Arab Republic of Egypt

Ministry of Agriculture and Land Reclamation (MALR)

General Authority for Fish Resources Development (GAFRD)

Marine Aquaculture Development in Egypt (MADE)

Funded by the Italian Egyptian Debt SWAP Program

General Terms and Technical Specifications Booklet For the operation of Supply & installation of 4 marine Fish Cages with a diameter of 20 meters and diving equipment in Bardawil Lagoon – North Sinai governorate and training of operation teams

Introduction

a- Synopsis about the Authority

The General Authority for Fish Resources Development (GAFRD) was established in accordance with the presidential decree 190/1983, amended by the presidential decree 395/1995. GAFRD was established in order to "develop fisheries, internal and marine aquaculture" on the national level. Identified responsibilities were assigned to GAFRD pursuant to successive presidential decrees and ministerial decisions.

GAFRD is responsible for fisheries management in Egypt through issuing fishing permits to the following:

- All commercial fishermen and fishing boats.
- Recreational and sport fishing.
- All aquaculture special activities.

GAFRD is also responsible for planning aquaculture activities and accrediting projects internationally. GAFRD represents Egyptian authorities on behalf of the Egyptian government; besides executing projects related to fisheries development and sustainable management of fisheries, undertaking capacity building projects and encouraging Private Sector production.

Objectives of Gafrd are:

- Exploration and exploitation of fishing of Mediterranean Sea depths in the purely economic region in accordance with the United Nations Convention on the Law of the Sea 1982 (UNCLOS).

- Sustainable management of fisheries, marine, coastal and internal aquaculture pursuant to related resolution and recommendations issued by the General Fisheries Commission For the Mediterranean (GFCM), International Commission for the Conservation of the Atlantic Tunas (ICCAT) and Committee of Fisheries (COFI).

- Steady support to marine and internal aquaculture; taking environmental issues into consideration.

- Increase fish production so that the targeted total production will reach 1.950 million tons and per capita consumption 18.5 K.g / year by 2030.

- Fisheries and aquaculture in Egypt produce around 700000 tons annually; from which around 261000 tons are exported. Per capita consumption is around 15 K.g / year (FAO, Fisheries record in the country).

- Total Population in Egypt reached 70 million (2003 census). The government is aiming to support the sector (fisheries and aquaculture) for increasing production to reach 1.5 million tons.

- About 210000 personnel are working in the sector by direct employment and 1500000 personnel by indirect employment.

b- <u>Experience in the sector and in the geographical site of the proposal:</u>

- GAFRD works under the Egyptian Ministry of Agriculture. GAFRD is responsible for the fish policy in the country and its management.

- The Authority has actually executed the aquaculture and fisheries project. For instance, “Km 21 hatchery project” which is a general farm in Alexandria funded by the US aid. The teamwork has a high level of efficiency, qualification and strong enthusiasm; however, the facilities and technology are very primitive, in addition to producing fish larvae with very small amounts.

- The second program is Mariout Project in Alexandria. It is regarded as a high effort exerted by GAFRD. The project focused on the production of sea bass, sea bream, red tilapia and fresh water shrimp for either researches or support of Private Sector. The facilities and technology are very primitive and the technical team has a high level of efficiency.

- Several private companies in the Delta region produce according to GAFRD directives. There are about 900 private fish farm and more than 25000 acres (around 10000 hectares) operating in the Delta region.

- This general consideration was also affirmed in Egypt, according to GAFRD data, where the direction of fishing production in marine and internal water shows a stable figure on the contrary. Aquaculture increases from 139000 tons (1998) to 635000 tons (2007).

Fish Production in Egypt since 1998 – 2007 (thousand tons)

Source	1998	1999	2000	2001	2002	2003	2004	2005	2006	**2007**
Marine Fisheries	125.06	172.34	130.84	133.18	132.51	117.38	111.4	107.45	119.61	130.74
Internal Fisheries	281.14	250.32	253.46	295.28	292.66	313.43	282.1	242.1	256.29	241.743
Aquaculture	139.39	226.28	340.11	343.06	376.3	445.18	471.53	539.75	595.02	635.517
Total	545.59	648.94	724.41	771.52	801.47	875.99	865.03	889.3	970.92	1008

1- Marine Aquaculture Development Project:

- Egypt can acquire the capability, knowledge and operational technology; in addition to inviting stakeholders in the Italian sector to work in Egypt in order to achieve benefits for both parties.

- The European Union (EU) and Italy import more than 60% of fisheries products for internal demand. There may be some competition in quality and economic value of fisheries and aquaculture products between Mediterranean Sea countries. However, there is an integration that ensures profit making for companies and providing consumers with high quality products. Egypt can be one of the most important trade partners, taking into consideration that homogeneity in legislation had become correctly implemented and was being monitored by national and international institutions (EU).

- The objective of the Egyptian government is to achieve this purpose where useful tools for supporting Private Sector actually exist in Egypt. There are also lines of financial credits that could be dedicated to fisheries and the involved stakeholders in production and marketing.

a- Project Strategy

Initially, the strategic approach is closely connected to the bilateral amicable relationships. Italy can provide technology, productive capability and knowledge which can contribute to strengthening the partnership between both countries, enhancing technological ties, dialogue and providing a model of mutual interest in the Mediterranean Sea region.

Project Strong Points are as follow:

- **In Egypt:**

- Reinforcing the Egyptian sector to increase exports.
- Strong demand of the local market regarding quality and quantity according to governmental priorities.
- Strategy of the governmental national sector was actually identified in the period between 2007 – 2017.
- Importance of inputs and technological support for fisheries and aquaculture.

- **In Italy:**

- Great benefit for Italian stakeholders (government and private corporations) from fish policy in the Mediterranean Sea.
- Status of Italian pioneering in fisheries and aquaculture technology especially in the fields of marketing, quality of products, coastal management, caging and fish reproduction.
- Market high demand in Italy and Europe for fisheries and aquaculture products.

- **Expected opportunities from the project are as follows:**

- New support for legislation homogeneity in accordance with European legislation and quality standards.
- Strong integration between Egyptian and Italian productive systems.
- Procedures that aim to increase trade relationship (exports and imports).
- Enhancing the dialogue with the EU (Barcelona Convention, Aghader agreement for free trade and exchange locations).

b- Overall Objectives

- Project General Objectives are as follow:

1) Development of the Egyptian aquaculture sector in the Mediterranean Sea and transfer of knowledge and advanced technology (equipment) to the beneficiary country.

2) Enhancement of the dialogue between general and special components.

3) Unifying public institutions as an organizational element for the process of development according to sustainable and trusted approach.

4) Providing new opportunities to actors in the Egyptian sector through technological ties among stakeholders on the Mediterranean Sea Coasts.

c- Identified Objectives

- The identified objective of the project is to implement a “leading procedure” in the Fish production Sector (Marine Aquaculture and Small Fisheries) through international support to Private and Public Sectors in Egypt.

- The purpose of the project is to identify the growth and unity of Egyptian corporations in relation to cost; taking into consideration the strategic approach of the trusted development.

d- Expected Results and Indicators

The Project expected results are as follow:

1st Result	Strengthening a sustainable and trusted approach for aquaculture and small fisheries (Reference: FAO Code).
2nd Result	On the institutional level, knowledge enhancement and activities of the fish unit in GAFRD through training and re-organization of inspections.
3rd Result	Knowledge about managing and acquiring hatchery technology.
4th Result	Knowledge about managing and acquiring fish cages technology.

The following table shows the project's expected results and indicators that can be proven. The Program Management Unit (Project Management Unit in Alexandria) is responsible for the preparation of documents and technical reports that are submitted for approval from the Project executive Committee (Refer to Paragraph 3, Methods of Execution).

Indicators that can be proven and their sources

Potential Results		
1st Result	**Indicators**	**Source**
Strengthening a sustainable and trusted approach for aquaculture and small fisheries (Reference: FAO Code).	Assistance of 100 private fish farms, 10 studies and analyses, 06 environmental dialogues, events and directives.	Project accredited documents and reports from the Project Executive Committee (Project Management Unit).
2nd Result	**Indicators**	**Source**
On the institutional level, knowledge enhancement and activities of the fish unit	05 new export licenses and training of 30 personnel.	Project accredited documents and reports from the Project Executive Committee (Project Management Unit).
3rd Result	**Indicators**	**Source**
Knowledge about managing and acquiring hatchery technology.	Production of 12 million finfish larvae (or 05 million fry).	Project accredited documents and reports from the Project Executive Committee (Project Management Unit).
4th Result	**Indicators**	**Source**
Knowledge about managing and acquiring fish cages technology.	Cage unit model display, 100 tons, EIA Directives.	Project accredited documents and reports from the Project Executive Committee (Project Management Unit).

e- Activities

The following table shows the Project activities according to the Project four components. The identified activities ensure the execution of "a methodical procedure" according to the logical approach of debt SWAP agreement.

Project Components	Identified Main Activities
Technical Authority for Fisheries / Project Management Unit	1-1 Project planning and review. Financial supervision. 1-2 Technical window / forum for assisting Private Sector. 1-3 Stakeholders analysis, study and analysis, Private / Public Sector dialogue on the Mediterranean Sea Coasts. 1-4 Sustainable and trusted marine aquaculture plan, environmental strategy and directives. 1-5 Donors / Sector / Project promotion and events. 1-6 Website / electronic news bar.
Support of Fish Monitoring Unit	2-1 Enhancement of supervision and execution plan. 2-2 Training.
Knowledge and hatchery technology	3-1 Executive project / construction of hatcheries. 3-2 Installation of hatcheries' equipment. 3-3 Management and production of hatcheries. 3-4 Practical training at the work site. 3-5 Private Sector participation.
Knowledge and marine aquaculture technology	4-1 Executive project / Installation of Cages. 4-2 Production and starting the cages operation. 4-3 Evaluating the environmental impact.

	4-4 Practical training at the work site. 4-5 Private Sector participation.

General Specifications

1- Proposed Site for Cages:

- Fish Cages shall be laid south of the western barrier of Strait # 2 in Bardawil Lagoon, North Sinai governorate – Arab Republic of Egypt. It is a coastal region located on the southern side of a sand line that separates Bardawil Lagoon from the Mediterranean Sea. This region is located in the area between the following latitudes and longitudes:

- $31^{o}\ 12`\ 18.46"$ N & $33^{o}\ 15`\ 45.90"$ E
- $31^{o}\ 12`\ 32.59"$ N & $33^{o}\ 15`\ 50.31"$ E
- $31^{o}\ 12`\ 31.44"$ N & $33^{o}\ 15`\ 45.11"$ E
- $31^{o}\ 12`\ 25.44"$ N & $33^{o}\ 15`\ 50.79"$ E

- Nature of this region regarding wind, waves and tidal currents is as follows:

1- <u>Waves:</u>

- Waves height that exceeds 1.2 m represents 25% of the time.
- Waves height that exceeds 1.8 m represents 9% of the time.
- Waves height that exceeds 2.4 m represents 5% of the time.

- Waves height that exceeds 3 m represents 2% of the time.

2- <u>Tidal Current:</u>

Tide in the Mediterranean Sea is relatively small. The average tidal current is often as follows:

Spring Tide: 42 cm

Mean Time: 26 cm

Neap Time: 10 cm

3- <u>Wind:</u>

Wind blows on the Mediterranean Sea coast from December until March of each year. Its highest frequency is reached on January.

Yet, all through 60% of the time, water is quiet and wind is light with a percentage of 8.7% from the time with a speed of wind that exceeds 4 Beaufort and 2.7% from the time with a speed of wind that exceeds 4 Beaufort.

- Required works from the tenderer:

1- Supply and installation of floating marine fish cages with their full components in Bardawil Lagoon, Strait # 2, North Sinai governorate – Arab republic of Egypt (Turn Key Offer).

2- Supply of diving equipment to Bardawil Lagoon, North Sinai governorate – Arab republic of Egypt.

3- Training of a full team of employees in Bardawil Lagoon for three months on managing and operating fish cages (breeding fish, harvesting, cages maintenance and diving) during the installation of the Cages.

First: Supply and installation of floating marine fish cages with their full components in Bardawil Lagoon, Strait # 2, North Sinai governorate – Arab republic of Egypt (Turn Key Offer).

No.	Item	Quantity	Remarks
C01	HDPE / UV stabilized virgin material n.2 ring 315 mm internal dia 20 mt Thickness 18.7 mm Internal floating material 200 mm Internal circumference 63 mt	4	
C02	32 pole for handrail / 100 mm For 315 mm dia ring thickness 10 mm HDPE / UV stabilized virgin material 30 kg weigh	128	
C3	HDPE / UV stabilized virgin material n.1 ring internal dia 20 mt Thickness 10 mm Internal circumference 63 mt	4	
C04	Extruder equipment For HDPE welding assembly	1	
C05	Welder equipment for HDPE welding assembly	1	
C06	Anchor sand / mud 1000 kg	10	
C07	Anchor sand / mud 750 kg	6	
C08	Iron chain galvanized 38-42 mm/27 mt 900 – 1000 kg	16	
C09	Mooring system rope 90 mt / 48 mm danline 37.2 tons With 2 redance 26 mm filling	13	

C10	Mooring net system rope 40 mt / 48 mm danline 37.2 tons With 2 redance 26 mm filling	9	
C11	Rope polysteel 16 mm 220 mt	1	
C12	Buoys for mooring system 9/25 liters	42	
C13	Radar Buoys 100TSL with light 3MN with ballast concrete local made, chain 20 mm and rope 3 mt high color yellow / radar.	1	
C14	White nylon net dia. 20 mt H 5mt (4+1) square mashes 8 mm 210/36 High tenacity nylon UV stabilized Mash 42 kg/DIN 53844 Three Horizontal Reinforcement rope danline polysteel 1 mm / 3-4 (3.96 tons). 16 vertical Reinforcement rope danline polysteel 14 mm / 3-4 (3.96 tons). 2 Reinforcement bottom rope danline polysteel 14 mm / 3-4 (3.96 tons). Connection ropes to the cage with loops Bottom Reinforcement net 2X2 mt Internal bottom rope for lifting External bottom rope for ballast Weight 325 kg	4	
C15	White nylon net (sea bass) dia. 20 mt H 7 mt (6+1) square mashes 15 mm 210 / 72 High tenacity nylon UV stabilized Mash 80 kg / DIN 53844 6 Horizontal Reinforcement rope danline polysteel 16 mm / 3-4 (4.96 tons). 32 vertical Reinforcement rope danline polysteel 16 mm / 3-4 (4.96 tons). 2 Reinforcement bottom rope danline polysteel 16 mm / 3-4 (4.96 tons). Connection ropes to the cage with loops	3	

	Bottom Reinforcement net 2X2 mt Internal bottom rope for lifting External bottom rope for ballast Weight 440 kg		
C15 Bis	White danima net (sea bream) dia. 20 mt H 7 mt (6+1) Square mashes 15 mm 210 / 72 High tenacity nylon UV stabilized Mash 80 kg / DIN 53844 6 Horizontal Reinforcement rope danline polysteel 16 mm / 3-4 (4.96 tons). 32 vertical Reinforcement rope danline polysteel 16 mm / 3-4 (4.96 tons). 2 Reinforcement bottom rope danline polysteel 16 mm / 3-4 (4.96 tons). Connection ropes to the cage with loops Bottom Reinforcement net 2X2 mt Internal bottom rope for lifting External bottom rope for ballast Weight 440 kg	3	
C16	Buoys mooring system 1100It	9	
C17	Appropriate ballasts for cage nets n32 / cage (70/80 kg – 100/120 kg) Concrete local made	4 set	
C18	Rope for 128 ballasts (70-120 kg) Polysteel 3 22-24 mm 2000mt		
C19	Nets against births 63 mt circumference 110 mm mash; PE high tenacity UV stabilized Green color Perimeter rope 1 danline polsteel 10 mm 3-4 1.96 ton	4	

	Reinforcement ropes n.2 danline polysteel 10 mm / 3-4 (1.96 tons). Weight 18 kg		
C20	Harvesting circular net / steel dia. 1 mt net mash 18 mm opening automatic system.	1	
C21	Harvesting net 18 mm mash 210 / 30 25 m length 5 mt high	2	
C22	Marine water cleaner high pressure marine water with trolley 13 hp/four Time / electric starter, automatic pump, complete with accessories	1	
C23	Isothermic box C600 PE for food purpose with handle, covers vol. 580 l, 120X100X75 cm weight 50 kg	6	
C24	Equipment assembly and installation turn key service Bardawil by local personnel and international experts 3 months both for service and training	1	
C25	On job training on the site for 6 technicians 3 months both for service and training	1	
C26	On job training on the site for 4 local drivers 3 months (22 days / month)	1	
C27	On job training on the site for 2 cage managers 3 months (22 days / month)	1	
C28	Renting of appropriate machine for equipment unloading		

Main Characteristics:

- **Location:** North Sinai, Bardawil lagoon
- **Tendering Agency:** GAFRD / MADE, Egypt
- **Cage internal diameter:** 20 m
- **Internal Circumference:** 63 m
- **T2 brackets:** HDPE ring (315 mm diameter; thickness: 18.7)
- N.32 supports / cage

Second: Supply of diving equipment to Bardawil Lagoon, North Sinai governorate – Arab republic of Egypt.

No.	Item	Quantity	Remarks
S01	Diving Stainless Steel Cylinders 15 liters / 200 bar	14	
S02	Erogators with octopus	10	
S03	Pressure manometers 100 mm	10	
S04	Diving summer wet suites yamamoto heiwa 4 mm	8	
S05	Winter diving suites yamamoto heiwa da 7/8 mm	8	
S06	Winter diving dry suites	4	
S07	Diving belts and knives	10	
S08	Diving Computer	8	
S09	Diving masks silicon and flippers mod flex	10	
S10	Washing machine for suites	1	
S11	Diving jackets 1000 Cordura high strong	8	
S12	Compressor mariner to fill diving cylinders	1	
S13	Ice machine 1000 kg / 24 h sea water	1	

S14	Aluminum / or fiberglass tank fry transport	2	
S15	Oxygenators fry transport complete with accessories 40 liters	4	
S16	Diving balloons 1000 / 1500 / 2000 kg	8	
S17	Set of tools	2	
S18	Extinguishers	4	
S17	Safety live jackets	10	
S17	Rope for maintenance 22/24 mm 400 mt	1	

Third: Training of a full team of employees in Bardawil Lagoon for three months on managing and operating fish cages (breeding fish, harvesting, cages maintenance and diving) during the installation of the Cages and the beginning of the productivity cycle in the proposed work site in Strait No. 2 in Bardawil Lagoon, North Sinai governorate.

H1	On job training for fishermen 22 working days per month for 6 people and three months training duration.	1	
H2	On job training for local drivers 22 working days per month for 4 people and three months training duration.	1	
H3	On job training for cage managers 22 working days per month for 2 people and three months training duration.	1	

- Diving training should be undertaken by diving experts to train divers and grant them the qualifying certificates “Diver Farm Technician” or “Diver Farm Assistant Technician” in order to dive in open areas up to 39 m. depth and night diving.

Study of the Invitation:

The applying company should study the terms and general specifications booklet thoroughly before preparing its tender. The company shall also carefully examine the site of installing fish cages, denying any ignorance thereof, in order to be able to design floating cages and take into consideration the proposed site conditions represented in location, marine currents, ebb and tide.

Submission of tenders:

The company shall submit its tender as follows:

First: The Technical Envelope

It comprises the following:

- Company legal form (articles of incorporation or company investment statement).

- Operation term insurance to be paid in cash to the authority or through an unconditional and accredited bank guarantee. The guarantee should be effective for a period not less than four (4) months from the date of opening technical envelope session or through a bank cheque accredited from the bank.

- Tax card showing the company main activity, date of establishment, last tax declaration and record certificate of sales tax.

- Company Commercial register and its budget through the last three years.

- Company main office and branches (if found).

- Technical offer of the required tender including all technical data.

- History in the same field of activity and tenderer experiences.

- General terms and technical specifications booklet; signed and sealed with the company seal.

Second: Financial Envelope

- It should be written in Arabic language. In case of submitting the offer in a foreign language, an Arabic language translation should be attached to the offer certified from an accredited translation office. It should include the following:

- Prices are in Egyptian pound (L.E) and free of customs duties. Terms or conditions in the financial envelope shall be disregarded (prices only without any terms or conditions).

No.	Item	Value in Egyptian Pound including all duties and taxes
1	Supply of floating fish cages (turn key offer)	
2	Supply of diving equipment	
3	Training of operation teams on managing and operating cages for three months.	
Total		

Notice of operation:

The Authority shall publish the reasons for rejecting the technically unaccepted tenders in its bulletin board, located on the ground floor of the Authority's building for seven days. Opening financial envelopes shall be confined on technically accepted tenders.

Laws and Regulations:

Work shall be performed in accordance with the regulating laws and regulations thereto in the Arab Republic of Egypt. This tender shall be subjected to the provisions of the law 89 \ 1998 and its executive regulation.

General Conditions

1- The tenderer shall examine and inspect the site of installing cages in Bardawil Lagoon - North Sinai governorate, denying any ignorance thereof in order to submit the tender based on his examination, the general terms and technical specifications booklet and engineering drawings. The project shall be received turn key offer ready for operation. Tender provided by the company shall include all supplies and required works for executing the project whether mentioned in the terms and technical specifications booklet or was not mentioned. The terms and technical specifications booklet is the least level of required specifications; where the tenderer can submit technical specifications of higher standard without dissenting the terms booklet.

2- It is essential that the technical tender shall include all necessary supplies to execute the project according to industry standards. Thus, it is required that the tenderer has examined the site, denying any ignorance thereof and carefully studied the terms and technical specifications booklet.

3- All supplies sent to the project shall be from certified trademarks and usable according to the site conditions of installing the cages. They should also comply with Egyptian law and in accordance with the technical standards for supplying and installing fish cages. All supplies should be accepted and certified by the project supervision agency.

4- The tenderer or the production company shall provide a specialized history in the field of supplying marine fish cages; in addition to its previous history in supply for Mediterranean Sea countries.

5- The Supplier shall send all technical catalogues with the equipment.

6- In case of their direct submission, international companies should have an Egyptian trade representative or agent inside the Arab Republic of Egypt.

7- System of Payments: An advanced payment of maximum 25% of the total value of tender can be requested.

8- All prices shall be submitted in Egyptian pound (L.E) including all duties, taxes and transportation expenses.

9- Operation execution period shall not exceed (8) eight months; starting from the date of receiving the order of commission.

10- Operation term insurance shall be 80000 L.E (Only eighty thousands Egyptian pounds). This term insurance shall be paid in cash to GAFRD or by an unconditional and certified bank letter of guarantee which shall be effectibe for a period of time not less than four months from the date of opening the technical envelope session or by an accredited bank cheque.

11- After officially declaring the acceptance of the applying company’s tender, the company shall deposit – within ten days from its notification – a final insurance of 5% (five per cent) from the total value of the tender; in cash or through a bank letter of guarantee issued from any bank or by a certified cheque from the issuing bank.

12- Tenders shall be sent to GAFRD on the following address: (BLDG 04, El. Tayarran st., Nasr City, Cairo, fourth floor – General department for trade affairs) before 12:00 noon on …….. ……. \ …….. \ 2012.

13- Company representative should be commissioned so as to be allowed to attend session of opening technical and financial envelopes.

14- Terms and specifications booklet is considered an integral part of the contract that will be signed by GAFRD and the awarded company.

15- Overall period of project insurance shall be a year from the date of starting the project operation.

16- Period of engagement to the tender shall not be less than three months from the date of opening technical envelopes session.

17- The tender is subject to the provisions of law # 89 \ 1998 regarding bids and tenders and its executive regulation. The tender also concludes the terms and technical specifications booklet.

18- It is required to send technical catalogues to show technical data. The original catalogue shall be an essential reference in studying the tender and receipt of equipment. Any contradicting data to the catalogue or any unclear offer shall be disregarded.

19- The tenderer shall identify models, types and country of origin for all supplies sent to the project in the technical offer of the study.

20- The tenderer shall identify all technical and financial terms inside the technical envelope of the study. Any terms inside the financial envelope shall be rendered irrelevant “prices only without terms”.

21- The tenderer shall submit the schedule of executing the project and its duration inside the technical envelope of the study.

22- All works shall be in accordance with industry standards and according to instructions issued by supervision agency.

23- The tenderer shall present data about names, occupations and experiences of cadres who will execute the operation inside the technical envelope of the study.

24- The tenderer shall submit the technical and financial offers written in Arabic language in accordance with the provisions of law # 89\1998 regarding bids and tenders. A copy in English language can be submitted, if required.

25- The technical offer submitted in Arabic language shall be the base in studying the tender.