Investment opportunities in the Ethiopian

Aquaculture sub-sector

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10

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Contents

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Key findings

Ethiopians fast about 190 days annually. Although people do not consume meat on those days, they however might eat fish. Fish consumption steeply rises during fasting days. Fishers and traders anticipate increased demand therefore they increase production and supply.

Aquaculture production is insignificant. According to FAO estimates, aquaculture production is approximately 15–25 tonnes per year, mainly from small-scale subsistence farms.

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Major trends in the development of the aquaculture sub-sector

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Ethiopia is a country in the horn of Africa endowed with numerous aquatic resources, including over 20 natural lakes, 12 large river basins, over 75 wetlands, and 15 reservoirs. Micro and macro-dam construction and river impoundment have created innumerable large and small water bodies. Both inland capture fisheries and aquaculture activities are concentrated around the many lakes and rivers in the Rift Valley, as well as around the Blue Nile, which supplies water to the country's largest water body, Lake Tana.

Aquaculture farms in Ethiopia are small-scale, subsistence-oriented and only to a certain degree commercial. It is estimated that there are more than 1300 subsistence fish farmers in Ethiopia with a pond size of about 100–300 m². The main species farmed is tilapia. Most pond fish farmers combine fish farming with irrigation, crop farming and horticulture. Candidate species for aquaculture include tilapia (*O. niloticus*) and the African catfish (*Clarias spp*). Limited research activities are underway.

Aquaculture production in Ethiopia has not really taken off, and is rather a potential than an actual practice. Accurate data on production volumes are not documented. However, according to FAO estimates, in recent years production has increased from 15 to 25 tonnes annually. There is one company that is trying to utilize the potential by establishing a large-scale commercial fish farm: Africa Sustainable Aquaculture B.V.

The Ethiopian government has identified aquaculture as one of the strategic areas of intervention to address the problem of food insecurity and poverty in the rural areas. It is considered an important economic activity that supports diversification, integration and improvement in rural livelihoods (MoA and FAO, 2009). The government recently re-emphasised the significance of fish culture through a joint effort with the FAO Sub-Regional Office for Eastern Africa (FAOSFE) to draw up a National Aquaculture Development Strategy (NADS), which was approved at the end of 2009. The overall objective of the strategy is to define a regulatory framework and to build a strong basis for the development of aquaculture in the country.

1.1 Production

1.1.1 Feed

Fish feeds are not readily available in Ethiopia. Government stations and some small-scale private fish farms produce on-farm feeds using locally available feed ingredients and simple (meat grinder type) equipment for producing sundried pellets. Alema Koudijs Feed Plc in Debre Zeit is one of the most modern feed mills in Ethiopia producing feed for poultry, cattle, and small ruminants (goats, sheep) and they also have plans to invest in a fish feed line. With a production of 1000–1200 MT/month, this company has a market share of over 30%. Feed ingredients of plant origin—such as corn, soybean, cotton seed, wheat, and such by-products as oil cakes and bran—are locally available and incorporated in livestock feeds. In 2012, the price of those ingredients increased considerably (up to 100% for some) as a result of an increased export of unprocessed oilseeds to neighbouring countries, and of speculation and crop failures due to droughts. This led to growing competition for crops and by-products (oilseed cakes) for use in livestock feeds and for human consumption. So far, this company does not invest in fish feed. The by-products of fish processing (fileting and gutting) are a potential source that could be used to prepare fishmeal. Alternatively, feeds can be formulated for the semi-intensive farming of tilapia and catfish, which require less animal protein.

1.1.2 Hatcheries

There are no commercial hatcheries in Ethiopia for the production of fingerlings. Small numbers of tilapia fry and fingerlings can be obtained from Ministry of Agriculture research stations. The National Fishery and Aquaculture Research Center in Sebeta provides small quantities of tilapia fingerlings free of charge to fish farmers. The same applies to the Bahir Dar Fisheries and Aquatic Life Research Center (in Bahir Dar). There are also a few small-scale private farms that sell tilapia fingerlings. Mono-sex tilapia fingerlings are not available. There is one small-scale trout farm that sells rainbow trout fingerlings. There are no African catfish fingerlings available. The availability of fry and fingerlings from hatcheries and nurseries is therefore a major constraint on the development of aquaculture in Ethiopia. As long as this situation persists, new fish farms will have to produce their own fingerlings.

Regional governments are allocating budgets for the establishment of standard hatcheries. Yet there is still an urgent need to select suitable brood stock to increase production of required fry and fingerlings.

1.1.3. Production systems

1.1.3.1. Extensive systems

The pond(s) can have an area of 300 m² enabling the production of at least 150 kg of fish in one production season.

FINGERPONDS: This type of pond can be constructed along a lake or river, in the seasonally flooded wetlands. Fingerponds can produce 180 to 400 kg fish/ha per season for unfertilized ponds, and 400 to 1000 kg fish/ha per season for fertilized ponds.

1.1.3.2. Semi-intensive culture in ponds

Semi-intensive ponds require high investments in terms of land, capital, reliable and clean water supply, access to roads, as well as high running costs for inputs such as good quality fingerlings, quality feeds and fertilizers, electricity to run the aerators, skilled labour and intensive management.

Production may range from 3 to 6 tons/ha per year depending on management.

With additional aeration, productivity can be raised to over 15 tons/ha per year, especially when there is no cold season.

This production model involves the culture of tilapia in ponds with African catfish as predators to reduce the number of tilapia offspring in the pond. Fingerlings can be produced on the farm in breeding ponds. In the growout ponds, fish feed on natural feeds. These can be enhanced through the application of fertiliser, in combination with artificial feeds low in protein that mainly consist of material from plant origin and by-products such as oilcakes.

For this production model, less capital and technology is required than for intensive systems, but production is relatively low. In order to efficiently produce, process and market relatively small quantities of fish, farms of this type are preferably organised in clusters that supply peri-urban markets. It is likely that this production model is also attractive to small-scale farms that use irrigation water for crop cultivation.

1.1.3.3. Intensive systems

This production model involves the culture of tilapia in ponds with frequent water exchange, in flow-through tanks or in floating cages. Another option is the intensive culture of African catfish in flow-through ponds or tanks. Both production systems require quality fingerlings and fish feeds that are high in protein.

High volumes of market-sized fish need to be produced, processed and supplied to nearby urban markets. This requires an efficient organisation of the value chain.

This production model is both capital and technology intensive. Since neither the technology nor the required management skills are currently available in Ethiopia, these will have to be imported. This production model is therefore likely to be adopted by companies with foreign shareholders.

In these systems, fish are kept in concrete plastic or fiberglass basins, or in canal-shaped (concrete) basins. A continuous supply of fresh water, rich in oxygen, is needed. The production per m³ basin volume can range from 5 to over 500 kg/m³ per year, be it that these figures only apply for the air-breathing catfish. Intensive fish-farming systems require very high investment, skilled management and reliable sources of water, fingerlings and high-quality complete fish feeds (pellets). A back-up generator is an absolute necessity.

AQUAPONICS: This is a system whereby vegetable and fish are grown in an integrated system, requiring quality inputs and intensive management. In this system, it is possible to produce at least 80 MT of tilapia fish and 23,000 MT of vegetables from one hectare of land (10,000 sq. meter) per year.

There is a need for investments in hatcheries, feed and seed supply and ancillary services (disease prevention and control, harvesters, transporters, traders, fish processors and storage facilities) across the whole fish value chain.

Studies and discussions at platform meetings clearly show the need for effective models of fish feed plants, hatcheries and (grow-out) fish production systems that work. The establishment of a model fish farm is currently initiated by Bahir Dar University.

There are opportunities for two specific business models: large-scale intensive commercial fish production and small-scale semi-intensive commercial fish production.

Tilapia farming could be a viable business proposition under certain circumstances in Ethiopia. Cage farming requires low investments and little extra input, but sites for this activity are limited in the country. Intensive systems for tilapia in tanks and recirculating aquaculture systems (RAS) do not seem to be viable due to the high investment costs and the costs for generating electricity.

The farming of African catfish is not yet a viable option as market prices of this fish are still relatively low in Ethiopia.

Quick facts

- Fish consumption in the country is influenced by supply factors rather than by culture.
- High price: Fish is relatively expensive compared with the local prices of vegetables and grains on a unit weight basis, but is frequently less costly than alternative animal protein sources.
- There is an extreme regional variation in fish consumption. People consume comparatively large amounts of fish in production areas and in Addis Ababa, while outside these areas the domestic market for fish is small.

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Investment opportunities

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2.1 Lucrative market

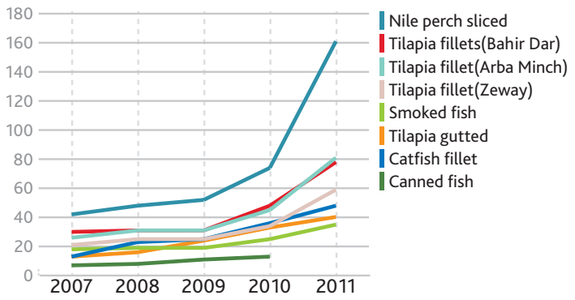
With a population of almost 92 million Ethiopia is becoming the second most populated country on the continent next to Nigeria. The population is expected to increase to 117 million by 2025.

Reports from the Ministry of Agriculture indicate that the per capita fish consumption of the country has reached 1 kg, from 240g in 2013. The growing demand for fish, especially during the fasting season (190 days a year) cannot be met by production from capture fisheries alone.

Consequently, given the increasing demand for fish in urban areas, the price of fish per kg has increased to 60 Ethiopian Birr (ETB) and even to 90 ETB during fasting (2015).

As increasing scarcity (apparently reflecting both rising demand and supply constraints) has resulted in higher real prices for fish, there is a tendency for fish to become a luxury product consumed by higher income groups. Traders and other observers suggest that higher income groups may represent a significant source of the soaring demand (reflecting wider exposure to different types of food and echoing the global shift in demand towards fish as a healthier source of animal protein). Nevertheless, population increase (particularly in growing Addis Ababa) and a modest general increase in incomes are also factors.

Fish price by species and product type in FPMI outlets 2007-11 (ETB)
Source: FPMI, 2012



All three factors noted above will contribute to an increase in demand, i.e. a shift in demand towards fish consumption by higher income groups' growing earnings (per capita GDP is increasing at around 1.6%); at relatively low consumption and low income levels, fish is probably a luxury good (i.e. a 1% increase in income will boost demand by more than 1%); and population growth.

Population growth alone is associated with a 2.1% annual increase in aggregate demand. If indeed fish is a luxury good in Ethiopia, as suggested above, then population growth combined with income growth would boost demand for fish at a rate of at least 3.7% per annum. This equates to a 20% increase in demand over five years and a 44% increase over 10 years.

The assumed shift in preferences would deepen the effect. Furthermore, if the population of Addis Ababa (a major focus for fish consumption) is growing faster than the rest of the population and incomes there are increasing faster too, there would be a still stronger increase in demand.

Where supply cannot match these increases in demand, the real price of fish will rise.

The price of fish depends on the species and the product. The most common fish product—tilapia fillet—sells for ETB 74–94/kg in retail shops in Addis Ababa, while catfish sells for ETB 30/kg in markets and for ETB 50/kg in retail shops. Fish prices have been widely reported to have increased rapidly during the last 10 years.

Other estimates of the increase in the price of fish over the last 10 years were even more outrageous, with increases of up to 2000%. Figure 3.5 presents the increase in the price of various fish species and products during the last five years as reported by the Fish Production and Marketing Industry (FPMI), which is the largest single trader of fish in Ethiopia. This clearly shows an increase in the price of tilapia fillet and gutted tilapia (up to about 210%) and catfish (up to about 270%). In both cases, this exceeds the roughly 200% inflation of average consumer prices during that period.

Tilapia is by far the most dominant species caught and consumed in Ethiopia, followed at some distance by catfish, and recently also carp. In fish-production areas, fish consumption patterns reflect the local availability of fish.

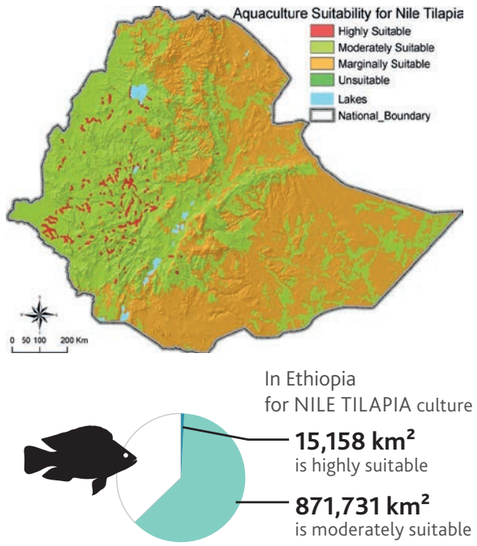
The fish that are landed are utilised in fresh, chilled, frozen, cured and canned forms. Most (about 73%) of the total fish catch is marketed fresh in nearby markets. The rest reaches distant consumers chilled or frozen (26%), or dried, smoked or canned (1%).

2.2 Suitability of land for aquaculture production

Ethiopia has very diverse agro-ecological zones offering a favourable potential for developing fish culture both in terms of land/water and in its climatic system. Based on physical, socioeconomic, climatic and infrastructure suitability indicators, as well as the biology of the selected fish species, a GIS analysis was carried out by FAO in 2012. The study indicated that for tilapia culture, 15,158 km² (more than 1%) of the total land mass of the country is highly suitable and 871,731 km² (62%) is moderately suitable for tilapia culture.

Although this is only circa 1% of the total land area of Ethiopia, it is more than sufficient to produce a significant amount of fish.

Aquaculture Development Suitability Map of Ethiopia (Draft)
Source: Eshete, D. and Zemnu, M. (2012)



2.3 Conducive policy environment

In 2009, the Ministry of Agriculture (MoA) developed a National Aquaculture Development Strategy with the support of FAO. The Strategy comprises a comprehensive framework for the sustainable development of a market-responsive aquaculture industry over the coming twenty years and an associated outline plan for investment by the public sector.

Ethiopia recently finalized a five-year Growth and Transformation Plan (GTP 1) to promote agricultural growth through the adoption of improved technologies and fostering of private-sector investment. Evaluation of GTP 1 revealed that the contribution of livestock and fish was very low. GTP 2 (2015–2020) emphasizes the development of the livestock and fisheries sector. This plan includes activities to enhance aquaculture, such as:

- Strengthening the existing fish stocking program following the water-harvesting system;
- Promoting and developing farmer-based demonstration fish ponds;
- Establishing fish zones and regional/federal administration-based fish culture centres for breeding and distribution of fingerlings;
- Training of fish-farm technicians;
- Strengthening research in the areas of developing farming technologies, food and feeding;
- Promotion and development of commercial aquaculture complementary with small-scale aquaculture and other agricultural development interventions.

The Ethiopian government welcomes foreign investments and has developed a package of incentives under Regulation No. 84/2003 for domestic and foreign investors engaged in new enterprises and expansions, across a range of sectors. These incentives include customs duty exemption, income tax exemption, and remittance of funds and investment guarantee and protection.

So far, licenses have been issued for 37 investors to establish fish farming and related enterprises in different parts of the country. These include some of the major investors with an interest in the sector such as Ethio-Fisheries Plc (near Lake Abaya), Vittorio Viet Carlo Talarico Plc (Lake Chamo area), MIDGE 2000 Plc (Cage Culture in Lake Tana), Ashraf Agricultural and Industrial Plc (fish farming and processing around Lake Tana), Trout Fish Farm Plc and Lobster Farm Plc.

Points to consider

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3.1 Production systems

Under the present conditions in Ethiopia, the major issue for intensive aquaculture is the regular supply of quality fish feed.

Competitive fish feeds can be produced in Ethiopia using slaughterhouse and fish waste as protein sources. Know-how on the formulation and production of fish feed for all species and growth stages is available in Ethiopia.

For the semi-intensive fish farms, the major bottleneck is know-how. Although this farming system is not very complicated in terms of aquaculture technology or management skills, farmers wishing to engage in fish culture need access to basic fish-farming expertise. In the absence of government support, initiatives such as Africa Fish, the Aqua-Spark Fish for Good Investment facility and the Farm Africa concept of aqua shops in Kenya, can be approached. These initiatives facilitate the development of small-scale commercial aquaculture through the provision of capital, know-how, inputs, formation of clusters, market access, etc.

The two models can also be seen as interrelated. Once a few intensive fish farms are operational, they can serve as facilities for hands-on training, farm action research, etc. Furthermore, the intensive farms can bring their surplus of fingerlings to the market so that these become available for other small-scale semi-intensive farms. In this way, the intensive farms generate spin-offs that will accelerate the development of the entire aquaculture sector, independent of direct government investment in hatcheries and training/demonstration farms.

New supply and value chains are required to support the sustainable development of aquaculture in Ethiopia.

3.2 Important legal documents

The most important legal document concerning fisheries and aquaculture in Ethiopia is the Fisheries Development and Utilization Proclamation (No. 315/2003). This proclamation contains 21 articles that describe procedures and rules to be enforced in order to utilise the country's fishery resources and to develop aquaculture. This is the only proclamation in Ethiopia that legally describes and elaborates capture fishery and aquaculture at the federal level (BOMOSA, 2009).

Article 5(10) states, that any person who wishes to import or export any type of exotic live fish species must have a permit from the Biodiversity Institute first. Article 5(10) also states that any person who wishes to transfer live fish that have been imported or an indigenous species from one regional water body to another regional water body, must have a permit from the ministry.

Similarly, article 6 contains provisions that deal with how to obtain permits to establish aquaculture farms, the control of fish disease, and standards for the establishment and operation of aquaculture facilities. In some areas, regional legislation on fisheries applies in addition to the national regulation. For certain types of aquaculture, the environmental and water resources legislation may also apply, such as the need for an environmental impact assessment.

In addition to the Fisheries Development and Utilization Proclamation, the following legal documents contain important provisions that are pertinent to animal products and marketing, animal diseases and environmental issues:

- Animal, Animal Products and By-products Marketing Development Authority Establishment Proclamation (No. 117/1998)
- Animal, Animal Products and By-products Marketing Development Authority Establishment (Amendment) Proclamation (No. 198/2000)
- Animal Diseases Prevention and Control Proclamation (No. 267/2002).

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Sources of further information

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Government organizations

Ministry of Finance and Economic Development	Contact:
The Ministry of Finance and Economic Development (MoFED) has the lead responsibility for facilitating the flow of funds to those agencies that are responsible for the implementation of fisheries and aquaculture development. It also has overall responsibility for the formulation of the country's economic development policies and plans.	P. O. Box 1037 or 1905 Addis Ababa Tel.: +251 11 155 2400/ +251 11 122 6698 Fax: +251 11 155 1355/ +251 11 155 3814 E-mail: infopr@mofed.gov.et

Ministry of Agriculture	Contact:
The Ministry of Agriculture (MoA) is mandated for the development and management of fisheries and aquatic resources. The MoA has responsibility for enhancing market-led agricultural development and food security. At the federal level, the MoA is also responsible for the promotion and expansion of extension services aimed at small-scale farmers, pastoralists and private investors. This involves the establishment and operation of a network of agriculture and rural technology training centres. The MoA is the lead agency for the development and implementation of the fisheries and aquaculture subsector.	P. O. Box 62347 Addis Ababa Tel.: + 251 11 551 8040/ 7354 Fax: +251 11 551 1543 E-mail: vmoasc@ethionet.et http://www.moa.gov.et/ contact

Agricultural Transformation Agency (ATA)	Contact:
Agricultural Transformation Agency (ATA) is a semi-autonomous unit within the Ministry of Agriculture, established to develop systemic solutions on cross-cutting issues. Among others the Agency is responsible for developing the national road-map strategy for different crops. It is also in charge of developing strategies and recommendations for national organizational platforms to maximize impact and speed up transformation.	Addis Ababa Tel: +251 11 557 0678 Fax: +251 11 557 0668 E-mail: info@ata.gov.et www.ata.gov.et

Ministry of Foreign Affairs, Department of Business Diplomacy	Contact:
The Economy and Business Directorate has the responsibility to collect, organize and process accurate, relevant and timely information on economic and business situations and market intelligence for government and non-governmental organizations and the business community. It facilitates an effective and efficient flow of information between the Ministry, Ethiopian missions abroad and relevant national bodies, to centralize, process and disseminate economic and business information in a consistent and sustainable way.	P. O. Box 393 Addis Ababa Tel.: +251 11 551 0551 Fax: +251 11 551 4300 E-mail: bussiness@mfa.gov.et

Ethiopia Biodiversity Institute

Aquaculture and fisheries research institutes

Several Ethiopian universities provide higher education and research opportunities related to fisheries and aquaculture. The Addis Ababa, Bahir Dar, Hawassa and Ambo universities offer fisheries and aquaculture education and also conduct research. The Ethiopian Institute of Agricultural Research (EIAR) and the Regional Agricultural Research Institutes (RARIs) are responsible for coordinating the various research programmes of the national network of agricultural research stations including on-farm trials and demonstrations.

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Contact: Abebe Getahun
E-mail: abebe12002@yahoo.com

Ambo University

Department of Biology, Fisheries and Aquaculture Program
P. O. Box 19
Contact: Professor Natarajan
E-mail: drpnatarajan123@gmail.com

Bahir Dar University

Department of Biology
P. O. Box 79
Contact: Wassie Anteneh
E-mail: wassie74@gmail.com

National Fish and other Aquatic Life Research Center

P. O. Box 64, Sebeta
Tel.: +251 11 338 0023/0814
Fax: +251 11 338 0657
Contact: Zenebe Tadesse
E-mail: zenebetd@yahoo.com

Bahir Dar Fisheries and Aquatic Life Research Center

Amhara Region Agricultural Research Institute (ARARI)
P. O. Box 794, Bahir Dar
Tel.: +251 58 220 0899/+251 91 201 6855
Contact: Belay Abdissa
E-mail: epheson2002@yahoo.com

Ziway Fisheries Resource Research Centre

Oromia Region Agricultural Research Institute (ORARI)
P. O. Box 229, Ziway
Tel.: +251 91 104 4974
Contact: Megeresa Endebu
E-mail: iamendebu@yahoo.com

Aquaculture and fisheries research institutes – Service providers

Ethiopia Investment Agency

The Agency is a government agency established to promote, encourage and facilitate private investments in general and foreign investments in particular in Ethiopia.

P. O. Box 2313, Addis Ababa
Tel.: +251 11 551 0033
www.investethiopia.gov.et

Commercial Bank of Ethiopia (CBE)

The CBE plays a catalytic role in the economic progress and development of the country. CBE has reliable and long-standing relationships with many internationally acclaimed banks throughout the world.

P. O. Box 255, Addis Ababa

Tel.: +251 11 551 5000
E-mail: cbe@combanketh.et

Development Bank of Ethiopia

The development bank of Ethiopia (DBE) is one of the financial institutions engaged in providing short, medium- and long-term development credits. DBE's distinguishing feature is its "project"-based lending tradition. Projects financed by the Bank are carefully selected and prepared, appraised, closely supervised and systematically evaluated. Since its establishment, the bank has been playing a significant role in promoting overall economic development of the country.

P. O. Box 1900, Addis Ababa
Tel.: +251 11 551 1188/89
E-mail: dbe@ethionet.et

Ethiopian Customs and Revenues Authority (ECRA)

The Ethiopian Customs and Revenues Authority is the body responsible for collecting revenue from customs duties and domestic taxes. In addition to raising revenue, the ECRA is responsible for protecting the society from adverse effects of smuggling. It seizes and takes legal action against those involved in the act of smuggling while facilitating the legitimate movement of goods and people across the borders.

Addis Ababa
Tel: +251 11 662 9903/04
Fax: +251 11 662 9818
E-mail: Min.of.revenu@ethionet.et
http://www.erca.gov.et

Private sector partners

Gafat Endowment	Contact:
Gafat Endowment is a people-to-people non-governmental organization committed to generating income from investing endowments to benefit the people. Its vision is to see its companies generate funds and play a major role in developing the Amhara Region and raising the living standard of its people.	P. O. Box 1628, Bahir Dar Tel. : +251 58 226 6147 E-mail: gafat1@gmail.com

TIRET Corporate	Contact:
TIRET Corporate was established as an endowment organization for the benefit of the people of Amhara region. It works in different investment areas including farming (flower, sesame), provision of services (transport, rehabilitation) and industry (brewery, food-oil processing).	P. O. Box 1199, Bahir Dar Tel.: +251 58 226 1111/ +251 91 878 1035 Contact: Abebe Terefe E-mail: abebeterefe@gmail.com

Alema Farms (Alema Koudijs Feed Plc)	Contact:
Alema Farms was established to address the shortage of protein for human consumption in Ethiopia by developing improved animal production programs. Today, the integrated enterprise has a prominent position as a reliable supplier of quality animal feed (broiler layer, pig and cattle feed), chicken hatching eggs, table eggs, broiler meat, pork and processed meat products.	Debre Zeit, around Sofa Mountain P. O. Box 1423, Debre Zeit Tel.: +251 11 433 6912/ 9966 Fax: +251 11 433 5246/ 4655 E-mail: alemafarms@ethionet.et

FPMI: Fish Production and Marketing Industry	Contact:
Fish Production and Marketing Industry (FPMI) is one of the largest (and possibly the only) seafood distributors and importers in Addis Ababa. They have 3 refrigerated trucks, 3x500 metric tonne cold store facilities and four blast freezers.	

African Sustainable Aquaculture (ASA)	Contact:
With 'trade and not aid' philosophy, a group of Dutch entrepreneurs travelled to Ethiopia in 2012 to conduct a baseline study. The aim was to find out if there is a viable, sustainable strategy for driving Africa's economic and social development. We explored three different agricultural sectors in Ethiopia—fruits, vegetables and fish—to identify which of these sectors have the potential to be developed in a sustainable way. The outcome of the baseline study was that there are many business opportunities in fish. The fish sector is underdeveloped and there are no large-scale commercial aquaculture initiatives in the country yet. Therefore, the entrepreneurs decided to found Africa Sustainable Aquaculture B.V., with the aim to invest in commercial and sustainable aquaculture sectors in Africa, primarily focusing on Ethiopia. Currently, the company is in the construction phase.	http://africasustainableaquaculture.com/

Development and civil society organizations

Fish For All (FFA)	Contact:
Fish For All (FFA) is an indigenous NGO established to promote fisheries development and management in Ethiopia by encouraging and assisting small-scale fisheries and local communities around water bodies that contain fish resources.	P. O. Box 27718 Addis Ababa Tel.: +251 11 663 9414 Contact: Alayu Yalew E-mail: alayuyalew@yahoo.com

FAO Sub-Regional Office For East Africa	Contact:
For the FAO, aquaculture is a strategic sector that plays a major role in providing food security. In the face of declining fisheries, it provides an alternative source of fish protein, which is a cure for malnutrition in young children, and helps to stabilise food prices. The FAO's aquaculture programme is mostly directed towards smallholders producing fish for local markets.	P. O. Box 5536 Addis Ababa Tel.: +251 11 647 8888 Fax: +251 11 647 8800 Contact: Ana Menezes E-mail: ana.menezes@fao.org

Ethiopia Fisheries and Aquatic Sciences Association (EFASA)	Contact:
EFASA is a non-profit professional organization with more than 200 members from research and higher education institutions, the private sector, NGOs and development organizations. EFASA organizes meetings, workshops and conferences to exchange and share knowledge and information on fisheries and aquaculture.	P. O. Box 31819 Tel.: +251 11 157 3422/ +251 91 110 9022 Contact: Abebe Ameha E-mail: brklmm2008@gmail.com

COMPLETED PROJECTS

1. EU-supported *Lake Fisheries Development Project* (1992-98). The objective was to increase fish production through supplying improved fishing gear, improving the access of fisher folk and traders to credit, and facilitating marketing, etc.
2. The UN Food and Agricultural Organization (FAO) supported the formulation of the *National Aquaculture Development Strategy of Ethiopia* (April 2009).
3. *Business opportunities for aquaculture in Ethiopia* by scientists from MARES, FAO-SFE and LEI.
4. EU-supported *ACP Fish II: Strengthening Fisheries Management in ACP countries*. This was aimed at improved fisheries policies and management plans and enforcement capabilities.

ON-GOING PROJECTS

1. *The SmartFish Programme:* Implementation of a regional fisheries strategy for the Indian Ocean, and Eastern and Southern Africa.
2. *Feasibility study of the aquaculture business, fish feed and fish hatchery in Ethiopia* conducted by ABSF, Addis Chamber of Commerce, 2015.

For futher information, please refer to the report below, which also served as inspiration for the current report:

- Business opportunities for aquaculture in Ethiopia

Rothuis, A.J., Duijn, A.P. van, Kamstra, A., Dejen, E., Pijl, W. van der, Rurangwa, E., Stokkers, R. (2012) The Hague : LEI / IMARES part of Wageningen UR, 2012 (Report / IMARES 2012-003 / C035/12) - ISBN 9789086155798 - 120 p.
https://www.wageningenur.nl/en/show/Business-opportunities-for-aquaculture-in-Ethiopia-1.htm

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