Financial Services for SME Aquaculture Producers

Egypt Case study

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Diego Naziri

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Abbreviations

AfDB  African Development Bank
ARDF  Agricultural Research and Development Fund
CBE   Central Bank of Egypt
CIB   Commercial International Bank
CIS   Cooperative Insurance Society
CP    Crude Protein
EGP   Egyptian Pound
EC    European Commission
ERSAP Economic Reform and Structural Adjustment Program
EU    European Union
FAO   Food and Agriculture Organization of the United Nations
FCR   Feed Conversion Ratio
FDI   Foreign Direct Investment
FSRP  Financial Sector Reform Program
GAFRD General Authority for Fisheries Resources Development
GDP   Gross Domestic Product
GOE   Government of Egypt
GTZ   German Agency for Technical Cooperation/Deutsche Gesellschaft fuer Technische Zusammenarbeit GmbH
Ha    Hectare
MALR  Ministry of Agriculture and Land Reclamation
MFI   Micro-finance institutions
MSE   Micro and Small-scale Enterprise
MSSP  Multi Sector Support Programme
NBE   National Bank of Egypt
NEPAD New Partnership for Africa’s Development
NPL   Non Performing Loan
NRI   Natural Resources Institute, University of Greenwich
PBDAC Principal Bank for Development and Agricultural Credit
PPP   Purchasing Power Parity
SEDO  Small Enterprise Development Organisation
SFD   Social Fund for Development
SME   Small and Medium-scale Enterprise
UNDP  United Nations Development Programme
USD   United States Dollar
VCA   Value Chain Analysis

Exchange rate (January 2011): 1 USD = 5.8 EGP (Egyptian Pound)
Unit of area 1 feddan = 0.42 Ha
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I would like to thank all those who have contributed to this study in one way or another. In particular, thanks are due to the aquaculture producers in Dakahlia and Behera Governorates and to the staff of the State farms, who gave freely of their time and information.

I am also grateful to the directors and staff of the General Authority for Fisheries Resources Development (GAFRD), and in particular to those of the Department of International Agreements, Department of Aquaculture and Department of State Farms. Without their support this study would not have been possible.

Last but not least I would like to thank GTZ for providing the funds for this project. The views expressed here are not necessarily those of GTZ.
Summary

The main purpose of this case study is to assess the availability of and access to financial services by Egyptian SMEs in the aquaculture sector. A field survey took place during the second week of January 2011 in Cairo and in Behera and Dakahlia Governorates.

Some key findings:

• Although the Government of Egypt has undertaken profound reform of the national banking system financial intermediation by the banking system is still weak and the relatively low loans/deposits ratio indicates that banks have enough room if they decide to direct more of their funds to lending opportunities.

• Lending to the private business sector represents 62% of total lending of the banking system. Loans to the agricultural sector, including aquaculture, represent just 2.5% of total outstanding loans.

• Lending to SMEs, which represent more than 90% of private companies in Egypt, remains an untapped segment. Banks are usually hesitant to lend to SMEs due to the high risk associated with these companies, in terms of lack of adequate capital and assets, in addition to the fact that they are usually not registered.

• Aquaculture in Egypt has witnessed a significant and rapid expansion over the last few years. Today Egypt has the largest aquaculture industry in Africa and aquaculture is currently the main single source of fish supply accounting for almost 65% of the total fish production of the country with over 99% produced from small and medium-scale privately owned farms. Market value of annual aquaculture production amounts to over USD 1.3 billion.

• While semi-intensive fish culture in earthen ponds is, by far, the most important farming system in Egypt, last years have witnessed a rapid development of intensive systems in both tanks and cages.

• Nile tilapia is the most important aquaculture species accounting for more than 55% of the total aquaculture harvest and making Egypt the second largest tilapia producer in the world after China. Tilapia production seems to be a highly profitable business but the investment and running costs are substantial.

• Fish farmers usually rent the land directly from the Government and annual rental costs are rather low and range between 200 and 500 EGP per feddan (USD 35 – 85). Conversely the cost for purchasing the land is substantial, ranging between 50,000 and 150,000 EGP per feddan (USD 9,000 – 26,000). Usually only farmers willing to build intensive systems buy the land, since they are afraid that the rental contract might not be renewed and that the large initial investment might be lost.

• The costs for establishing an intensive production system are considerable: 250,000 – 300,000 EGP (USD 43,000 – 52,000) per feddan for the construction of the tanks and 80,000 – 120,000 EGP (USD 14,000 – 21,000) per feddan for the equipment. In desert areas an additional cost relates to the drilling of deep well that can cost as much as 150,000 EGP (USD 26,000). In comparison with the intensive system, production in ponds requires a much lower initial capital: pond construction costs between 2,000 and
3,000 EGP (USD 350 – 500) per feddan while the cost for equipment range between 1,000 and 3,000 EGP (USD 170 – 500) per feddan.

- The running costs of fish farming are very high: in semi-intensive production system they represent more than 95% of total annual production costs; while in the intensive systems, where the annual depreciation of initial investment is large, they stand for over 80% of total annual costs. Feed costs account for around 85% of annual running costs. For instance a SME with annual production of 120 t would require around 700,000 EGP (USD 120,000) per year to cover the running costs, 600,000 EGP (USD 100,000) just for the purchase of feed.

- Previous studies have already concluded that the poor access to formal credit was among the major constraints to the development of fish farming. Our findings confirm these conclusions.

- Both state-owned and private banks are reluctant to finance aquaculture projects because they do not know the sector and are not prepared for carrying out proper risk assessment analyses. The sector is considered to be high risky due, among the others, to the concerns about stock mortality. SMEs are in a particular disadvantaged position since most of Egypt’s bankers do not want to be bothered with tiny businesses wanting tiny loans. Furthermore, loans are granted only after the verification of the customer's ownership of the land but most of SMEs in the aquaculture sector do not own the land. Finally the banks ask for specific guarantees and most SMEs are not able to provide them. Accordingly, only large aquaculture enterprises have been able to obtain credit from the formal financial sector so far, at a commercial interest rate between 12% and 14%.

- Soft loans to the aquaculture sector have been provided by the Multi Sector Support Programme (MSSP) and the Agricultural Research and Development Fund (ARDF). ARDF is still running providing loans with interest rates considerably lower than the commercial interest rates (7.5% - 9.5%). Both in MSSP and ARDF program SMEs in the aquaculture sector have proved not to be particularly successful in obtaining the soft loans offered by the credit lines. Current loans to the aquaculture sector represent less than 1.5% of ARDF outstanding loans.

- Another source of soft loans for SMEs is the Social Fund for Development (SFD). It was not possible to have exact figures about the extent of SFD credit provided to the aquaculture sector but it is likely to be very small.

- While the formal and institutional financial sector seems not be as supportive as the fast development of the sector would require, other actors of the chain are a very important source of credit for the producers.

- Several large companies provide inputs to fish farmers on credit basis. Particularly important is the possibility to purchase feed on credit. Up to 100% of the cost of feed can be paid once the fish is harvested and sold. All the farmers we have met use, at least partially, this opportunity. Similarly, it is possible to purchase seed on credit basis (up to 80% of the total cost). The input suppliers do not charge any interest for the differed payment of the input. Anyway, the use of this type of credit has its drawback. The suppliers require the payment of the inputs as soon as possible at harvest time, regardless of which may be the best time to market the fish. Thus, farmers are somehow forced to harvest and sell their fish during the main season, in October-November, when the market prices are the lowest.
• Several traders offer farmers the opportunity to receive credit for the purchase of inputs. The contract between the farmer and the trade entails the sale of the fish at an agreed price. This system often leaves the farmer at a disadvantage with regard to pricing structure since usually the agreed price is lower than the market price at harvest time.

• While Egyptian banks offer a good range of savings products and these are widely available to SMEs in the aquaculture sector, no insurance system is currently available for fish farmers, unlike livestock producers. It is believed that the availability of such an instrument would improve the access to formal credit, by reducing the risk of non-payment of loans for the lending financial institutions.
Methodology

This GTZ funded case study “Financial services for SME aquaculture producers in Egypt” was carried out as part of a wider initiative entitled “Establishing a Fisheries and Aquaculture Investment Partnership”, which is being prepared by the Development Bank of South Africa, in partnership with the Natural Resources Institute (NRI), for the New Partnership for Africa’s Development (NEPAD).

The field survey for this case study took place during the second week of January 2011 (12-16 January). The focus was on the following:

- Aquaculture in Egypt, with emphasis on tilapia, the main farmed specie;
- Semi-structured interviews and discussions were held in Cairo and in Behera and Dakahlia Governorates where tilapia is widely produced;
- Direct observations were undertaken during the visits to private enterprises and fish state farms in the two Governorates;
- Value chain analysis (VCA) methodology was used to map the aquaculture sector, and assess financial services relationship between the different actors of the chain;
- As for financial services, the emphasis was on credit (loan requirements and sources of credit), savings, and insurance.

Background to the economy

Occupying the northeast corner of the African continent, Egypt is bisected by the highly fertile Nile Valley, where most of the population lives and most economic activity takes place. Administratively, it is divided into 26 Governorates. Egypt's total population is estimated at approximately 83 million.

During the last years Egypt has undertaken an ambitious programme of economic reform and liberalisation. Its success is demonstrated by GDP growth of around 7% for the past 3 years. Growth has been driven by high levels of FDI and increased exports. The government’s five-year plan for the period 2007/8 to 2011/12 includes an ambitious target for annual real GDP growth of 8%. If achieved, this would meet the need to create jobs for Egypt's fast-growing and youthful population, and allow the gradual reduction of the debt burden (AfDB, 2010a). The global financial crisis has slowed the reform efforts. The Egypt's GDP growth slowed to 4.6% in 2009, predominately due to reduced growth in export-oriented sectors, including manufacturing and tourism, and Suez Canal revenues. In 2010, the government spent more on infrastructure and public projects, and exports drove GDP growth to more than 5%, but GDP growth in 2011 is unlikely to bounce back to pre-global financial recession levels, when it stood at 7% (CIA, 2011).

Although Egypt is doing well in improving certain social and economic indicators and a recent UNDP report concluded that the country is potentially on track to meet the Millennium Development Goals, progress still needs to be made. In fact, despite the relatively high levels of economic growth over the past few years, living conditions for the average Egyptian remain poor. The GDP per capita is around USD 2,300 while it is estimated at USD 5,600 at PPP (World Bank, 2010). According to United Nations figures, some 20% to 25% of the population lives below the poverty line.
Financial sector profile

The banking system in Egypt is a cornerstone of its financial architecture and evidently plays a crucial role in overall economic development and growth.

During the 1990s, at the time of Egypt’s Economic Reform and Structural Adjustment Program (ERSAP), banking performance was unable to keep pace with other sectors. The banking sector was dominated by four large public banks: National Bank of Egypt (NBE), Misr Banque, Banque du Caire and Bank of Alexandria. As a result of long existence in the Egyptian market and accordingly, having huge number of branches serving greater share of the population compared to the private banks, the public banks constituted approximately 60% of banking assets in 2003. The problem was that these banks had a huge amount of Non Performing Loans “NPLs”, resulting mainly from extending large portions of loans to distressed public enterprises, in addition to having a lack of adequate risk management practices (Global Investment House, 2008).

Therefore, the government decided to restructure the banking system. Banking reform gained full momentum in October 2004, with the establishment of a new and business-oriented reformist cabinet (American Chamber of Commerce in Egypt, 2008). This was part of a wider four-year Financial Sector Reform Program (FSRP). A new banks law, the Consolidated Banks Law, was enacted in accordance with the international prudential standards of the Basle II agreements and contributes to strengthening the Egyptian banking structure by improving prudential ratios and governance rules (www.animaweb.org). Consolidation and liberalization are integral parts of this ongoing reform program which aims to reach fully efficient banking system. As part of the reform program, the Egyptian banking system is being substantially revised, with the exit of several weak banks, large scale financial restructuring, divestiture of state shares in joint venture banks, and regulatory reforms. The Central Bank of Egypt (CBE) is responsible for supervision, control, and regulation of the banking sector and for issuing licences. The new law abolished the distinction between commercial, business, and specialised banks. The full implementation of the program will reduce state participation to 43% of total banking assets (AfDB, 2010b). A large number of mergers and acquisitions took place between 2004 and 2007. This resulted in a reduction of the number of banks from 61 banks in 2004 to 39 banks in 2009 (27 private banks, 5 public banks, and 7 joint venture banks) and raising the number of branches from 2,783 branches to a current number of 3,443 branches (www.cbe.org.eg). In general, banks tend to concentrate on the urban population. State-owned banks have the largest (2,088 branches) and most balanced branch network overall, although their presence is still greater in urban than in rural areas. The reform promoted the competition within the sector and, nowadays, most banks provide a wide range of products and services including house and car loans, credit and ATM cards services, automated machines and 24-hour services, capital markets and investment banking activities, along with the traditional banking activities. This intense competition is expected to enhance the banks’ profitability by attracting greater client base through providing better quality of products and services to the public (Global Investment House, 2008).

Even though Egypt is currently moving towards becoming the biggest financial center in the region (AfDB, 2010b) financial intermediation by the banking system is weak by international standards: according to official statistics for the year 2009 savings are high and banks collect large deposits amounting to EGP 810 billion (around 75% of GDP), but they lend little, as much as EGP 430 billion (www.cbe.org.eg). The relatively low loans/deposits ratio indicates that banks have enough room if they decide to direct more of their funds to lending opportunities. One of the reasons for such little lending is that credit information and market information systems remain weak in Egypt. Bankers and firms have difficulty making sound credit decisions due to lack of information on clients’ creditworthiness and sector-related
statistics. Progress has taken place, however, with the first credit information company being established in 2007 with participation by more than 32 banks (AfDB, 2010b). Around 70% of total banks' loans are in local currency and lending to the private business sector represents 62% of total lending (the remaining to the public and household sectors). According to the CBE statistics, most of loans to the private business sector in 2009 went to the industrial sector, as this sector contributed to 43% of loans. Then come the services sector (35%), the trade sector (20%) and the agricultural sector, including aquaculture (just 2.5%).

The microfinance sector remains largely undeveloped, with an estimated number of active beneficiaries of microcredit of no more than 1.2 million, compared to an estimated demand of 21 million people. Nearly 450 microfinance institutions operate in the country and the largest 15 serve nearly 85% of the beneficiaries. Prevailing products include individual loans to finance existing small and medium enterprises (SMEs), which account for roughly 50% of the beneficiaries, and solidarity group loans to finance people with limited income, especially women, accounting for around 48% of the beneficiaries (AfDB, 2010b).

Lending to SMEs, which represent more than 90% of private companies in Egypt, remains an untapped segment. Banks are usually hesitant to lend to SMEs due to the high risk associated with these companies, in terms of lack of adequate capital and assets, in addition to the fact that they are usually not registered. As for the SMEs, interest rates could be high, making the cost of finance through banks higher. These factors explain the low banking penetration of this segment. However part of the current reform plan is to facilitate access to credit for SMEs. In particular the government encourages the registration of SMEs, which could reduce the reluctance of banks to SMEs lending, through the provision of collateral. If this happens, along with the presence of a credit bureau and its role in minimizing default risk, growth potential in this segment is expected to be high (Global Investment House, 2008).

Non-bank finance remains moderately developed in Egypt, as financial institutions face obstacles that range from the lack of well-functioning and efficient means of registering and enforcing property rights and limited information on potential clients and borrowers (AfDB, 2010b).

Finally, Egypt’s insurance sector is small compared to the size of the economy and largely publicly owned. Only around one million Egyptians use insurance products. Total insurance premiums represent about 0.8% of GDP, and assets amount to less than 3% of GDP, low ratios by comparison with other middle-income countries. The four largest insurers are majority state-owned, accounting for about 70% of premiums. However, more foreign insurers are entering the market. In May 2008, the insurance law was amended to strengthen the role of the Egyptian Insurance Supervisory Authority, to allow for banks' involvement in marketing of insurance products and to require companies to specialize in either life insurance or property insurance (AfDB, 2010b).

**Overview of the aquaculture sector**

The development of modern aquaculture in Egypt began two decades ago following which the sector has witnessed a significant and rapid expansion over the last few years leading to a sharp increase in production. This sector is exhibiting the strongest growth of any fisheries related activity in the country and, as a result, aquaculture is considered as the only viable option for reducing the current gap between production and consumption of fish in Egypt (FAO, 2010).
Egypt has the largest aquaculture industry in Africa and aquaculture is currently the main single source of fish supply in Egypt accounting for almost 65% of the total fish production of the country (Figure 1) with over 99% produced from privately owned farms. Total aquaculture production in 2008 reached 693,815 tonnes (GAFRD, 2009). The total market value amounts to over USD 1.3 billion (FAO, 2010).

Aquaculture does not only contribute to national GDP and food security but it is important to diversify the national economy and as source of employment opportunities. Even though no accurate statistics exist on the number of people involved in aquaculture, FAO estimates between 37,000 and 43,000 persons running small scale family fish farms; around 25,000 persons working as hired staff in fish hatcheries and larger aquaculture farms; and around 1,000 persons working in government run hatcheries, fry collection stations, juvenile production facilities and fish farms (FAO, 2010).

Except for a very limited number of isolated instances, most aquaculture activities are located in the Nile Delta Region and concentrated mainly in the Northern Lakes areas (Figure 2). Aquaculture is practiced using a variety of systems with varying levels of technology. So far the majority of farmed fish are either freshwater species or those that can grow in brackish water. The production of fish and crustaceans in marine water is still in its early stages and its development is still influenced by technical and economical problems.
It is possible to identify the following production systems:

- **Traditional extensive farming system**: it is characterized by low level of intervention, limited use of inputs, low capital investment and poor management. These farms were constructed by reinforcing embankments of natural enclosures, like lagoons, rivers and lakes. The size of these enclosures (hosha) varies from 2 to 50 feddan (1-20 Ha). Fish (mainly tilapia) are trapped in the hosha and rely on natural food. The net yield from these systems is low and varies from 100 to 300 Kg/feddan (250-750 Kg/Ha). The practice has recently been prohibited, because of the destructive effects on lake fisheries and the environment. However, hosha culture is still illegally practiced in some areas and the production from these systems is generally not captured in aquaculture production statistics (El-Sayed, 2007).

- **Semi-intensive fish culture in earthen ponds**: it is, by far, the most important farming system in Egypt. Semi-intensive pond aquaculture is the basic system used in the country and about 86% of aquaculture production is obtained from these systems. Most of the farms are located in the northern and eastern parts of the Nile Delta where they utilize both brackish and freshwater. Fish ponds vary in size from 1 to 25 feddan (0.5-12 Ha). Polyculture is the most common type of production but monoculture of Nile tilapia is also practiced in many areas. The stocking densities, energy input, level of management as well as the size and type of infrastructure vary greatly among different farms.
Sayed, 2007). Annual production in semi-intensive systems varies from 2 to 10 tonnes/feddan (5-25 tonnes/Ha).

- Intensive cage culture: it is rapidly developing and now contributes to around 10% of total aquaculture production. Nile tilapia is the principal cage culture species. The sizes of the cages vary from small cages of around 32 m$^3$ to larger cages of around 600 m$^3$. Smaller cages (2–4 m$^3$) suspended in drainage canals are also used in rural areas. The yield varies between 5 to 35 Kg/m3 (El-Sayed, 2007).

- Intensive pond culture: it is another rapidly developing sector during the last ten years. Concrete tanks are used within integrated aquaculture and desert agriculture systems. This type of production is gaining an increasing acceptance as a result of the high rate of return on the utilization of water. The total number of registered farms is currently 530 with an annual production of 6,300 tonnes, 0.9% of total production (FAO, 2010) Nile tilapia (mainly monosex) is the major cultured species. Annual production ranges from 40 to 60 tonnes/feddan.

Figure 3 - Pond construction

Figure 4 - Semi-intensive system

Figure 5 - Fish harvesting

Figure 6 - Tank construction
Table 1 shows some characteristics of the production systems in the research area.

### Table 1 - Production system in Behera and Dakahlia Governorate

<table>
<thead>
<tr>
<th>Production system</th>
<th>Size of the farm</th>
<th>Size of the pond/tank</th>
<th>Fertilization and feeding</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extensive</td>
<td>5-100 feddan</td>
<td>2-50 feddan</td>
<td>Depends mainly on available natural food, without fertilization</td>
<td>0.1-0.3 t/feddan</td>
</tr>
<tr>
<td>Semi-Intensive</td>
<td>5-100 feddan</td>
<td>1-25 feddan</td>
<td>2–5 tonnes manure/ha + superphosphate + urea; 25% CP feed</td>
<td>2-10 t/feddan</td>
</tr>
<tr>
<td>Intensive (tank)</td>
<td>1-5 feddan</td>
<td>100-300 m³</td>
<td>35–40% CP feeds at the beginning, reduced to 25% CP during fattening</td>
<td>40-60 t/feddan</td>
</tr>
</tbody>
</table>

CP = crude protein

Source: El-Sayed (2007) and author's field survey.

Nile tilapia is the most important aquaculture species accounting for more than 55% of the total aquaculture harvest in 2008, followed by flathead grey mullet (30%), common carp (10%) and catfish (3%). Egypt is the second largest tilapia producer in the world after China. The European sea bass, sea bream and meagre are also produced in limited amounts in marine fish farms (GAFRD, 2009).

In spite of the significant growth in production, Egypt is not self sufficient and it is a net importer of fish products. Between 1992 and 2007 imports increased by 95% in quantity to 259,000 tonnes reflecting the strong growth in annual per capita consumption during the same period: from 8.5 to 15.5 kg (GAFRD, 2009).

The marketing system for fish is simple but efficient. The market is controlled by a limited number of large wholesalers who determine the market price mainly in response to supplies and demand. Farmers are free to sell their products either through wholesalers or directly to retailers. In all major cities there is usually an official wholesale market where producers can bring their product. Here fish are auctioned daily (El-Gayar, 2003). Farmers may also have informal agreements with wholesalers who purchase their harvest directly from the farm site. Sometimes smaller fish farms sell directly to the consumer.

Aquaculture in Egypt exhibits a strongly seasonal pattern, due to seasonal temperature variations affecting fish growth and survival (e.g., tilapia), and due to the reliance on wild fry for marine species, which are available only on a seasonal basis (e.g., mullet). Accordingly, most of the annual production from farms arrives on the market within a short period. Most fish produced in Egypt are landed, distributed and consumed in fresh form. The processing industry is still in its infant phase.

In its development strategy, the Ministry of Agriculture and Land Reclamation (MALR) plans to increase Egypt's total aquaculture production to 1 million tonnes by 2017 despite the fact that most of the land suitable for pond aquaculture is already in use. According to the General Authority for Fisheries Resources Development (GAFRD), a subsidiary of MALR responsible for all planning and control activities related to fish production, a large proportion of the targeted growth can be reached by converting traditional farms to intensive pond culture systems. To encourage transformation of traditional aquaculture to intensive farming systems, GAFRD has recently issued a decree limiting public land leases for aquaculture to
a maximum of 10 hectare. Anyway a major constraint to aquaculture development is the limited freshwater resources. Water usage is considered a national security issue and priority is given to potable water and crop irrigation. Currently the law prohibits aquaculture projects from drawing surface water, leaving more than 90% of the country’s fish farms to operate on agricultural drainage water, very often with high amount of pesticide residues. The Parliament is currently discussing whether to amend the law in order to promote the development of the sector and reduce the risk of consumers’ food poisoning.
Economics of fish farming

According to the information gathered both by the officers of GAFRD and fish farmers, tilapia production seems to be a highly profitable business. Table 2 presents the basic economics of fish farming for two different production systems: one semi-intensive production in ponds and one intensive production in tanks.

Table 2 – Economics of tilapia fish farming

<table>
<thead>
<tr>
<th>Item</th>
<th>Sem-intensive (ponds)</th>
<th>Intensive (tanks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% run. cost</td>
<td>% tot. cost</td>
</tr>
<tr>
<td>N. of units</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Area/unit (feddan)</td>
<td>2</td>
<td>0.05 (= 210 m²)</td>
</tr>
<tr>
<td>Actual aquaculture area (feddan)</td>
<td>20</td>
<td>1.2</td>
</tr>
<tr>
<td>Total rented area (feddan)</td>
<td>25</td>
<td>2.5</td>
</tr>
<tr>
<td>Cost for land rental (EGP/feddan)</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Construction cost (EGP/feddan)</td>
<td>2,500</td>
<td>280,000</td>
</tr>
<tr>
<td>Equipment cost (EGP/feddan)</td>
<td>2,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Seed (n./feddan)</td>
<td>30,000</td>
<td>240,000</td>
</tr>
<tr>
<td>Survival rate</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>Price of seed (EGP/1.000 seed)</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Fish size at harvest (pieces per Kg)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>FCR (Feed Conversion Ratio)</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Annual production (t)</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Annual feed consumption (t)</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>Price of feed (EGP/Kg)</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Salary permanent worker (EGP/year)</td>
<td>9,000</td>
<td>9,000</td>
</tr>
<tr>
<td>Salary seasonal worker (EGP/day)</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Tilapia price (EGP/Kg)</td>
<td>8.75</td>
<td>10</td>
</tr>
<tr>
<td>Initial investment (EGP)</td>
<td>112,500</td>
<td>950,000</td>
</tr>
<tr>
<td>Construction</td>
<td>62,500</td>
<td>700,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>50,000</td>
<td>250,000</td>
</tr>
<tr>
<td>Fixed costs (EGP/year)</td>
<td>18,133</td>
<td>2.5</td>
</tr>
<tr>
<td>Construction depreciation (8%, 20 years)</td>
<td>6,111</td>
<td>0.8</td>
</tr>
<tr>
<td>Equipment depreciation (8%, 5 years)</td>
<td>12,022</td>
<td>1.7</td>
</tr>
<tr>
<td>Running cost (EGP/year)</td>
<td>707,460</td>
<td>97.5</td>
</tr>
<tr>
<td>Land rental</td>
<td>8,750</td>
<td>1.2</td>
</tr>
<tr>
<td>Seed</td>
<td>30,000</td>
<td>4.2</td>
</tr>
<tr>
<td>Feed</td>
<td>594,000</td>
<td>81.9</td>
</tr>
<tr>
<td>Organic fertilizers</td>
<td>3,000</td>
<td>0.4</td>
</tr>
<tr>
<td>Chemical fertilizers</td>
<td>1,500</td>
<td>0.2</td>
</tr>
<tr>
<td>Permanent labour</td>
<td>27,000</td>
<td>3.8</td>
</tr>
<tr>
<td>Seasonal labour</td>
<td>4,000</td>
<td>0.6</td>
</tr>
<tr>
<td>Fuel/electricity</td>
<td>9,000</td>
<td>1.3</td>
</tr>
<tr>
<td>Other (maintenance, license)</td>
<td>3,000</td>
<td>0.4</td>
</tr>
<tr>
<td>Interest on the running cost (8%)</td>
<td>27,210</td>
<td>3.8</td>
</tr>
<tr>
<td>TOTAL COST (EGP/year)</td>
<td>725,593</td>
<td>100.0</td>
</tr>
<tr>
<td>TOTAL INCOME (EGP/year)</td>
<td>1,050,000</td>
<td>1,200,000</td>
</tr>
<tr>
<td>PROFIT (EGP/year)</td>
<td>324,407</td>
<td>374,775</td>
</tr>
<tr>
<td>RUNNING COST PER KG (EGP/Kg)</td>
<td>5.9</td>
<td>5.8</td>
</tr>
<tr>
<td>TOTAL COST PER KG (EGP/Kg)</td>
<td>6.0</td>
<td>6.9</td>
</tr>
<tr>
<td>PROFIT PER KG (EGP/Kg)</td>
<td>2.7</td>
<td>3.1</td>
</tr>
<tr>
<td>PROFIT PER LAND UNIT (EGP/feddan)</td>
<td>12,976</td>
<td>149,910</td>
</tr>
</tbody>
</table>
The annual production of the two presented systems is the same, namely 120 t per year. As already mentioned, the yield in semi-intensive systems is significantly lower than in intensive systems: we have assumed 6 t/feddan and 40 t/feddan, respectively. The former system requires a total area of 24 feddan (about 10 Ha) while the size of the intensive farm is only 2.5 feddan (about 1 Ha). It is worth while mentioning that in the semi-intensive systems about 80% of the land is actually occupied by the ponds, the rest being taken by canals and roads. In the case of production in tanks, only half of the area is occupied by the tanks themselves, while the remaining area is taken by roads and space among the tanks (usually they have a round shape).

Fish farmers usually rent the land directly from the Government (GAFRD). This implies that the level of efficiency and the level of investment and dedication to farm profitability is suboptimal due to uncertainty about the renewal of the contract. The traditional length of the lease contract is 5 years but the GoE is now considering contracts for longer periods, up to 15 years, in order to provide stability to the business environment. Annual rental costs are rather low and range between 200 and 500 EGP per feddan (USD 35 – 85), according to the source and quantity of available water. This reflects the governmental policy which discourages the sale of land and promotes the development of aquaculture in the country. Conversely the cost for purchasing the land is substantial, ranging between 50,000 and 150,000 EGP per feddan (USD 9,000 – 26,000). Usually only farmers willing to build intensive systems buy the land, since they are afraid that the rental contract might not be renewed and that the large initial investment might be lost. The costs for establishing an intensive production system are considerable: 250,000 – 300,000 EGP (USD 43,000 – 52,000) per feddan for the construction of the tanks and 80,000 – 120,000 EGP (USD 14,000 – 21,000) per feddan for the equipment (pumps, aerators, greenhouses and, sometimes, heaters). In desert areas an additional cost relates to the drilling of deep well that can cost as much as 150,000 EGP (USD 26,000). In comparison with the intensive system, production in ponds requires a much lower initial capital: pond construction costs between 2,000 and 3,000 EGP (USD 350 – 500) per feddan while the cost for equipment (usually only pumps and lock gates) range between 1,000 and 3,000 EGP (USD 170 – 500) per feddan.

The running costs of fish farming are very high: in semi-intensive production system they represent more than 95% of total annual production costs; while in the intensive systems, where the annual depreciation of initial investment is large, they stand for over 80% of total annual costs. Feed costs account for around 85% of annual running costs and 82% and 72% of total annual costs for production in ponds and tanks, respectively. For instance average SMEs, as the ones presented in table 2, would require around 700,000 EGP (USD 120,000) per year to cover the running costs, 600,000 EGP (USD 100,000) just for the purchase of feed. Other major running costs are for seed and labour but they pale in comparison to the cost for feed.

The running costs are particularly an issue for semi-intensive production systems. Fish in ponds is harvested between October and January since tilapia does not tolerate cold temperature: starting from October/November it stops eating but it can still survive for a couple of months longer, although losing some weight. Conversely, in tanks climatic conditions are controlled and the farmer, if the system is properly managed, can decide to harvest whenever he wants, for example every two months. On the one hand, that means that proceeds will be turned over several times a year, thus reducing the problem to cover all the annual running costs before any sale may be done (as it happens in case of production in ponds). On the other hand, this allows the farmer to sell its product when the market is not saturated and prices are higher: in the year 2010 the average price of tilapia ranged between 8 EGP/Kg and 11 EGP/Kg, according to the season. The possibility of selling the fish at higher price leads to higher profit in the intensive systems than in semi-intensive systems.
(3.1 EGP/Kg and 2.7 EGP/Kg, respectively), in spite of its higher production cost per kilogram.

**Overview of financial services in the aquaculture sector**

The main purpose of this case study is to assess the availability of and access to financial services by Egyptian SMEs in the aquaculture sector. The focus is on savings, insurance and credit facilities, with a particular emphasis on the latter.

Egyptian banks offer a good range of savings products and these are widely available. All farmers met during the field survey hold banking accounts. Interest rates for deposit are of the order of 8% - 9% p.a., compared to an annual inflation rate of 11% in 2010 ([www.indexmundi.com](http://www.indexmundi.com)).

Even though the global aquaculture insurance market has increased considerably in the last decades (in 2006 the number of aquaculture insurance policies in force was estimated at around 8,000 worldwide), some regions such as Africa are barely covered (Anrooy et al., 2006). Egypt makes no exception and no insurance system is currently available for fish farmers, unlike livestock producers. Since aquaculture is a high-risk activity involving greater risk than in other food production industries (Pillay, 1994), the availability of such an instrument would greatly contribute to the development of the sector by, among the others, ensuring more stable incomes and increasing incentives to invest in the development of the farms. Furthermore, it would improve the access to formal credit, by reducing the risk of non-payment of loans for the lending financial institutions.

According to the result of a survey carried out by 15 fish farms in the Behera Governorate, 87% of farmers had obtained a loan from either formal or informal sources and only the remaining 13% had fully financed their business with their own equity. Nevertheless the lack of access to credit was considered among the major constraints to the development of fish farming (El-Naggar et al., 2008). Similarly, Zwrin (2002) and El-Gayar (2003) state that inequity in access to capital may be the most salient obstacle to the successful long-term development of a high-yield, politically and socially viable aquaculture sector.

According to the information collected during the field survey and provided by people working in the financial institutions, several Egyptian banks provide credits to the aquaculture sector. Some are state-owned commercial banks, such as the Principal Bank for Development and Agricultural Credit (PBDAC), NBE and the Misr Banque, while others are private commercial banks, such as the Commercial International Bank (CIB).

Both state-owned and private banks are reluctant to finance aquaculture projects because they do not know the sector and are not prepared for carrying out proper risk assessment analyses. The sector is considered to be high risky due, among the others, to the concerns about stock mortality. SMEs are in a particular disadvantaged position since most of Egypt’s bankers do not want to be bothered with tiny businesses wanting tiny loans. Furthermore, loans are granted only after the verification of the customer's ownership of the land but, as already mentioned, most of SMEs in the aquaculture sector do not own the land. The director of the Department of Finance Programs of CIB has pointed out that the bank would be ready to change its policy and to grant loans to finance projects in rented lands if the rental contracts would last longer, that is for a period of time long enough to guarantee the return of the investment and, thus, the repayment of the loan. The recent possibility to have longer-term leases and the GARFD policy to issue even longer lease contracts in the near
future are likely to greatly enhance the credit access opportunities for SMEs in the aquaculture sector.

## Principal Bank for Development and Agricultural Credit (PBDAC)

Since 1930, PBDAC was established under the name of Agricultural Credit Bank as the first specialized bank dedicated to grant loans to farmers (www.pbdac.com.eg). Currently it is considered to be the largest specialized credit institution in Egypt. Loans are offered to cover both running and investment costs in agriculture. Short-term loans are offered to cover the running costs, while medium and long-term loans are offered for the establishment and development of the enterprise.

The bank has an extensive network of branches all over the country that eases the access to its financial services even in rural areas. The current deposits and outstanding loans amount EGP 28.5 billion and EGP 13.9 billion, respectively (at June 2010). It was not possible to gather figures about the loan portfolio by sector and type of activity but only a negligible part of loans is likely to be given to the aquaculture sector.

## Commercial International Bank (CIB)

CIB was established in 1975 as a joint venture between NBE (51%) and the Chase Manhattan Bank (49%) under its original name Chase National Bank of Egypt. Following Chase’s decision to divest its equity stake in 1987, NBE increased its shareholding to 99.9%, and the Bank changed its name to Commercial International Bank.

During the 90s, as part of its privatization strategy, CIB successfully launched a public share issue resulting in a decrease of the major shareholder's stake to 23%, while CIB and NBE employees became the owners of 16% of the Bank's capital. The remaining 61% was sold to Egyptian, Arab and multinational investors, including the International Finance Corporation.

In 1999, CIB launched its retail banking activity offering a wide range of products and services aiming at diversifying CIB income mix, and capitalizing on CIB strong corporate base. In 2003, CIB signed a contract with IFC whereby IFC would offer consultancy in developing the SMEs business. CIB now stands at a 5% market share in loans (public banks included), with plans for increasing this share to 10%, cross-border expansion, stock listing and regional presence.

The current deposits and outstanding loans amount EGP 54.8 bln and EGP 27.3 bln, respectively. Industrial and services sector dominate and account for 39% and 38% of the loan portfolio, respectively (CIB, 2010). Only 0.24% (around EGP 70 million) of outstanding loan is given to the agricultural sector, although it is likely that some related investments have been classified under other sectors, such as trade. Credit to the aquaculture sector is a marginal activity.

A further obstacle is that the banks require accurate feasibility studies or business plans for the investment in order to verify its ability to achieve enough surplus for repayment. Credit seekers, possibly illiterate, often don’t know how to present their projects to financial institutions and have little chance to fulfill the bank’s requirements. Finally, the banks ask for
specific guarantees such as fixed assets (e.g., house, buildings), movable assets (e.g., agricultural machineries and equipment) or savings certificate and most SMEs are not able to provide these guarantees.

Accordingly, only large aquaculture enterprises have been able to obtain credit from the formal financial sector so far at a commercial interest rate between 12% and 14%. Anyway, most fish farmers met during the field survey stated that they would not be much interested to receive loans at such conditions since they found that the interest rate is too high.

Between 1996 and 2004 soft loans were provided to the aquaculture sector by the Multi Sector Support Programme (MSSP), a development programme of the Ministry of Agriculture and Land Reclamation (MALR) which was funded by the European Commission (EC). The overall objective of MSSP was to increase income and job opportunities in the rural areas and to increase food production through the provision of financial and technical support to farmers and agricultural entrepreneurs involved in production, processing and marketing activities. The main target groups were the small and medium scale farmers. MSSP provided loans for investment in four distinct sectors: horticulture; poultry, aquaculture and irrigation & drainage development. With regard to aquaculture MSSP focused particularly on some specific type of activities:

- Intensification of existing production operations (funding of running costs, especially inputs including fry, feeds, and energy).
- Development of freshwater hatcheries to produce mono-sex tilapia fry (in order to reduce the shortage of supply).
- Development of marine hatcheries and nurseries (mainly for mullet, sea bass, sea bream and shrimps).
- Investment in feed mills and extrusion plants (in order to reduce the shortage of supply in terms of quality and quantity).
- Investment in improved marketing facilities (mainly ice production units, refrigerated storage and refrigerated or insulated vehicles).

Out of 546 approved loans by MSSP, only 84 (15.4%) have been disbursed to the aquaculture sector. An overall amount of EGP 28.2 million (8.6%) was allocated to the sector, with a mean loan size of EGP 335,000 (Table 3).

Table 3 - Sector Allocations for MSSP Approved Loans

<table>
<thead>
<tr>
<th>Sector</th>
<th>No. of Loans</th>
<th>Amount</th>
<th>Percentage</th>
<th>Mean Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LE</td>
<td>%</td>
<td>LE</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>84</td>
<td>28,169,000</td>
<td>8.6</td>
<td>335,345</td>
</tr>
<tr>
<td>Horticulture</td>
<td>156</td>
<td>104,666,244</td>
<td>32.1</td>
<td>670,937</td>
</tr>
<tr>
<td>Irrigation &amp; Drainage</td>
<td>182</td>
<td>51,419,803</td>
<td>15.8</td>
<td>282,526</td>
</tr>
<tr>
<td>Poultry</td>
<td>124</td>
<td>141,478,138</td>
<td>43.4</td>
<td>1,140,953</td>
</tr>
<tr>
<td>Total</td>
<td>546</td>
<td>325,733,185</td>
<td>100.0</td>
<td>596,581</td>
</tr>
</tbody>
</table>

Source: [www.vakasis.org](http://www.vakasis.org)
In 2004, at the end of MSSP, the revolving fund of the program was handed over to MALR and merged to other EU-funded credit lines in order to set up a new fund to support SMEs in the agricultural sector: the Agricultural Research and Development Fund (ARDF). ARDF is still running.

Since its inception ARDF has approved 39 loans to the aquaculture sector for an overall amount of EGP 12.3 million. The mean loan size is EGP 315,000 (CIB, 2011). The current number of outstanding loans to the aquaculture sector is just 24 (out of 931, 2.58% of ARDF loans) for an overall value of EGP 4.2 million (out of EGP 350 million, 1.21%). Over 90% of borrowers are SMEs farming fish.

Both in MSSP and ARDF program SMEs in the aquaculture sector have proved not to be particularly successful in obtaining the soft loans offered by the credit lines and, once the program was completely handed over to the GoE, the relevance of the sector further lessened. According to the CIB officer met in Cairo the main reason was the banks’ lack of knowledge of the sector despite the efforts in training the bankers through the organization of MSSP-funded specific workshops and seminars about the economic viability of fish farming projects. Moreover, the problem of lack of land ownership was again mentioned.
The successful story of Mohamed

Mohamed has been working in the GAFRD Department of Fish State Farms for many years when, like several other colleagues, he decides to invest his savings and capitalize the acquired experience by starting his own business. In 1992 he establishes a 10 feddan semi-intensive fish farm in the Sharkia Governorate. The business is profitable but Mohamed sees bright perspectives in the intensification of the production techniques. In 2004 he sells its farm and, thanks to an EGP 350,000 MSSP soft loan obtained by NBE at 7.5% interest rate, he establishes a 2.5 feddan intensive farm in the Behera Governorate. The loan covers 50% of the investment cost for the construction of the tanks, the well and the required equipment. The current farm is considerably more profitable than the previous one. Mohamed can repay the loan in only 4 years and today he is very proud of his business.

Figure 11 - The ARDF leaflet for aquaculture

An example of ARDF funds channeled through a Participating Bank (NBE)

NBE is one of the Participating Banks in the ARDF scheme. The types of activities funded are basically the same as the ones supported under the MSSP scheme.

The maximum loan size for aquaculture activities provided by NBE under the ARDF scheme is EGP 0.5 million for individual farmers and EGP 5 million for farmers’ associations and joint ventures. The loan may cover either running costs or investment costs (up to 60% of the total initial investment). There are three types of loans: short term (repayment is at the end of the 12 month period), medium term (repayments at six monthly intervals with up to one year grace period) and long term (repayments at six monthly intervals with up to two year grace period). Presently the interest rates are considerably lower than the commercial interest rates: 7.5%, 8.5% and 9.5%, respectively. The main condition to access the scheme is the land that must be owned by the applicant or under a rental contract long enough to ensure the return of the investment and the repayment of the loan. Furthermore the feasibility study has to be approved by the bank and some guarantees should be provided in the form of fixed or mobile assets (www.nbe.com.eg).
Another source of credit for SMEs in the aquaculture sector is the Social Fund for Development (SFD). It was established in 1991 with the support of the World Bank and EU following the ERSAP with the aim of acting as a safety net to protect vulnerable groups against the adverse effects of the economic program, as a suitable organisation for creating jobs at all skill levels through the development and growth of both start-ups and existing small enterprises, especially for new entrants in the labour market, primarily young graduates, who make up over 80% of the total unemployed population (AfDB, 2006; World Bank, 1998).

SFD, established as the main funding vehicle for channelling government and donor resources to the poor, has shifted its emphasis from being a short-term emergency fund to become a long-term permanent institution, following legislation change in 1999. Since then SDF is the entity competent with fostering the development of small and very small enterprises and with planning, coordination and promotion for their dissemination on a wide scale, through the provision of financial and technical assistance. Under the Law 141/2004 for Small Enterprise Development, SFD is responsible for mobilising resources and synchronizing efforts with the aim of formulating appropriate mechanisms focused on the accelerated development of the subsector.

Egyptian farmers willing to access SFD funds should apply for loans in one of the several banks participating in the program. Some banks accept application from individual farmers (e.g. the Misr Banque) while some others only from cooperatives and farmers’ associations (e.g. NBE). There is not any specific program for aquaculture; rather it is included in the broader “Program for Support to Agriculture”. It was not possible to have exact figures about the extent of SFD credit provided to the aquaculture sector but it is likely to be very small. The loan size offered by NBE to cooperatives and association is between EGP 200,000 and EGP 5 million. The interest rates are reviewed each year by the individual bank and are considerably lower than the commercial interest rate. For instance, currently the interest rates from the Misr Banque are between 7% and 9% for loans under EGP 50,000 and between 11% and 13% for larger loans (EGP 200,000 – 500,000).

In order to facilitate access to SDF funds for small enterprises, the Cooperative Insurance Society (CIS) for small and medium enterprises was established by SFD as an independent and autonomous entity. Operating under the insurance law, and consequently supervised by the Egyptian Insurance Supervisory Authority, CIS provides credit guarantee services to small enterprises borrowing SFD funds through intermediary banks. Under the scheme, CIS guarantees payment of 80% principal owed by the defaulting micro-small enterprise (MSE) while the Small Enterprise Development Organisation (SEDO) takes the risk of 10% and the financial intermediary take the remaining 10%. As a result of the scheme, financial intermediaries do not require any additional collaterals or third party guarantees from the clients (AfDB, 2006).

During the field survey it was mentioned that in the Kafr El-Sheikh Governorate SDF provides very small loans (under EGP 50,000) for tilapia cage culture enterprises to new university graduates who cannot find jobs within the public or private sector. The government funds the feasibility study (free of charge), assists in the construction of cages, site selection, and sometimes provides seed at a subsidised price.

In order to enhance the poor access to SDF credit schemes by the aquaculture sector, GAFRD is now planning to act as intermediary between state-owned banks and the individual borrowers.

According to the information collected during the field survey micro-finance institutions (MFI) in Egypt do not represent a suitable alternative given their high interest rates. Indeed no fish farmer uses this type of source of credit to fund his activities.
The Cooperative Union for Water Resources may theoretically be another source of credit for the aquaculture sector but it seems that, due to the very small size of the loans (below EGP 50,000), this is not suitable to the need of fish farming. Rather it supports the purchase of small boats and engines for the fishing activity.

While the formal and institutional financial sector seems not be as supportive as the fast development of the sector would require, other actors of the chain are a very important source of credit for the producers.

Several large companies provide inputs to fish farmers on credit basis. Usually they distribute the inputs through a network of agents that strongly compete among them. Particularly important is the possibility to purchase feed on credit since, as seen above, the cost for feed represents the most important annual expenditure for the farmers (over 80% of running costs). The most important providers of feed on credit in Egypt are Al Morshedy and Joe Trade companies: up to 100% of the cost of feed can be paid once the fish is harvested and sold. All the farmers we have met use at least partially this opportunity. Similarly, it is possible to purchase seed on credit basis (up to 80% of the total cost). The input suppliers do not charge any interest for the differed payment of the input.

While this informal source of credit is extremely important and it supports the development of the national aquaculture, the use of this type of credit has its drawback. The suppliers require the payment of the inputs as soon as possible at harvest time, regardless of which may be the best time to market the fish. Thus, farmers are somehow forced to harvest and sell their fish during the main season, in October-November, when the market prices are the lowest. The more the farmers use input on credit, the less the freedom to choose to delay the harvest and wait for market price to increase.

Finally, several traders offer farmers the opportunity to receive credit for the purchase of inputs. The contract between the farmer and the trade entails the sale of the fish at an agreed price. This system often leaves the farmer at a disadvantage with regard to pricing structure since usually the agreed price is lower than the market price at harvest time. Accordingly, this type of contract is commonly used only during the first few years of activities while, once the business is consolidated the farmers prefer not to rely on this type source of credit.
Annex 1: People and organizations met in Egypt

<table>
<thead>
<tr>
<th>Date</th>
<th>Name/Position</th>
<th>Organization</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 Jan 2011</td>
<td>Travel by air from London to Cairo, arrival at midnight.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 Jan 2011</td>
<td>Mr. Tareq Ali, Director</td>
<td>Department of Aquaculture, General Authority for Fisheries Resources Development (GAFRD)</td>
<td>Cairo</td>
</tr>
<tr>
<td>12 Jan 2011</td>
<td>Mr. Mohamed El-Gazzar, Director</td>
<td>Department of State Farms, General Authority for Fisheries Resources Development (GAFRD)</td>
<td>Cairo</td>
</tr>
<tr>
<td>12 Jan 2011</td>
<td>Mr. Alaa Wali, Director</td>
<td>Manzala State Fish Farm</td>
<td>El Manzala, Dakahlia Governorate</td>
</tr>
<tr>
<td>12 Jan 2011</td>
<td>Mr. Mohamed El Sharkawi, Director</td>
<td>Manzala State Feed Mill</td>
<td>El Manzala, Dakahlia Governorate</td>
</tr>
<tr>
<td>12 Jan 2011</td>
<td>Fish farmer</td>
<td>Owner of fish farm</td>
<td>Behera Governorate</td>
</tr>
<tr>
<td>13 Jan 2011</td>
<td>Mr. Ayman Ashour, Deputy Director</td>
<td>Department of State Farms, General Authority for Fisheries Resources Development (GAFRD)</td>
<td>Cairo</td>
</tr>
<tr>
<td>13 Jan 2011</td>
<td>Mr. Mohamed Methat Ashour, President</td>
<td>Fish farmers association “Small Organization for Fish Trade and Aquaculture”</td>
<td>Behera Governorate</td>
</tr>
<tr>
<td>13 Jan 2011</td>
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<td>Owner of fish farm</td>
<td>Behera Governorate</td>
</tr>
<tr>
<td>13 Jan 2011</td>
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<td>Owner of fish farm</td>
<td>Behera Governorate</td>
</tr>
<tr>
<td>13 Jan 2011</td>
<td>Mr. Mohamed Naqib, Director</td>
<td>Behera State Fish Farm</td>
<td>Behera Governorate</td>
</tr>
<tr>
<td>15 Jan 2011</td>
<td>Mr. Ahmed Refat Abo Elnour, Aquaculture Engineer</td>
<td>Department of International Agreements, General Authority for Fisheries Resources Development (GAFRD)</td>
<td>Cairo</td>
</tr>
<tr>
<td>16 Jan 2011</td>
<td>Dr. Madani Ali Madani, Director</td>
<td>Department of International Agreements, General Authority for Fisheries Resources Development (GAFRD)</td>
<td>Cairo</td>
</tr>
<tr>
<td>16 Jan 2011</td>
<td>Mr. Kamel Shehata Sallam, Director</td>
<td>Department of Finance Programs &amp; International Donor Funds, Commercial International Bank (CIB)</td>
<td>Cairo</td>
</tr>
<tr>
<td>17 Jan 2011</td>
<td>Travel by air from Cairo to London, arrival in the afternoon.</td>
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</tr>
</tbody>
</table>
Annex 2: Literature and websites consulted

AfDB (2010a) Egypt Country Profile.


Websites consulted
(all accessed in January 2011)

www.banquemisr.com
www.cbe.org.eg/timeSeries.htm
www.cibeg.com/en/Pages/default.aspx
www.indexmundi.com
http://investing.businessweek.com/businessweek/research/stocks/snapshot/snapshot_article.asp?ticker=COMI:EY
www.nbe.com.eg
www.pbdac.com.eg
www.sfdegypt.org
www.vakakis.gr/vakakisapp/1/new%20site/projects/EGYPTMSSP.htm
Annex 3 - Checklist for fieldwork in Egypt

Case Study on the Role of Financial Services for Small to Medium-Scale Enterprises in the aquaculture sector

Introduction of the topic
GTZ supported study, which forms part of a wider initiative “Establishing a Fisheries and Aquaculture Investment Partnership” funded by the Partnership for African Fisheries (PAF/NEPAD). Six country case studies.

Objective of the case studies
Analysis of the availability, access and use of financial services for SMEs in the aquaculture sector: credit; savings and insurance. This includes functioning of the system, and constraints and solutions, including an enabling environment.

Steps & tools
Mapping of the value chain, role of the private sector (private vs state farms); sub-chains (e.g. traditional/small-scale; large-scale/commercial sector); percentages per type of supply; indicate values as far as possible.

Semi-structured interviews with ministerial authorities (GAFRD):

- Overview of the value chain (input/output/service providers)
- Relevance of collective action and functions (Cooperatives, Farmer Associations)
- Perception of main constraints for aquaculture development and relevance of (poor) access to financial services, particularly for SMEs
- Relevance of private equity (own savings, family and friends) for investment and operating costs
- Formal/informal providers of financial services to the sector (state-owned banks, private banks, coops, NGOs, traders, processing companies) and availability in the production/rural areas
- Characteristics of the loans:
  - Beneficiaries (farmers/traders/input suppliers/processing companies; SME/large scale farms; single farmer/groups)
  - Type: cash/in kind
  - Size of loan (range, average)
  - Loans for investment and/or working costs (maximum percentage covered)
  - Length (long/medium/short term)
  - Interest rates
• Required guarantees/collateral (legal status, ownership/tenancy of land and infrastructures, cash deposit, guaranteed supplies, etc.)
• Type of reimbursement (bullet loan, amortizing loan, period of grace) and repayment rates
• If loans provided by coops or farmers associations: source of credit (fees/marketing activities/revolving fund/credit)
• Penalties in case of fraudulent behaviour
  • Savings schemes (actual/potential estimation of n. SMEs and savings; interest rate)
  • Insurance schemes
  • Perception of the enabling environment: current policies regarding financial services for SMEs (in general and in the fisheries sector) and future plans
  • Estimation of production costs (investment and operating costs) and profitability
  • Collection of general data: Statistics yearbook

**Semi-structured interviews with fish farmers:**
• Overview of the production: production system, size of land/pond, type of fish, ownership/tenancy, frequency of harvest
• History of the business (organic growth/large investment)
• Group membership (if so, services provided)
• Input suppliers / Marketing strategy
• Turnover: seasonal production; prices
• Production costs:
  • Investment (land; pond/cage construction; equipment; buildings)
  • Operating costs
    • Land/pond rental
    • Seed/fry/fingerling
    • Feed
    • Fertilizer
    • Other chemicals
    • Water/Electricity
    • Maintenance cost
    • Labour
    • Transport
• Source of capital: own equity/credit
• Credit provider/s and location
• Characteristics of the loans:
  • Beneficiaries (single farmer/group)
  • Type: cash/in kind
  • Size of loan/s
  • Loans for investment and/or operating costs (percentage covered)
  • Length (long/medium/short term)
  • Interest rates
Required guarantees/collateral (registered enterprise, ownership/tenancy of land and infrastructures, cash deposit, guaranteed supplies...)

Type of reimbursement (bullet loan, amortizing loan, period of grace)

Penalties in case of fraudulent behaviour

Perception of credit availability and conditions

Ways to overcome problems due to limited access to credit

What if easier and/or cheaper access to credit?

Savings schemes (closest bank, bank account, location, actual/potential savings, interest rate, interest, constraints)

Insurance schemes (location, what/how, interest, constraints)

Business SWOT perception

Semi-structured interviews with banks and other financial institutions

Overview, ownership, type of financial services offered (loans, savings, insurance, etc)

Current outstanding loan

Loan portfolio by sector (private business, HH, govt)

Loan portfolio by activity (agriculture, industry, trade, service)

Loan portfolio to private business by size of business (large/SME)

Loan beneficiaries in the aquaculture sector: (farmers/traders/input suppliers/processing companies; SME/large scale farms; single farmer/groups): some figures

Loan portfolio for SME aquaculture producers: outstanding loan, n. of borrowers, repayment rates

Characteristics of the loans:

- Size of the loan (range, average)
- Loans for investment and/or operating costs (percentage covered)
- Length (long/medium/short term)
- Interest rates
- Required guarantees/collateral (registered enterprise, ownership/tenancy of land and infrastructures, cash deposit, guaranteed supplies, etc.)
- Type of reimbursement (bullet loan, amortizing loan, period of grace)
- Penalties in case of fraudulent behaviour

Constraints in providing financial services (loans, savings, insurance, etc)

The role of Government in creating an enabling environment for investment

To what extent are subsidies given; for which financial services, and in what form

Perception of future development in provision of financial services to SMEs in aquaculture