is particularly the case for aquaculture, though to date the combination of technical constraints have held back immediate action. However, the combination of interests and the potential for turning points suggests that aquaculture could start to grow, and that resources would potentially be available to allow it to do so.

6.5.4 Conditions and mechanisms for investment

In overall economic terms Uganda experienced a growth rate of 6.5 % annual in the 1990s, which increased to 8.3 % in the past five years to 2007/2008. The Government has managed to keep inflation on single digit levels. The 2006 inflation level was 7.2 %, slightly higher than the Government's goal of 5 %. The overall ranking of Uganda in key international reports was discussed in Chapter 3 and out of the four countries targeted for in depth assessment, Uganda is ranked last together with Mozambique by

Transparency International Corruption Perception index. Tanzania, Mozambique and Ghana are ranked 102, 126 and 67 respectively.

The Uganda Investment Authority (UIA) was established as a semi-autonomous government body to **facilitate investment** and drive national growth. The UIA registered approximately 160 projects in 2002 worth USD 896 million. Of these, 38 % were promoted by Ugandans, 36 % by foreigners and 26 % by joint ventures. Overall, the Government is positive towards foreign investors, allowing them to form 100 % foreign owned companies and majority or minority joint ventures with local investors with no restrictions.

The Uganda Exports Promotion Board (UEPB) is a trade promotion organisation operating under the Ministry of Tourism, Trade and Industry. Uganda has set aside more than 1,000 hectares of land to be developed into fully services industrial estates and export processing zones. Uganda also has specially 'free zones' where business can be set up in a tax-free environment. Uganda National Chamber of Commerce has a vision to "become a modern and decentralized organisation by global standards" and has the mission to strengthen the private sector in Uganda.

The Belgian ONDD[27] rates Uganda 3-6 on their **political risk scale**, ranging from short term to long term risks. The risk of expropriation is medium at 4 while transfer risk is higher at 6. Commercial risks are rated at C which is equal to high risk. The US Commercial guide for Uganda [28] is directed towards US investors in first hand but provides useful insights to the investment climate in general. The guide list the continued high level of corruption, high land cost, high air and rail transport costs, poor infrastructure and inefficient government service. These constraints are commonly cited in the other case study countries as well. The report further argues that even if the Government of Uganda is positive towards Foreign Direct Investments, this is mostly taking place on an ad hoc basis instead of following clearly defined and transparent sector wide investment strategies.

The Land Act of 1998 regulates the rather complex land tenure system in Uganda. Foreign companies cannot own land but may hold land under long term lease contracts. The current Ugandan land regulations are outdated and little transparency is applied. The **financial sector** in Uganda is becoming more and more sophisticated and many international banks are present such as Citibank, Barclays and Standard Charted. However access to capital is rather limited, loans are mostly short term with interest rates ranging from 18-24 % (2007).

A foreign investor wishing to establish a business and invest in Uganda must go through the **Uganda Investment Authority (UIA).** The Government, through UIA, provides for the following incentives to investors; such as corporate tax at 30 % , which allows to carry forward losses; the Investment Code guarantees that investors that have invested a minimum of USD 500,000 can repatriate their investment and dividends; import duty exemptions for plant and machinery; duty draw back facility for exporters; a number of capital allowances such as 100 % initial allowance for training, 25 % of start of cost spread over the first four years and 50-75 % for plant and machinery depending on the location; immigration permits for the investors and family; and generators and fuel for own use is exempt from duties.

Export Processing Zones/ Free Ports - it is possible for certain types of export-oriented enterprise to be established in designated export processing zones or to have free port status, which confers benefits such as; a ten year tax holiday for exporters; withholding tax exemptions on interests, raw materials and plant and machinery; stamp duty exemptions on increase in share capital and mortgages; and duty and tax exemptions on raw materials and plant and machinery.

[27] ONDD is the Belgian Export Credit Agency (www.ondd.be)
[28] US Commercial Service, 2007, "Doing Business In Uganda: A Country Commercial Guide for U.S. Companies"

The World Bank Doing Business Report outlines eighteen steps an actor must pass through, before being fully operational, in addition to the strictly business related registrations, an aquaculture project must also obtain additional licenses and permits.

A range of **Norwegian interests** are associated with Uganda, primarily in the construction, agribusiness, telecommunications, energy and business service sectors. Norwegian companies with physical presence in Uganda include Buildmaster, Norplan, Norconsult, Nemko Certification, Sunhill Group of Companies, Nordic Consulting Group, Norema Service, Jumbo Roses, Uno Phone Uganda Ltd, Norcoffee, Global Entrepreneurs International AS, The BroadBand Company and Nortura. Other Norwegian companies not physically present but with interests in Uganda include Agder Energi, Trönder Energi, Veidekke and Reno Norge. A summary of the investment conditions for new external investors is set out in SWOT format in Table 6.5.

Table 6.5: Investment climate SWOT analysis (Uganda)

Strengths	Weaknesses
• Access to large regional market (ECA and COMESA) • Government is committed to create an enabling environment for investors • UIA established to facilitate investments • Strong economic growth and strategically located to access regional markets	• Weak but upcoming financial sector • No firm regulations in place for aquaculture • High corruption levels
Opportunities	**Threats**
• Improving social and economic conditions, highest GNP/capita among neighbouring countries • Large areas of available land and water bodies for aquaculture • Improving market condition and value chain for aquaculture • Strong support to cage aquaculture in Lake Victoria	• Widespread impact of Hiv which will have implications on the workforce • Unsure political future and unrest among neighbours

6.5.5 Investment opportunities

Uganda has an active fisheries sector with a strong market and export orientation. There has been widespread investment interest in the sector from both domestic and external investors, with value addition and aquaculture the primary focus of interest. Considering both the broad criteria for investment selection set out in the initial section of the report, and the practical issues emerging from discussions in Uganda, a number of options could be identified.

The Directorate of Fisheries has highlighted that the country aims to increase aquaculture production. The Department is discussing setting up specific aquaculture parks for the development of cage culture in Lake Victoria and the aim is to bring up production levels through aquaculture to 300,000 to 400,000 t yearly. The Uganda Investment Authority lists the following as potential opportunities within the sector:

1. Manufacture of value added fish products: currently no company is processing fish into finished products such as canned fish, fish sausages, fish soup or breaded products; *this may have some potential, most likely within a wider food operation; markets for many of these are untested and margins may not be high enough.*
2. Local and regional cold distribution chain; *there is evidence that this is starting to pick up – applicable to the wider food sector; however it will represent only a small share of the national and regional market and for fishery products is likely to be a small-medium scale business at most.*
3. Dry/smoked fish: there is high demand for this type of fish in the region but the production is currently characterised by artisanal operations and hence could benefit from a larger investment. The consumption of smoked fish in EU has also increased lately, providing for a potentially good export market. *There may be some potential, but with potentially negative social consequence;*

for anything but informal trade to the EU this will be subject to strict quality and hygiene standards.

4. Production of value added by-products: There has not been any significant investment in the waste handling sector and specifically in operation adding value to the waste such as producing fish oil, fish meal or tanning the skin into leather. *Some local businesses – eg Alpha Group are already moving into this sector; some of these are small-scale and localised, but others, as with the Alpha Group may justify further examination.*
5. Fish export marketing; *this is a generic area of opportunity and could be relevant to both capture fishery and aquaculture production for regional and international markets; key issues will be supply, quality and competitive transport and distribution options.*
6. Ornamental fish; *this is a specialised area which may have opportunities for small-medium scale production, either through fishing – possibly subject to conservation restrictions – or aquaculture; regional competition, eg from Tanzania and Malawi could be an issue.*
7. Aquaculture: small and large scale farming. According to UIA, a closed fish farm system with the capacity of producing 200 t per acre annually that has equipment for breeding, hatching, fish fattening and fish tanks would cost approximately USD 1.5 million; *this technical option is not usually competitive at local or international levels, but cage aquaculture (see later) could be much more viable.*

Lake Victoria offers a huge resource in terms of cage aquaculture and over the medium-longer term could become the base of a very large and globally competitive industry. Uganda also has other lakes but they are less utilised due to the lower level of infrastructure and/or poorer access to main market and commercial centres. In terms of utilising the potential of Lake Victoria, and compared with Kenya and Tanzania, Uganda is potentially best placed for aquaculture development as Kampala, Entebbe and Jinja, three major market centres, are placed just by the lake, facilitating supply of inputs and also market access, by air to exporting markets and by road via Mombasa. Although Kisumu in Kenya and Mwanza in Tanzania have useful infrastructure components the major centres are distant from the lake, closer to the central and coastal zones.

Uganda is strategically located with access to a number of regional and international markets. It already has very well established export links into the EU market and the membership in COMESA offers markets in 20 countries with a population of 300 million. EAC itself provides a market with 90 million people.

As the capture fishery lands of Nile Perch shows signs of full or over exploitation, The Department of Fisheries together with the Lake Victoria Fisheries Organisation will put an increased focus on the development of commercial aquaculture and support the market conditions. The main challenges to establish a commercial farm was stated to be lack of feed and fingerlings but recent developments within these two sub-sectors will likely improve the conditions further.

Among the countries neighbouring the Lake Victoria, Uganda is the best placed to pursue large scale aquaculture. Uganda is the country with the largest area of the water body in its territory; they have the necessary infrastructure in terms of roads, airports and processing plants located by the lake.

Domestic competition in terms of cage farming is so far not very developed. However, the sector is building up and hence if an actor wants to become a strong brand in the region and secure a certain level of market position, the timing is right to enter into Uganda cage farming. In terms of regional competition, Kenya and Rwanda have had some initiative on cage farming but they are assessed to be years after Uganda hence strong regional competition should not be a near time threat.

The team see as the four main areas of investment as being:

1. Fish feed production: Currently this activity is on a small scale level and has the potential to become an important regional supplier of fish feed.
2. Seed and hatchery: This activity is becoming more established but is still at small scale level. As aquaculture is to be a central activity promoted by the Government, secure supply of high quality seed will be crucial.
3. Production using cages: An activity that is not yet developed in the country or in the region. As Uganda offer good water resources, cage farming in Uganda offers a good potential and a strategic regional market position.
4. Service and support: The sector is not yet developed but a number of actors are looking for ways to develop the sector and technical support from an international actor would greatly benefit the sector. However, given that the aquaculture sector is not yet in full bloom, an investment in service and support is likely to be a longer term investment that could potentially create a strong strategic market position in five to ten years horizon.

An investment in cage culture in Uganda, likely by a strategic partnership by an already established business, could provide for short term returns while also securing a market position in a region and in a sector which is yet to boom. However, careful studies of the supply-demand relation for the fish species to be farmed are required as little such data is available at the moment.

As for **investment partners** the major player would be Source of the Nile (SON) with Lake Harvest and Greenfields Ltd as the two main shareholders, would be a key strategic partner if entering into aquaculture in Uganda. Lake Harvest has built up the largest farm in Africa, in Zimbabwe, that has been in operation for eight years. They moved into Uganda four years ago and their next strategic move will be to enter into Ghana to reach the West African market. They already collaborate with Crystal Lake and Tropo Farms in Ghana to initiate their own market entrance. Hence, a strategic partnership with SON would provide a good platform to create a market position, not only in Uganda but also in Ghana. They would be more interested in sector partners and not pure financial institutions or venture capital. They would prefer a company that has the intention to put funds and efforts into African markets with a long term perspective and hence secure the future of the operations.

Fourway Groups are continuously interested to team up with foreign investors in order to diversify their operations into aquaculture. They are themselves reasonably new in the field of aquaculture, having had two processing plants for Nile Perch in their current operations. However, they initiated collaboration with Genomar which resulted in construction of a number of ponds and a water system ready to be used.

Kahoora Enterprise is currently not in fish feed production but was introduced to the sector via the USAID FISH project. Equipment has been sourced from the US and the owner of the company is currently seeking further investment to finalise purchase The aim is to produce floating fish feed for the domestic and regional market. This could be a potential collaboration partner together with SON as this company has all the equipment or as a separate investment partner if the focus is only on the fish feed supply.

Alpha Group Biotech is operating within the sector of value addition of fish waste. They are currently producing fish oil and fish powder from Nile Perch and the product is unique in that is made of fresh water fish and has shown very good nutritional levels. However, they are currently lacking the marketing and export skills needed to enter the larger international markets.

Uganda Fishnet Manufacturers (UFM) expressed a willingness to provide a lease contract for anyone interested in producing cage farming equipment on a larger scale, using UFM already established equipment. However, as Aga Khan is a foundation, they cannot enter into commercial partnerships.

7 Recommended strategy and conclusions

7.1 Introduction

The objective of the study has been to identify realistic and high quality investments in the fisheries sector, recognising that some areas of development may take some time to organise and come to fruition, while others may have more immediate potential. We have primarily concentrated on more immediate prospects, but a 'long game' strategy may be appropriate in some cases, particularly also given the potential constraints of the current downturn. The countries selected in the study provide a variety of investment opportunities to Norwegian fisheries and aquaculture enterprises who wish to expand their business into Africa or source product more widely. Though given less emphasis, useful opportunities can also be recognised for other business sectors, e.g. in energy, agro-industry or tourism for diversification or CSR options, and for NGO or community development linkages.

All four countries show a steady growth path, are strategically located in terms of regional and international market access, and have active and productive fisheries sectors which are valued for their social and economic role. Within the fishery sector all countries have strengthened their focus on aquaculture and value addition, recognising their future potential for economic growth and national development. Attitudes to external investment are positive and opportunities to link this with technical development and local capacity building are particularly welcome. There are therefore positive generic conditions for investment in the sector, and a number of examples, particularly in large scale cage aquaculture, where early investment would ensure a significant position in regional and indeed global production and markets.

Of the four countries, Ghana and Uganda are most strongly poised for significant change in aquaculture production, and a collection of investments across the sector, including seed, feeds and service provision, as well as ongrowing, marketing and distribution, can be foreseen over the next 2-3 years, creating the critical mass to form a viable modern aquaculture industry, and also to support a wider assembly of socially oriented small-scale production, delivering local food supply and income. The scale and rate of development will depend on the investment flow, and Norwegian investors have the option of taking a major role. Tanzania and Mozambique will most probably take longer to develop, but resource opportunities are substantial. In all cases, value added investment opportunities are more difficult to place, either being smaller–scale niche sectors with sometimes uncertain supplies, or areas where resource access is highly dependent on fisheries management processes which are still under reform and cannot be guaranteed to deliver improved stability in the nearer term. Finally a strategic regional investment can also be envisaged, primarily based on cage aquaculture in Ghana and Uganda, but extending to other countries and potentially integrated post-harvest and market functions.

It is clear that in light of the financial downturn, many investors and multinational companies are cutting down their expansion plans, reducing risks and increasing their focus on home markets. This is likely to affect the African nations negatively as a steady inflow of foreign direct investments (FDI) has been a key component to their ongoing steady growth path, and has also contributed to improved local incomes and market demand for good quality foods such as fish. Investing in Africa is not without challenges, though according to UNCTAD, 2000, the rate of return on FDI in developing countries in Africa are much higher than on investments in developed countries and in developing countries in Asia and Latin America. Between 1995 and 1998, US companies registered a return of 23 % on investments in African developing countries while that for Asian and Oceanian developing countries was 13 %. Evidence from Japanese investments in developing countries confirms the same pattern. Nonetheless, the ultimate test must be the quality of the specific investment and the strength of the sector in which it lies. Though all four countries are ranked rather low in terms of global comparators of business climate, and have a number of issues to resolve, changes are positive, an active investment environment can be seen, particularly in Ghana and Uganda, and the growing role of a diverse and internationally linked private sector is expected to bring about further improvements.

The process of selecting countries and defining the basis for investment opportunities has been set out in the earlier parts of the report. The main opportunities defined through this process are summarised in Table 7.1, grouped by approximate scale of investment and the time period before substantive returns could be realised. Note that we have specifically excluded more short-term and possibly less 'sincere' business actions, e.g. acquiring resource rights with a view to divesting quickly once its opportunity value is more widely perceived, or floating an aquaculture or value added company for local or international share subscription based on highly optimistic but poorly grounded expectations.

Table 7.1: Overview of potential investment areas

	Short term	**Long term**
Small investment, typically USD 20-100,000	*Ghana* ▪ Specialist fish feeds ▪ Community support services for aquaculture *Mozambique* ▪ Coastal/artisanal added value *Tanzania* ▪ Coastal/artisanal added value ▪ Shrimp/marine species hatchery *Uganda* ▪ Specialist Nile Perch/other byproducts ▪ Specialist fish feeds ▪ Community support services for aquaculture ▪ Aquaculture equipment and technical services	*Ghana* ▪ Artisanal added value development ▪ Specialist hatchery ▪ Commercial support services for cage aquaculture *Mozambique* ▪ Fish feed development ▪ Tilapia and other species hatchery ▪ Diversification into aquaculture *Tanzania* ▪ Fish feed development ▪ Tilapia and other species hatchery ▪ Cage farming *Uganda* ▪ Commercial support services for cage aquaculture ▪ Specialist hatchery
Large investment, typically USD 500,000 plus.	*Ghana* ▪ Crystal Lake tilapia cage farm ▪ New cage farm development ▪ Fish feed development ▪ Tilapia hatchery development *Mozambique* ▪ n/a *Tanzania* ▪ n/a *Uganda* ▪ Specialist fishery byproducts ▪ Fish feed development ▪ Tilapia hatchery development ▪ Source of the Nile tilapia cage farm ▪ New cage farm development	*Ghana* ▪ Aquaculture added value development *Mozambique* ▪ Fish feed development ▪ Tilapia and other species hatchery ▪ Shrimp/integrated aquaculture *Tanzania* ▪ Fish feed development ▪ Tilapia and other species hatchery ▪ Cage farming ▪ Shrimp/integrated aquaculture *Uganda* ▪ Aquaculture added value development *Regional* ▪ Tilapia cage culture, integrated with hatchery, feeds ▪ Equipment, business and technical services

The investment opportunities defined are based on conventional expectations of establishing sound and sustainable businesses. The next sections provide more specific explanation on how the selection criteria relate to these, and more detail on key investments.

7.2 Arguments and conditions for opportunity

The following tables summarise the way in which opportunity selection criteria had been applied for the four countries, to clarify why and how investment options have been chosen. Table 7.2 commences with the change points which could be identified, where specific changes were taking place, or could be seen to emerge. In all cases, declining supply from capture fisheries was a major driver, together with growing population and demand, while in the specific cases of Ghana and Uganda in particular, turning points could be seen for commercializing aquaculture.

Table 7.2: Change points in selected countries

Scoping criteria	Ghana	Mozambique	Tanzania	Uganda
Change points	Large demand gap, growing incomes, regional interest and growth in aquaculture; Fully or overfished stocks; strong appreciation of fresh water fish from culture Development of urban markets and fish distribution systems Government focus on communities, rural employment, skills	Decreasing stock in marine waters – increasing move to control IUU fishing, possibly to increase domestic landings Growing populations and demand, increasing tourism sector Government commitment to aquaculture, building local capacity	Decreasing stock of Nile Perch in fresh water, also pressure on coastal stocks; moves to improve marine management, add further value Stronger focus on private sector development opportunities Growing populations and demand, growing tourism sector Concern to mix coastal conservation with economic support	Decreasing stock of Nile Perch – need and strong interest to diversify; Strong domestic, regional and international markets Aquaculture sector becoming large enough to invest in service & support Government focus on communities, rural employment, skills

Within each country also, various strategic approaches and responses could be identified for the sector, as summarized in Table 7.3, which sets out broad areas for development for the sector.

Table 7.3: Strategic approaches and responses

Scoping criteria	Ghana	Mozambique	Tanzania	Uganda
Strategic approaches	Aquaculture – use domestic tilapia strains, or clear use of external, eg GIFT strains; use good local feeds and expand cage culture for domestic, regional and international markets Develop more diversified polycultures for smaller scale production, with co-operative support Services – fish feed production and hatchery seed supply starting to develop but needs better technical inputs Value addition – developing previously unrecognised options and later using aquaculture products	Position in value addition, developing previously unrecognised options, able to expand later if fishery management improves Marine shrimp farming, pond farming or kapenta /tilapia culture in Cahora Bassa and other water bodies for longer term development Develop diversified coastal systems for smaller scale production, with co-operative support Services - fish feed and hatchery production not well developed and would require a long term commitment	Better/more valuable products from existing supply & developing unrecognised options Start up cage farming in L. Victoria; possibly other lakes, local or improved tilapias – medium term Services - fish feed and hatchery production not well developed and would require a long term commitment Develop diversified coastal systems for smaller scale production, with co-operative support Possible CSR opportunities linked with energy, agro-industry, etc could be	Aquaculture – use domestic tilapia strains, or clear use of external, eg GIFT strains; use good local feeds and expand cage culture for domestic, regional and international markets Develop more diversified polycultures for smaller scale production, with co-operative support Services – fish feed production and hatchery seed supply starting to develop but needs better technical inputs Value addition – develop previously

Scoping criteria	Ghana	Mozambique	Tanzania	Uganda
	Linking new investments with CSR, community development and rural employment goals	Possible CSR opportunities linked with energy, agro-industry, etc	explored	unrecognised options and later use aquaculture products Linking new investments with CSR, community development and rural employment goals

This leads towards the summary of the type and scale of opportunities shown in Table 7.4 and then classified according to business type specified earlier in the study, in Table 7.5. This basically differentiates Ghana and Uganda, where larger scale cage culture is available relatively early as an investment option, and where service sectors can be built up in reasonably close linkage with these, from Tanzania and Mozambique, where aquaculture would be a long-term option, and the only immediate prospects would be smaller scale value adding or possibly integrated community projects. By contrast, value addition as a new investment area in Ghana or Uganda would be marginal and more likely to develop once aquaculture supply is built up. For Table 7.5, though a range of smaller business types could be identified in most countries, the attraction of these for external investment is likely to be more limited unless these are linked into integrated approaches.

Table 7.4: Type and scale of opportunities

Scoping criteria	Ghana	Mozambique	Tanzania	Uganda
Type and scale	Cage farming at larger scale in L Volta has good prospects to be profitable Feeds – medium to large scale, and hatchery units - medium scale to serve expanding industry will also have potential Value addition, technical support and other smaller opportunities exist, may be expanded in longer term.	Larger scale coastal pond, integrated and cage farming options in longer term, Community based coastal aquaculture possible option Smaller scale value addition options, also with community support	Larger scale coastal pond, integrated and cage farming options (in L Victoria and others) in longer term, Community based coastal aquaculture possible option Smaller scale value addition options, also with community support	Cage farming at larger scale in L Victoria and others have good prospects Feeds – medium to large scale, and hatchery units - medium scale to serve expanding industry will also have potential Value addition, technical support and other smaller opportunities exist, may be expanded in longer term.

Table 7.5: Enterprise, type and scale linked to likely country

Enterprise type	Characteristics	Value addition	Aquaculture	Services
Large commercial sector	Internationalised, large output and turnover, major resource user, globally competitive, higher technologies and meeting international standards	Major processing and export businesses – e.g. tuna, tilapia, Nile Perch – fresh, freezing, filleting, canning output 2-10,000t/yr, value USD 3-50 million/ yr	Major single or multi-site producer, e.g. tilapia, usually cage culture, or pond based shrimp output 1-10,000 t/yr, value USD 2-30 million/yr	Possibly only feed production; 10,000t +, value USD 10 million annually,
		Uganda	**Uganda, Ghana**	**Not at present**
Medium scale business	National, small-medium resource use, national markets and standards, more limited technology input, output and turnover	Medium scale processing for domestic or export markets, wider range of species, some specialised higher value – output 100-1,000t/yr, value USD 0.1 to 10 million/yr.	Medium sized cage or pond producer, tilapia, catfish, shrimp, seaweeds and/or polyculture, output 50-500t/yr, value USD 0.1 to 2 million/yr.	Feed production, 500-5,000t, value USD 0.5 to 5 million/yr and larger scale shrimp or fish hatcheries – 10s to 100s of millions seed/yr, turnover USD 0.2 to 5 million/yr
		Tanzania	**Tanzania, Mozambique**	**Uganda**
Local, small scale business	Limited footprint and market presence, artisanal to small commercial, very limited technology, small output and turnover	Range of local processing, mainly domestic and regional markets – fresh, dried, smoked, etc, 10-100t/yr, USD 1,000-100,000 annually	Small scale pond, enclosure or cage producer, range of species, output 1-20t/yr, value USD 500 to 20,000/yr	Range of seed, feed, small equipment and related service suppliers, turnover USD 1,000 to 50,000 annually.
		Mozambique, Tanzania	**Tanzania, Uganda**	**All for hatcheries**
Community enterprise	Social and productive objectives, linked micro-scale enterprises, small-medium scale total output and turnover	Usually collective supply or marketing arrangements for micro-small scale processors, combined turnover USD 10-50,000 annually	Collective input or marketing of micro-small scale aqua-culture production; combined turnover USD 10-100,000/year	Networks of seed or nursery production, extension/.construct-ion/maintenance inputs, turnover USD 1-20,000 annually
		All	**All**	**All**

In addition to the more commercial enterprises, a number of CSR activities could also be of interest. These would take the form of working close to community based organization, provide training and technical support.

7.3 Strategic approach for investments and partnerships

The next stage is to consider how various investment options might be realized, and through what mechanisms. Table 7.6 outlines the primary business approaches appropriate for each of the main subsectors, identifying whether it might be better to buy in to an existing business, establish a joint venture with an appropriate partner with complementary interests and capacity, or to commence a new venture, perhaps only drawing in a local partner for access and facilitation. The final decisions will clearly depend on the characteristics of the partners involved and the understanding of respective strengths and expectations. Clearly the aim is to define a win-win prospect, whether both sides of a partnership would gain, and could potentially achieve results they would not be able to accomplish alone. In some cases also, a tripartite or consortium relationship could be appropriate. A further factor, within what in some cases may be a limited field of business entities, would be the combined strength of the partnership and its consequent competitiveness within the sector.

Table 7.6: Primary options for business development

Scoping criteria	Ghana	Mozambique	Tanzania	Uganda
Practical aspects of investment choice	Value addition – merge with existing businesses and develop/specialise Aquaculture – merge or take over existing business; or new business Services – new business **Risks: land lease is cumbersome**	Value addition- merge with existing small scale business-es and expand Aquaculture – build up new sites/take over shrimp farms Services – new business **Risks: uncertain domestic market and supply of raw material**	Value addition – not likely unless value addition is diverted away from Nile Perch Aquaculture – build up new sites/expand small existing sites Services – new businesses **Risks: uncertain domestic market and supply of raw material**	Value addition – merge with existing, already starting to divert away from Nile Perch Aquaculture – join existing operations or develop new business Services – new business or join existing **Risks: supplies of feed materials**

The specific approach can then be described along three different paths based on the characteristics/presence of established local partners: 1) Pro-active local partners; 2) Passive local partners; and 3) No identified local partner. Contact details for all actors mentioned below are found in each respective country report in Volume IV.

7.3.1 Pro-active local partners

In cases were a clear local partner exists, for example SON in Uganda and Crystal Lake in Ghana, the approach would be to start a direct dialogue in order to clarify respective objectives and roles, and determine the related financial parameters. SON's main concern was to have a fully engaged partner, to support the long term sustainability of the operations. They are also the only entity encountered who could form the base of a major regional business. Crystal Lake expressed different options, either a full takeover of a lease contract to their facilities. The following local actors are identified as to fall within this category:

Table 7.7: Proactive local partners, for direct engagement

	Ghana	Tanzania	Mozambique	Uganda
Marine fisheries exporter		Seaproducts Ltd		
Fish feed				Source of the Nile
Hatchery	Crystal Lake			Source of the Nile
Aquaculture	Crystal Lake			Source of the Nile Fourway Group
Value addition				Greenfields Ltd Fourway Group
Other services	Technoserve			Bolton
CSR		ACDI/VOCA		

Sea Products Ltd, process a full range of seafood caught from artisan fishers along Tanzania's and Mozambique's coast for export mainly to the EU market, expressed an interest into entering into agreements with potential investors/partners looking to invest in seafood processing in Tanzania and/or Mozambique. The company is looking to enter into a joint venture or sell full shares to potential investors

The Source of the Nile Fish Farm (SON) is a tilapia farm started up in a partnership between Lake Harvest, Zimbabwe and Greenfield Ltd, Uganda in 2005 with an initial investment of USD 0.5 million. They are located in Jinja, on Lake Victoria with a 20 year lease agreement on 900 acres of land, which they are currently trying to extend to 49 years. They have a hatchery for tilapia and are developing a locally improved strain. They produce 500,000 fry per month, sold to nearby small-scale farmers or stocked. They produce their feed in-house, manually at present but with the intent to mechanise. They have approx 20 small 2x2x2 cages and aim to expand to 1,500, or a similar volume of slightly larger cages. SON plan to invest some USD 5 million, with a target of 2,500 t annually. Of this, some 50 % is aimed for regional markets, of which around 20% would be for the Ugandan market. Their main markets are EU where France, Belgium, Holland and UK are mainly quality driven while Germany is price driven.

Crystal Lake Fish Ltd was the first cage farm in Lake Volta and was established in the late 1990s in the Eastern Region based on an initiate from Stirling University and NRI together with a Ghanaian partner. They grew indigenous tilapia in ponds and concrete tanks as well as cages, covering the whole chain from fingerling production, brood stock to full market size tilapia. The farm has 24 circular tanks for their hatchery and nursing businesses. At 5-8 g, the fingerlings are transferred to one of the nine cages, located 1km from shore in 25 m deep water. Total production cycle is 5 months and annual production in 2006 was around 300 t of whole fish with an aim to expand production to 600-1,000 per annum. The farm is currently receiving support from Centre for Development Enterprise (CDE) and imports feed from the US. Their market is mainly Accra and the demand is high and buyers pay in advance.

The Fourways Group, primarily engaged in fish processing and other sectors, initiated collaboration with GenoMar (Norwegian company supplying GIFT tilapia and related services) to develop tilapia seed and market production. The company has six ponds, and planned to establish up to one hundred, but this was halted following GenoMar's strategic decision against operating in Africa. The water system is in place, as are all required permits and licenses, and an approved EIA. Fourways Group has two factories, Ngege Ltd and Gomba. Ngege produces chilled and frozen fish and byproducts for export. The factories have a capacity if 40-50 t/day but are currently only producing around 50 % of this.

Techno Serve, an American based company working with management issues and technical support within the agrobusiness sector is based in Ghana since 10+ years. Their vision if "Business solutions to rural poverty" and they provide technical support and are planning to broaden their involvement into aquaculture. Their approach is that 'small is beautiful' and are aiming to support small and medium scale business to reduce poverty in the country. They have also conducted a study, funded by Google Foundation, on GIFT. However, currently they have no further funding to pursue the establishment of any aquaculture activities.

The Bolton Group is a regional enterprise providing agricultural and building supplies, together with other input materials as requested by customers. Owned by UK interests, they have a network of stores in Southern Africa, and a well developed purchasing and distribution system. A key theme is the provision of packages of technical solutions, advice, equipment, seeds, fertilisers, and other chemicals. They have also developed expertise and technical inputs for irrigated agriculture, with associated soil and water management and construction inputs. This has allowed them to take up supplying aquaculturists at various levels with supplies, technical advice, construction services and equipment. The Uganda branch is keen to develop this further, and extend this regionally if aquaculture expands more widely. A particular area of interest is also feeds, where in response to demands for higher quality fry feeds, they commenced importing specialist tilapia feeds from the Israeli Ranan Group, at a cost of 6,000 USH/kg. As shipping and other costs make this unviable for the longer term, both groups are now exploring the potential of establishing a local feed plant.

ACDI/VOCA is a US based private NGO administering the USAID funded Smallholder Empowerment and Economic Growth through Agribusiness and Association Development project (SEEGAAD). The second phase of this programme is called Sustainable Environmental Management through Mariculture Activities (SEMMA) and it is coordinated and implemented by ACDI/VOCA. ACDI/VOCA aims to *'promote economic*

opportunities for cooperatives, enterprises and communities through the innovative application of sound business practice'. The project is successful and has supported a community to establish an Association in order to access loans to be better able to purchase their own farming inputs and gain better negotiation status towards the monopolistic buyers. Currently the Association has negotiated a one year contract with one of the buyer, at a fixed price, in order to secure a buyer for their products. A possible venture would be to support the Association under a CSR programme.

7.3.2 Passive local partner

In cases were a local partner exists but some preliminary introductions and confidence building before a clear opportunity and a commercial partnership agreement can materialise, businesses facilitating units such as the investment centres in each respective country should be utilized. A process of matchmaking and building trust and partnership must commence. Throughout such process, each part should clearly state their objective and expectations (in terms of time, returns and size of commitment) as well as express their respective cut off points, i.e. what is needed to take the project further or to drop it. Table 7.8 notes possible partners who require more support and facilitation:

Table 7.8: Partnerships which may require facilitation

	Ghana	**Tanzania**	**Mozambique**	**Uganda**
Fish feed	GAFCO			Ugachick
Hatchery		PrawnTo		
Aquaculture		Ngare Mountain Lodge Alpha Krust VicFish	SSSS Semi-industrial companies Established shrimp farms	
Value addition		Alpha Krust Vic Fish		
Other services	GAFCO		Blue Water Marine Service	Balton

Ugachick, the Uganda's leading animal feed manufacturer, was one of the first to move into fish feed production, with its "Aquafeed" sinking pellet feed. They have access to a range of raw materials, and including animal products, can do their own quality analysis of raw materials and can test feeds in their own small commercial unit. Ugachick have been supported by the USAID FISH project to purchase an extruded feed line from a US supplier, and a technician is to arrive in March 2009 for one year to train local staff and support start up. They are considering contracting farmers in the north for a more reliable supply of maize and soya. They have a good distribution network and are confident of supplying to smaller farmers throughout the country.

Prawnto Ltd is a prawn (Penaeus, otherwise described as shrimp) farming business development company established in 2003. The founder of Prawnto builds on experience from the development of small farmer mariculture networks in Bangladesh under a USAID programme and from commercial farms in South America, Asia and the Middle East. The business strategy is to export high quality prawns to the international market by facilitating the development of a network of small farmers. Prawnto is encouraging micro, small, and medium sized aquaculture ventures throughout coastal Tanzania by providing the necessary inputs, services, and training to facilitate efficient and profitable operation. At current, the company has established a pilot hatchery at the Mbegani Fisheries Development Centre with a design capacity of 20 million PLs per year. Prawnto has built its first demonstration farm in Tanga and procured 100 ha of land for expansion in Pangani and Tanga districts.

Ngare Seru Mountain Lodge started a small trout farm in 1979 near Arusha, with ten raceways of 27 x 2 m, a hatchery and fry area, with production levels of 7.5 t/annum. They are aiming at 9 t shortly and 12 t

in two years and have a total production capacity of 30 t. They manufacture their own pellet feed using a pelletizer and air drying. Their products include whole fish, gilled and gutted deep frozen, fresh and frozen fillets, smoked whole fish and chilled fillets as well as pate. They have a brine freezer and deep freeze, a smoker for cold smoking, vacuum packer and a tub filler for the pate. Ngare Seru has also studied the potential for tilapia farming in the area over several years, and considers that the developing international market for fresh water fish, the time would be ripe to enter into this venture. In the 1980's they also did a major study on a prawn (Penaeus) farm on the coast near Bagamoyo, partly financed by the European Development Bank. The project was never taken to the next level but did develop to preliminary design stage.

SSSS is Mozambican company with five subsidiary companies. They have 10 industrial freezing vessels, 9 ice vessels and 3 on land processing plants. They produce some 1065 t of mixed fish and shellfish for export via a commercial agreement with FI in South Africa, valued at approx 9 million USD/year in exports. They are looking for an investor in order to be able to expand their businesses. They are also about to initiate a feasibility study for an aquaculture project in the North.

Blue Water Marine Service is a two man company with presence in the country for more than 10 years. The company is currently not investing in the sector with own capital but carries out technical assistance contracts for the ministry and the donor community. They would however be interested to team up should an investor with the right capital be interested to enter the market.

7.3.3 No identified local partner

In some cases there were no immediately identifiable local partners, but where an opportunity could exists, the investment centres in each country would be key starting points to find a local partner and to facilitate business meetings. Here it will be the external proponent who will be the driving force and pushing for progress. For all countries, the team has also listed number of either individual consultants or consultancy firms (in some cases Norwegian) that could be utilized in this process. They are locally based and know the sectors inside out and will be able to link up with the relevant actors and elaborate on the details of the investment opportunity. In terms of the investment centres', these are more generic while some have specialized staff for agribusiness hence a local specialist independent of the investment centre would be recommendable to balance.

Table 7.9: New field projects – no existing partners

	Ghana	Tanzania	Mozambique	Uganda
Fish feed		X	X	
Hatchery			X	
Aquaculture				
Value addition	X			
CSR				X

7.4 Actions by NORAD

The recent upheavals of the financial crisis, linked in turn with troubling instability in the European and international fisheries sector, makes this a difficult point at which to discuss any form of business investment, particularly outside the core geographical and political contexts. The opposing argument has to be that these periods can often be best for more strategic decisions and that if the underlying fundamentals of investment options are sound, they would deserve serious attention. Clearly, however NORAD will have to be proactive if it wishes to pursue this initiative towards a useful outcome. It would at least be desirable if Norwegian investors can have an open opportunity to consider wider options in Africa, and the various counterparts in the countries concerned can have the opportunity to set out further their aims and expectations, so that open and well informed discussions and agreements can be made.

A first step from would be to **present the key findings** of this study to a broad range of actors within Norway, including:

- the mainstream fisheries and aquaculture industry;
- the fishmeal, oil, fish feed and biochemistry/pharmaceuticals sectors; and
- the energy, agroindustry and tourist sector.

If a fraction of interest exists, a second step would be to develop clear, brief **investment guides** to suit the Norwegian actors. The country report provides first insights but the details could be further developed and presented in a flyer format, possibly in Norwegian.

A third step, in conjunction with the second, would be to develop a clear **business model template** based on Table 6.1 for each main type and size of investment, demonstrating the likely costs and returns, profitability indicators and sensitivity characteristics. Such a document would guide both the Norwegian side as well as the counterpart in terms of expectations on returns and input, and the likely financing requirements.

The fourth step would be to **facilitate a study tour** to one or two of the identified countries, or all if interest proves to be high. Key issues with such a study tour would be to clearly identify key partners to meet, in a structured workshop manner. It is not advisable to meet with 'as many actors as possible' as that will only create disappointments if nothing materializes. Preferable a number of key private sector actors should be invited to present their case and also listen to what the Norwegians have to offer. After such structured start up presentations, an open floor dialogue could be arranged after which individual meetings should be facilitated. In preparing such a study tour, Investment Officers from each respective countries Embassy in Norway/Scandinavia should be consulted and close liaising with such should be carried out. The team has already built up a relation with the Ugandan Embassy in Denmark and they are very keen to facilitate and take part in any initiative leading to a positive development for Uganda.

Throughout this process, NORAD should link with ongoing private sector development initiatives in order not to reinvent the wheel. Private sector associations and programmes exist in all four countries and should be utilized to reap the maximum benefits[29].

[29] For example in Uganda, the work carried out by the Confederation of Norwegian Enterprises (NHO) should be involved as they have a wealth of experience from the sector.

8 Annex 1: Terms of reference for the study

8.1 Background

In 2007, Norad and Norfund submitted a Memo to the MFA (Ministry of Foreign Affairs) on "Strategic priorities for Norwegian cooperation assistance for business development within fisheries and aquaculture". The Memo concluded that commercial companies in Norway have special competence, resources and interest within specific sectors. This can be matched with commercial enterprises in developing countries, and provide a basis for collaboration and investments within the aquaculture and fish processing sectors.

Developing countries in general need long-term investments and the associated technology and knowledge development in order to facilitate sustainable exploitation of natural resources, value creation and creation of employment.

The identified areas where the Norwegian private sector may have the best potential for good investments include aquaculture, fisheries and fishprocessing. There are Norwegian companies which have good competence in areas like: industrial scale aquaculture, including hatcheries and floating cage culture; industrial fisheries, including on-board handling ; fish processing, including production of semi-processed and processed fresh and frozen products; supply industry, feed, fish meal and oil, fish health, breeding and genetics.

Few African countries have experience in industrial scale aquaculture. At the same time, there are numerous areas where there are natural potential for such development. Both investments and development of competence & technology are needed to turn the potential into reality. There is also scope for development of fishing fleets and processing industry in many African countries.

While improvement, modernization and renewal of the fleet is needed in several countries, this falls outside the scope of this study . On the other hand, improved on-board handling in order to reduce post-harvest losses and improve the quality of the landed catch should be included in the study.

Furthermore, there is a need for increased value-added production, which usually entails increased employment (including employment for women) and economic development. Today, a large part of fisheries products are being exported as raw material for the processing industry in industrialized countries.

Production of value-added products is also important because exports of these products will generally ensure that more of the final income from the product remains in developing countries rather than in the importing industrialized countries.

In an effort to identify potential commercial projects and partners, Norad now wants to undertake a study of such potential projects in selected countries in Africa, and within this framework identify potential African commercial areas for Norwegian companies.

It is important that the focus be on potential commercial projects that are sustainable and will contribute to development of competence and technology, creation of employment and sustainable exploitation of resources.

8.2 Purpose of the study

The purpose of the study is to identify potential investment projects within the aquaculture and fish handling and processing sectors, to identify potential commercial cooperation partners in selected African countries, and to provide relevant information for Norwegian companies interested in investment and/or joint ventures in African fisheries and aquaculture.

8.3 Scope of work

The study should focus on the general status of the aquaculture and fish processing industries in the selected countries, including past history, present activities and conditions, resource basis, potential areas suitable for aquaculture, potential species to be farmed, and level of competence within the industry in African countries, as well as investment climate in the country.

Based on the findings above, the study should discuss the potential and needs of the African industry in terms of competence, technology, and financing.

8.4 Phase 1: Assessment of relevant areas and partners

The desk study should, based on available information, identify African countries and areas where the potential for investment and cooperation is positive. The countries should be agreed upon with Norad. The report from Phase 1 should propose 3 – 4 countries/areas where further investigations should be done.

The study should focus particularly on the following areas:

- Aquaculture areas (marine and freshwater; hatcheries, floating cages and molluscs)
- Industrial Fish processing (fresh and frozen, value added products)
- On board handling and processing (raw material, ice and refrigeration, quality etc)
- Supply industry

Phase 1 of the study is expected to consist of a desk study and is expected to require four person weeks of data collection plus two weeks of analysis/report writing.

8.5 Reporting – Phase 1

The Consultant shall submit a draft report in English in Word format to be discussed in a meeting with Norad and other stakeholders. Within one week after possible comments from the meeting, a final report should be submitted. A specific time schedule is to be agreed upon in the contract with the winning bidder.

The report shall include:

- A short description of the fisheries, aquaculture and fish processing sectors and supply industry in each of the countries studied. This should include species, volumes, quotes, processing, natural and environmental conditions as well as private sector situation in general
- An analysis of strengths, weaknesses, opportunities and threats (SWOT) of each sector within each country;
- Level and standard of education- and research institutions
- Identification of specific investment needs and opportunities in each sector in each country;
- Export-opportunities and access to markets (national, regional and international)
- Description of the physical and institutional infrastructure;

- Description of foreign investments
- Description of the business environment ("red tape"), investment regulations and incentives;
- Description of the legal framework;
- Description of security conditions (companies and on personal level)
- Evaluation of political and commercial risks in general;
- Recommendations regarding further studies during Phase 2 of the study.

8.6 Phase 2: In-depth studies of selected countries

Based on the report from Phase 1, discussions with Norad will be undertaken to determine specific countries and areas to visit in the field study. During the field study, visits will be made to the selected countries, and in-depth studies of potential investment opportunities will be undertaken.

It is envisaged that the field study will require about one and a half person week's field work plus one and a half week of analysis/report writing for each country visited. It is anticipated that three to four countries should be included in this part of the study.

8.7 Reporting – Phase 2

The report from the in-depth study of each country should include the following points:

- General description of the country's fisheries and aquaculture sectors, including fisheries resources, production, processing, suppliers, distribution, foreign trade);
- An overview of the commercial sector (incl. the major operators, capacities, opportunities)
- A mapping of business opportunities with key identifications, which can focus on some of the following issues:
    - Description of the types of investment opportunities
    - Market analysis and marketing concept
    - Locations, sites and environment
    - Raw materials and supplies
    - Engineering and technology
    - Human resources (needs and availability, training needs)
    - Physical infrastructure
    - Waste handling potential, environmental considerations
    - Expected development effects
    - Legal aspects, permits, taxation etc.

A report shall be submitted in Word format within three weeks of completing the field work. Within one week after possible comments from Norad, a final report should be submitted. A specific time schedule will be included in the contract with the winning bidder.

A seminar to discuss the final reports after Phase II is being considered. If a seminar is to be arranged, it is estimated this would require one person week from the Consultant. This task should also be included in the bid for the tender.

8.8 General

It is recommended that the consultant cooperate with local/regional consultants/partners, particularly during the preparation and implementation of the field visits.

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