Year 1 Operational Report

(1/12/2011 - 30/9/2012)

Improving Employment and Income through Development of Egypt's Aquaculture Sector

(IEIDEAS) Project

November 2012

Research Program on Livestock and Fish

CGIAR

WorldFish CENTER

care

Schweizerische Eidgenossenschaft
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Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC

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Annexes

Acronyms

ARC	Agriculture Research Center (of the Ministry of Agriculture and Land reclamation)
BMC	Broodstock Multiplication Center
BMP	Best Management Practice
CAPMAS	Central Agency for Public Mobilization And Statistics
CDA	Community Development Association
CLAR	Central Laboratory for Aquaculture Research
DCED	Donor Committee for Enterprise Development
EU	European Union
FAO	Food and Agriculture Organisation (of the United Nations)
FTE	Full-time equivalent
GAFRD	General Authority for Fisheries Resource Development
GDP	Gross Domestic Product
gr	Grammes
IEIDEAS	Improving Employment and Income through Development of Egypt's Aquaculture Sector (project)
M4P	Making Markets Work for the Poor
PAC	Policy Advisory Committee
PCBs	Polychlorinated Biphenyls
PO	Producer Organisation
PSC	Project Steering Committee
SDC	Swiss Agency for Development and Cooperation
VCA	Value Chain Assessment

Conversion Factors

US$ = LE 6.10

I ha = 2.381 feddan

Executive Summary

Implementation of the SDC funded project 'Improving Employment and Income through Development of Egypt's Aquaculture Sector' commenced on 1st December 2011 and will continue until late 2014. This report summarizes the results of the first 10 months until 30th September 2012.

The project was based on a value chain analysis carried out by WorldFish in September 2011. The information in the VCA acts as the baseline for the main project parameters. It established that the aquaculture value chain is a significant employer (14 FTE per 100 tonnes of annual production), particularly in rural areas and there was scope to increase employment of youth and women.

The geographical focus for the project is in 4 governorates where there are significant aquaculture industries; Kafr el Sheikh, Behera, Sharkia and Fayoum, and one governorate, El Mineya, where there is little aquaculture at present. The main outcomes are improved profitability for existing producers, securing employment for women fish retailers, expansion of aquaculture in El Mineya, improved policy environment for aquaculture and enhanced contribution of aquaculture to the nutritional health of Egyptian consumers.

The project is managed by WorldFish Egypt in collaboration with CARE Egypt who are responsible for implementing the outcomes dealing with women retailers and the expansion of aquaculture in El Mineya.

Project planning in January 2012 led to WorldFish field activities starting in February and CARE field activities starting in March. The project is managed by a joint committee from WorldFish and CARE overseen by a Project Steering Committee and assisted by a Policy Advisory Committee.

Project implementation has progressed relatively smoothly over its first 10 months, despite political instability over this period. The first main task was to carry out a study on the Egyptian fish seed sector. This helped to define the dissemination strategy for Abbassa strain of genetically improved Nile tilapia from the Abbassa fish breeding center to broodstock multiplication centers and hatcheries supplying tilapia seed to fish farmers.

WorldFish staff then concentrated on participatory development of best management practice guidelines leading to BMP training being delivered to farmers by 'farmer trainers', supported by project staff, by the end of the reporting period.

Meanwhile CARE carried out studies on the context of women fish retailers and opportunities for the development of aquaculture in El Mineya. Both studies have resulted in field intervention support programs.

A market study was carried out in June 2012 to better understand the range of markets being supplied by Egyptian aquaculture sector and to identify potential opportunities that should be pursued. The project also benefitted from support by the WorldFish gender specialist and WorldFish communications team. Two complementary projects implemented by the International Livestock Research Institute are currently investigating food safety aspects of Egyptian farmed fish.

Project activities will be reviewed in late 2012 and re-orientated to take into account Making Markets Work for the Poor (M4P) and Results Measurement approaches to provide a stronger platform for measuring and attributing project impacts. The project will also need to provide support for strengthening of aquaculture producer organizations and field activities such as BMP training which may require the deployment of more field based staff.

The financial report indicates that the overall rate of expenditure is slightly below (17%) the rate proposed in the anticipated budget. However this is as would be expected during project start-up.

1 Introduction and Background

This report summarizes the results of the first 10 months of the Improving Employment and Income through Development of Egypt's Aquaculture Sector (IEIDEAS) project funded by the Swiss Agency for Development and Cooperation (SDC).

The IEIDEAS project commenced in December 2011 and will run for 3 years. It followed a value chain analysis conducted in September 2011 by a team from WorldFish, assisted by a consultant, Graeme Macfadyen of Poseidon Aquatic Resources.

The value chain analysis provided data on the economic performance of Egypt's aquaculture sector. It confirmed the importance of the sector in terms of generating profits and employment while identifying that it is under increasing financial pressure. Rising input costs, poor quality seed, inadequate land tenure arrangements, restrictions on water use, poor management practices, poor representation and static or declining fish prices all meant that action is required to sustain and grow the sector so that it can continue to be an important employer and producer of affordable, high quality food..

Recommendations from the value chain analysis were carried through to a project proposal that was submitted to SDC in November 2011 and approved in early December 2011.

In the proposal the goal of the project was increased employment in Egypt's aquaculture sector and the principal objectives were:

1. To increase industry sustainability and labour demand by improving profitability through:

- Increased use of improved breeds of tilapia and best practice methodologies for pond production;
- Increased capacity of farmers to use these improved technologies.

2. To improve the effectiveness of producer organisations, particularly support to farmers in target governorates.

3. To increase employment of women in fish retailing.

4. To increase employment through expansion of aquaculture in El Mineya governorate.

5. To ensure government agencies and policies work in support of an efficient and sustainable value chain.

The project logframe presented in the project proposal was revised before the project was approved by SDC - the revised version is attached in annex 1.

The project goal is:

To create around 10,000 jobs through the development of Egypt's aquaculture sector in 5 governorates, benefitting 50,000 household members; to develop the aquaculture sector in general; to contribute to the nutritional health of low-income consumers.

Project outcomes are as follows:

1. Reinforce profitability of aquaculture producers and create 9,142 jobs in the governorates of Behera, Fayoum, Kafr el sheikh and Sharkia.
2. Create/retain 900 jobs in the aquaculture retailing sector (managed by CARE Egypt)
3. Increase farmed fish production in El Mineya governorate and create 250 jobs; Pilot and disseminate methods to decrease environmental and water utilization impact of aquaculture. (managed by CARE Egypt)
4. Facilitate efficient and sustainable value chains in the aquaculture sector and optimal institutional, policy and regulatory frameworks.
5. Contribute to nutritional health of low income consumers.

Key performance indicators for the period through to 30 November 2012 and end of project are shown in Table 1.

Table 1. Project Outcomes and Key Performance Indicators

Outcome	Key Performance Indicators to 30/11/2012	End of project (31/11/2014) KPIs
1. Reinforce profitability of aquaculture producers and create 9,142 jobs in the governorates of Behera, Fayoum, Kafr el sheikh and Sharkia.	• 2% increase in the number of women and youth employed (baseline: 20,813) • 5% profit increase among 400 target producers	• 9,142 jobs created • 6% increase in direct employment of women and youth • 15% profit increase among 400 target producers and 1200 secondary adopters • 100% production increase compared to non-project governorates
2. Create/retain 900 jobs in the aquaculture retailing sector	• 25 women retailer jobs in Mineya, 50 in Fayoum	• 900 jobs created/retained for women
3. Increase farmed fish production in El Mineya governorate and create 250 jobs; Pilot and disseminate methods to decrease environmental and water utilization impact of aquaculture	• 5% production increase in El Mineya	• 15% increase in farmed fish production in El Mineya • 250 new jobs created • 50% of aquaculture producers in El Mineya make use of integrated aqua/agricultural approaches ensuring minimal environmental impact • 50% of aquaculture producers in El Mineya make use of water efficient practices
4. Facilitate efficient and sustainable value chains in the aquaculture sector and optimal institutional, policy and regulatory frameworks	• Private-public and civil society alliances established to improve institutional and policy environment	• Local aquaculture associations in production and retailing established and functioning • More supportive institutional, policy and regulatory framework established
5. Contribute to nutritional health of low income consumers	• 5% increase in fish production	• 900,000 t/yr of fish produced for domestic markets • Cost of fish less than or equal to 2010 prices • Per capita fish consumption stable or above 2010 levels

2 Project implementation

2.1 Project inception and start-up

A three day project inception workshop was held at WorldFish's facilities in Abbassa from 22 to 24 January 2012, and a follow-up meeting was held at CARE's offices on January 29th.

This was preceded by a team building workshop for WorldFish staff, also held at Abbassa, that paved the way for detailed discussions on implementation.

The project inception workshop commenced with presentations on the context of the project and concentrated on joint discussions between CARE and WorldFish staff on the Outcomes, Outputs and Activities proposed in the project documents.

In particular, the workshop participants were asked to break Activities listed in Annex 9 of the SDC proposal and scheduled to take place in 2012 into Tasks with an indication of likely timing, people involved and RACI (Responsible, Accountable, Consulted, Informed) analysis for each Activity. This formed a useful platform for discussion on how the project would be implemented and how WorldFish Center, CARE Egypt, CLAR and other project partners (such as Producer's Organisations) would work together. Elaboration of the first activities also led to the development of a template that has been used for activity planning by the project.

On Day 3, the revised logframe (Annex 1) was discussed. The revision was requested by SDC during the latter stages of contract negotiation in November 2011. The revised logframe includes a fifth output on impacts on nutrition and health and has numerical indicators rather than '% over baseline' values as had been used in the proposal submission.

Day 3 also focused on management arrangements for the project. The project proposal outlines the governance arrangements for the project including a project management committee, a project steering group and a policy advisory committee. Potential membership of the committees was discussed and agreed by the participants.

The participants also discussed reporting arrangements (for WorldFish, CARE, CLAR, CGIAR, SDC) and the development of a communications strategy for the project.

On Day 4, WorldFish's Business Manager (Aquaculture) presented details of the project budget and the draft Memorandum of Agreement between WorldFish Center and CARE Egypt. Final budget allocations and carrying out a joint audit were discussed at the meeting.

2.2 Project organisation and management

Overall project management is by WorldFish Egypt with management of Outcomes 2 & 3 delegated to CARE Egypt. The main management body for the project is a four member management committee comprised of the Project Leader, Malcolm Dickson and WorldFish Country Manager Gamal el Naggar from WorldFish Egypt and Susan Nour and Samir Sedky from CARE Egypt. The management committee meets on a monthly basis to discuss project progress and agree on upcoming workplans. The first meeting was held on 15th March.

Other key staff working on the project include Ahmed Nasr Allah, Diaa Kenawy and Mohamed Fathi from WorldFish Egypt and Bahaa Wahib Gerges, Samy Hussein and Eshak Mounir from CARE Egypt.

The management committee reports to a Project Steering Committee co-chaired by the Director of ARC of the Ministry of Agriculture and Land Reclamation and a representative of SDC. Other members are Malcolm Dickson (Project Leader & Secretary), Gamal el Naggar (WorldFish), Hazem Fahmy (CARE), Susan Nour (CARE - Observer), Heidi Samir (civil society organisations and retailers), Ismail Radwan (representing aquaculture producers). An initial meeting of the PSC was held in June 2012 when it was agreed that there would be

the first formal meeting in early September. The meeting also agreed on the main functions of the PSC as follows:

- Oversee project management using the project's M&E to review project progress
- Foster effective communication between project partners
- Identify key policy issues impacting the project and advise how these should be pursued
- Identify additional partners that need to be engaged
- Endorse and approve regular project workplans
- Approve any changes in project scope and/or budgets
- Elaborate responsibilities, relationship and communication channels between the PSC and the Policy Advisory Committee

In the meantime, the Director of the ARC was appointed as Minister of Agriculture, who nonetheless expressed the wish to remain involved in the PSC. The first full PSC meeting was held on 10th October with a follow-up meeting immediately afterwards in the minister's office.

The Project Steering Committee will meet as necessary; at the first meeting it was agreed that it should meet every 3 months which may be revised to every 6 months once activities have become more established.

2.3 Outcome 1: Reinforce profitability of aquaculture producers and create 9,142 jobs in the governorates of Behera, Fayoum, Kafr el Sheikh and Sharkia

This Outcome included the following activities during the first year of the project:

Profitability improved
1.1 Seed VC segment study conducted and results shared
1.2 Abbassa strain (9th generation) disseminated by AFBC to multiplication centers
1.3 Genetic improvement program sustained
1.4 Identification of stakeholders for BMP development
1.5 BMP (seed, feed, and water use; harvesting) developed for target governorates
1.6 Participatory development of BMPs for Mineya and Fayoum
1.7 Capacity building PPP networks established and capacity building plans produced
1.8 Training of trainers implemented in target governorates

Activity 1.1 Seed Value Chain study

WorldFish Center staff, assisted by staff from CLAR, carried out a value chain analysis (VCA) study of the Egyptian fish seed sector in March and April 2012. The main aim was to better understand this input supply chain of the Egyptian aquaculture industry through mapping and financial analysis of the main actors; hatchery operators and fry/fingerling traders.

Following an initial preparation phase, a field team of up to five WorldFish Center and CLAR staff carried out focus group discussions and individual interviews with hatchery operators and fry/fingerling traders in Sharkia, Kafr el Sheikh, Behera and Fayoum. The complete dataset covered responses from fifty individual hatchery operators and four focus group discussions with hatchery operators. It was more difficult to identify fry and fingerling traders and thus only eight individuals were interviewed.

Mapping of the fish seed value chain revealed that expansion of Egypt's aquaculture industry has been matched by the development of a large number of tilapia hatcheries, nearly all producing sex-reversed, all-male fry and fingerlings. They use a range of

technologies, from simple hapa-based systems[1] to greenhouse covered tanks and systems incorporating water heating to advance and lengthen the spawning season. Most of their production (95%) is sold as fry (soon after sex reversal) rather than fingerlings and sold directly to production farms (rather than through fry/fingerling traders). Some of the hatcheries are part of an integrated fish farm with both hatchery and production systems.

The average size of hatchery was 1.7 ha and most used hapas as their main hatchery system. Almost half of the hatcheries used some form of heating (solar or fuel-fired boiler) to extend the spawning season. The 50 hatcheries hold over 0.5 million broodstock and sold a total of 474 million fry in 2010 at an average price of LE 30 (US$ 5) per 1000. They also sold 21 million fingerlings at an average price of LE 114 per 1000. These prices are significantly lower than current prices in comparable countries and have dropped gradually over recent years in Egypt, indicating the high degree of competition in the market.

An average Egyptian tilapia hatchery produces around 10 million seed and employs 5-6 FTE[2], with 59% of the employees under 30 years old. If overall tilapia seed production is estimated at 3.5 billion, there may be over 400 hatcheries employing 2000 FTEs.

Despite low seed prices, hatcheries appear to be highly profitable with average net profits of 44% of sales and average total value added of LE 24,430 per million fry.

While fry and fingerling traders play a limited role linking tilapia hatcheries with producers, they play a major role in the mullet fry/fingerling trade where seed are wild-caught from the Mediterranean shoreline by GAFRD licensed and unlicensed fishermen. Fry caught through the GAFRD system are distributed to licensed fish farms according to a quota system. However, an unknown (and probably much larger) number of mullet fry are now caught by unlicensed fishermen and supplied to fish farms, often through fry and fingerling traders.

Fry/fingerling traders generate relatively few jobs (0.55 FTE per million fry sales) but generate reasonable profit levels (29% net profits).

The main issues raised as problems by hatchery operators were: access to capital; broodstock quality; hormone quality; water quality and availability; labour and management skills; power costs and availability; land availability and tenure; fish health management; declining prices; fluctuating prices; and, permission to transport fry.

Many of these issues will be covered by the IEIDEAS project, which includes dissemination of faster-growing genetically improved Abbassa strain tilapia (se p. 10 below) as one of its main activities. The project will also supporting training, the development of best management practices and actions to improve the policy and operational environment for Egyptian aquaculture.

The results of this study support the IEIDEAS project seed dissemination strategy as most tilapia hatcheries aim to replace their broodstock on a regular basis but now find it difficult to source high quality female fish as production is almost exclusively based on males. The project will distribute mixed sex broodstock to strategically located multiplication centres who will become the default suppliers of Abbassa strain broodstock for hatcheries across the country.

The hatchery sector along with the rest of the aquaculture industry faces a number of regulatory challenges that should be addressed by industry representatives through an effective Producers Organisation. These include registration and licensing of aquaculture businesses and necessary changes to laws over the use of water and land for aquaculture. The project already plans to deliver training through Producers Organisations. However, there are many other ways that POs could deliver benefits to members, including bulk

[1] Small, net enclosures installed in ponds.

[2] Full time equivalent employees.

purchase of inputs (as in Fayoum) and the provision of professional services such as consultancy advice and stock insurance.

The study makes the following recommendations for the Egyptian fish seed sector:

- It will take some time for clear benefits from the IEIDEAS project seed dissemination strategy to result in marked production increases. The logframe should be revised to include more direct indicators.
- The project should carry out a consultancy study on ways to address the backlog in registration and licensing of aquaculture businesses.
- More emphasis needs to be placed on developing effective Producer Organisations for the aquaculture sector.
- Assistance should be given to developing African catfish hatcheries.
- The project should help to develop a core group of private-sector consultants/specialists to assist aquaculture producers and hatcheries.

Activities 1.2 & 1.3 Dissemination of Abbassa strain & genetic improvement program sustained

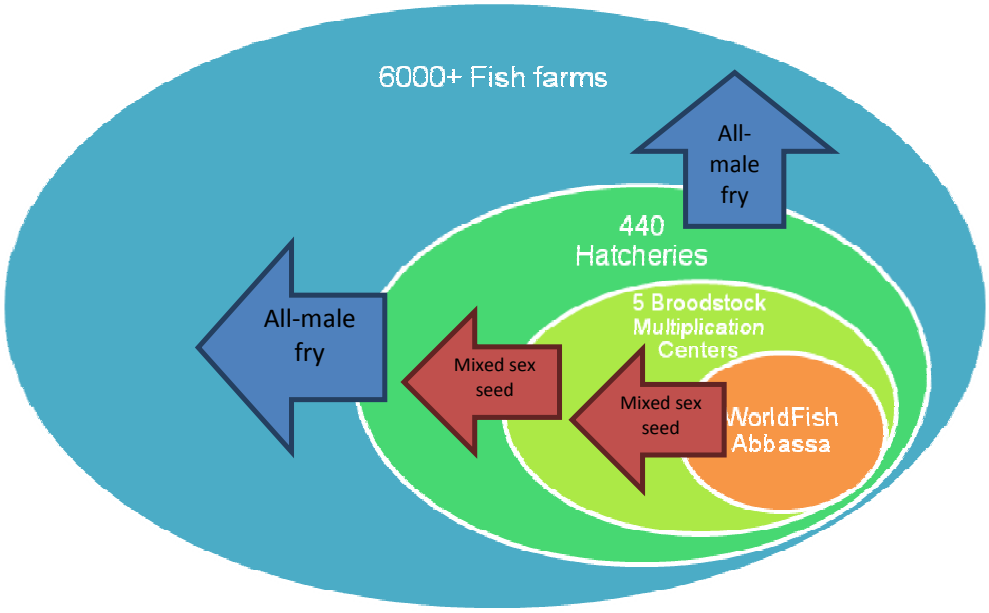
The overall strategy for dissemination of the genetically improved Abbassa strain Nile tilapia is shown in Figure 1.

Staff at WorldFish, Abbassa, are responsible for the continued development of the strain through a family-based selection program that has been operating for over 10 years. This is the first time that the improved strain has been released to fish farmers in Egypt and the fish being released in 2012 are derived from the 9th generation, which according to recent research results, has the potential to grow at least 30% faster than the usual commercial strains of Nile tilapia used in Egypt.

In June 2012 mixed sex fingerlings of the improved strain were distributed free-of-charge to five broodstock multiplication centers (BMCs) in Kafr el Sheikh, Behera and Fayoum governorates. WorldFish Abbassa will act as the BMC for Sharkia. More BMCs may be added to the program in future years; for example, GAFRD have requested that some of their hatcheries should be considered as BMCs.

Each of the BMCs will then sell mixed sex fish as potential broodstock to hatcheries in their immediate area. This will not start until early 2013 as the fingerlings need to grow and mature before they can reproduce. The hatcheries will then be in a position to breed from these broodstock in 2014 and supply all-male, Abbassa strain fry and fingerlings to fish farmers across the target governorates.

Figure 1. Dissemination plan for genetically improved Abbassa strain Nile tilapia



A separate WorldFish project had already set up growth trials using mixed sex Abbassa improved strain in ponds at the Abbassa research center and in privately owned ponds in Kafr el Sheikh. These have been supplemented with all-male, Abbassa strain trials at Abbassa and on the same private fish farm by the IEIDEAS project. This program of research will be expanded in 2013, however it is worth noting that the earliest that significant quantities of Abbassa improved strain fry and fingerlings will be available from private hatcheries will be in early to mid 2014, the final year of the project, and earliest these fish will be harvested is in the second half of 2014. This has obvious implications for the attribution of benefits from project activities.

Activities 1.4-1.8 Best Management Practice development and training

The development of aquaculture best management practice guidelines started in late March 2012 with a field survey of existing practices, followed by a BMP drafting workshop and review of best management practices in governorate-level workshops.

During the field survey, data on existing practices in target governorates was collected by a combination of focus group discussions (5) and individual interviews (65) using a standard questionnaire. The data were compiled in a spreadsheet and were used to inform discussions during the BMP drafting workshop. This was held in Abbassa 14-15 May 2012 and brought together WorldFish Center staff and a select group of nine experienced aquaculture producers to produce a first draft of the BMPs.

After introductions and discussions on the process, examples of existing aquaculture BMPs were presented to the participants: GLOBALGAP Smallholder Aquaculture Standards and Aquaculture Stewardship Council Tilapia Aquaculture Standards. Results from the field survey were presented and a list was drawn up of the main topics that should be covered by the IEIDEAS project BMPs.

Ten headings were proposed by the group: Site selection and pond design, Pond preparation, Stocking rates and species, Fertilization and feeding, Water management, Fish health management, Harvest and post-harvest treatment, Marketing, Record keeping & Social responsibilities.

One of the topics was then explored in more detail by the plenary group and elaborated on a flip-chart by the facilitator. This served as an example for groups of 4-5 participants to work on the other nine topics over the remaining period of the workshop.

The result was draft BMPs on the ten selected topics. These were discussed and finalized at Governorate-level workshops and used to develop training materials for training to be delivered through Producer Organizations.

A group of potential 'farmer trainers' came to Abbassa in September 2012 to attend a 2 week training of trainers course. The aim was to develop a cadre of private sector trainers who will deliver field training to fish farmers, based on best management practices. The training focussed on developing the technical knowledge of trainers while also improving their training skills and developing the training materials that they will use during farmer training.

The course was attended by 15 trainees (13 fish farmers, two from CARE) during two separate weeks (1-4 & 17-20 September). The number of training topics expanded from the 10 BMP topics identified earlier to 16 separate training sessions covering all aspects of aquaculture from site identification to post-harvest handling.

All of the 'farmer trainers' developed action plans outlining the training that they plan to deliver over the coming months. If necessary, additional trainers will be developed through organizing more training of trainer courses. Field training by 'farmer trainers' started in mid-October 2012.

2.4 Outcome 2: Create/retain 900 jobs in the aquaculture retailing sector

Outcome 2 included the following activities in the first year of the project:

Employment in retailing increased
2.1 Retailer VC segment in five governorates analyzed
2.2 Women retailer organizations/groups in Mineya and Fayoum formed
2.3 First interventions pursued and analyzed
2.4 Study of impacts of women's retailer organizations conducted

During February and March 2012 CARE's main focus was on recruitment of two Capacity Building Field Supervisors (Nile Delta & Upper Egypt) for Outcome 2 and for an Aquaculture Field Supervisor based in El Mineya to oversee activities under Outcome 3.

The sub-agreement between WorldFish and CARE was signed in early March 2012, and the first payment was issued to CARE soon after.

An internal inception workshop was held for the newly hired field staff in early April 2012 in Fayoum. The objective of the Inception Workshop was to orient the three new recruits with the details of the project and their tasks. However, it was also an opportunity for CARE and WorldFish Center staff to work together to jointly revise the sub-activity plans, which had been developed during the January Inception Workshop.

Activity 2.1 – Retailer value chain segment in five governorates analyzed

The study and field activities were led by CARE's Capacity Building Field Supervisors Eshak Mounir (Upper Egypt) and Samy Hussein (Delta). They were assisted by local community members who acted as researchers and enumerators. The study was carried out as a community-based field survey conducted from April to July 2012 in the Upper Egyptian governorates of El-Mineya and Fayoum and the Delta governorates of Sharkia, Kafr El-Sheikh, and Behera, and aimed at identifying the main problems facing the women fish retailers segment of the aquaculture value chain in Egypt. The objectives of the study were to:

- Gather information on the retailer segment of the value chain and identify where these retailers are concentrated;

- Monitor the current income level of retailers and identify possibilities for adding jobs in this segment and/or improving current conditions of employment;
- Identify the major problems facing the fish retail saleswomen in terms of:
    - The availability of fish throughout the year
    - Quality of fish, particularly as relates to storage and preservation of fish
    - Access to capital and credit
    - Market infrastructure
    - Problems related to transportation
    - Price-setting
    - Types and volumes of fish sold
    - The enabling environment
    - Laws and policies which affect women fish retailers
    - The presence of organizations which address retailers' needs and the extent to which such organizations are needed

The surveys provided a wealth of information on the economic, social and market conditions for women working in fish retail. This segment of society is considered among the poorest of the poor, as they have fallen into this line of work either because their husband is a fisherman, they do not have land to farm or they are widowed, divorced or have a husband who is unable to hold full time employment. In short, they work in fish retail because the surrounding social and economic environment and their skill set makes it necessary for them to do so.

They work under very poor conditions, with the vast majority not working out of any formal market area or shop. The women were unanimous that they have no work other than the sale of fish, though a large number of them expressed a desire to leave their field of work for something less rigorous.

Most women retailers (65%) buy their fish from wholesalers in the market, while a few of them buy fish from a trader. The number of working days per week ranges from two to seven days, with around 80% of women working five to seven days per week. Most women use unhygienic and inconvenient containers, such as large metal trays, to store, display and carry the fish to market. These unwieldy containers make transportation between the wholesaler and the market difficult, and contribute to the difficult employment conditions these women face. Around 50% of women purchase 25-50 kg of fish daily to sell, and can have anywhere between 1 to 10 kg left over at the end of the day. As most of them do not have an appropriate means of storage (refrigerator, freezer), many women will drop their prices at day's end in order to move the product and be able to pay the wholesaler before purchasing the next batch of fish.

Based on the research carried out by the study team it was concluded that project interventions will initially focus on the following:

- Issues related to the quality, storage and transport of fish,
- market infrastructure and
- policies and organizations which affect women fish retailers, particularly as they relate to market and other fees.

Validation workshops were held in Fayoum (23 July 2012, 9 September 2012) and El Mineya (2 August 2012, 18 September 2012) to further verify and reconsider some of the results of the survey. On the basis of the outcomes of the survey, combined with the further insight received from the validation workshops, the main interventions to be pursued in both locations were finalized and are discussed below.

Activity 2.2 Women retailer groups formed in Fayoum and El Mineya

Over the course of the analysis and survey of the women fish retailers value chain segment, CARE identified a number of community development associations (CDAs) which were already operating in the villages and towns around which retailers were concentrated. Rather

than undertake a process of forming and formalizing new retailer organizations (a process which could take several months in Egypt) it was decided instead to place the women retailer organizations under the umbrella of the existing CDAs in the communities in which this project would be implemented.

In Fayoum, work with the women retailer groups has already begun under the umbrella of the Shakshouk CDA, in the fishing and fish farming community of Shakshouk. The Shakshouk CDA has already submitted a proposal to CARE for approval for funding of interventions to be undertaken with the women fish retailers in that community. Meanwhile, in El Mineya initial steps have been taken to work women retailer groups under the local Fisherman's organization in the village of Diyaba. As the wives and relatives of fishermen in this village, there is a high concentration of women retailers who are already active selling river-caught fish during the fishing season, as well as fish caught from Lake Nasser in Aswan.

Activity 2.3 First interventions pursued and analyzed in Fayoum and El Mineya

Based on the survey and subsequent meetings with women retailers in the five governorates, interventions were prioritized by location. In Fayoum, the focus was on preserving and transporting fish, formalizing a marketplace, and having access to affordable fish year round. After some initial training on proposal writing and resource mobilization carried out with the Shakshouk CDA, a proposal was developed and finalized. Currently, the project is in the process of mobilizing for the implementation of these first interventions:

- 120 iceboxes to be distributed to women for better storage and transport of fish
- 1 motorized tricycle for transport of women and fish to be owned and operated by a group of eight women
- NGO to serve as redistribution center for fish to women
- Setting up marketplace in Shakshouk in cooperation with the local authority
- Awareness and hygiene training for women
- Capacity building training for the CDA

In El Mineya, the main interventions relate more to consistent access to good quality, affordable fish. Women in El Mineya rely on Nile caught fish during the fishing season, supplemented by lower quality, frozen tilapia transported from Lake Nasser in Aswan. Local sourcing of fish is an important issue in order for them to maintain or increase their sales and income year round.

In addition, proposal-writing training for the NGOs which will serve as umbrella organizations for the retailer groups has been completed in El Mineya and Kafr El-Sheikh, and will be carried out within the other two governorates by the end of October.

Activity 2.4 Study of impacts of women retailers organizations conducted

This activity is scheduled to be carried out after the reporting period with an end of December deadline. The rationale for the study is to draw conclusions that could be used to support an expansion of the women retailers' program in 2013, however it may be worth considering whether it is possible to do this so soon after deployment of the initial interventions. This will be discussed at planning workshops in November 2012.

2.5 Outcome 3: Increase farmed fish production in El Mineya governorate and create 250 jobs

Outcome 3 included the following activities in the first year of the project:

Farmed fish production in Upper Egypt increased
3.1 Study of high potential production sites in Mineya completed
3.2 Study conducted to identify and prioritize target potential producers
3.3 Participatory study to identify barriers conducted
3.4 Market interventions, including workshops and farmer field schools, implemented
3.5 Effectiveness of technologies and interventions assessed

Activities 3.1 to 3.3 - Site study, potential producer study and assessment of main issues

The first three activities under this outcome were essentially completed in one study which was conducted over the course of April and May 2012. The aim of the study was to:

- Identify already existing fish farms and evaluate their potential;
- Assess locations in El Mineya which have high potential for productive fish farms;
- Identify barriers to the development of aquaculture in Mineya
- Begin to identify and prioritize potential producers (farmers) to work with.

The study team was able to identify the following three main geographical locations in the El Mineya governorate as areas where aquaculture is already underway, but where there is also high potential for improvement and increased production: Beni Mazar (the northern-most site in the governorate); Samalut; and Mallawi (the southern-most site in the governorate). There were three main types of fish farms or fisheries to be found in the governorate:

- Fisheries in Nile enclaves leased from GAFRD
- Pond farms on agricultural land
- Concrete or brick open irrigation tanks on reclaimed desert land

The main barriers identified were:

- Geographical restrictions in the areas available for aquaculture development; it is not possible to develop legal fish farms in the agricultural (irrigated) zones; cage farming is not allowed in the Nile or in irrigation canals; desert tanks can be developed however they are high cost.
- Technical expertise is very limited.
- Shortage of quality inputs; feeds, fish seed.

Based on the research carried out by the study team it was concluded that project interventions would focus on developing farms in the reclaimed desert land areas as well as already existing pond farms on agricultural land. Pursuing interventions to improve productivity of Nile enclave fisheries would remain a secondary priority.

Activity 3.4 Market interventions, including workshops and farmer field schools implemented

It was determined that in the first year it was best to pursue a method of direct technical assistance to producers and potential producers. With that in mind, WorldFish recommended Dr. Gamal Azazi, a scientist with the Central Laboratory for Aquaculture Research to provide technical backstopping to CARE's field supervisor in El Mineya, Bahaa Gerges. Since the start of that arrangement in June 2012, Dr. Azazi has completed seven TA visits.

Through these visits Bahaa and Gamal have been able to provide support to 30 producers owning desert farm tanks and 5 pond farms on agricultural land. They intend to begin pursuing interventions with 16 identified Nile enclaves in November when the Nile in these areas has reached acceptable levels. The areas of these farms range in size from 1 feddan up to 50 feddan, and the team has been carrying out water quality testing, testing of fish samples and introducing improved feeding programs and better management practices to established farms.

In addition, two cross-visits for El Mineya producers have been conducted. The first visit, held in May 2012 took a group of producers to the neighboring governorate of Fayoum, where aquaculture has been thriving for several years. During this visit producers were exposed to the potential for fish farming, the challenges faced due to poor resource and input management, and met with local farmers and GAFRD representatives. The second

cross visit occurred in early October 2012, to the WorldFish research center in Abbassa. This visit included a visit to a fish feed factory in Obour City, and two days of basic on-farm training in Abbassa. A workshop was also held in El Mineya in mid-September 2012 with the GAFRD head in El Mineya to introduce various producers to one another and identify potential new farms.

Activity 3.5 Effectiveness of technologies and interventions assessed

This activity is scheduled to take place after the current reporting period with a deadline of end December 2012. Initial findings are that farmers receiving consultancy support are achieving good fish growth. The project has also created a great deal of interest in aquaculture development in the governorate. The deadline for this activity may be revised during project planning in November to allow more time for interventions to create impact.

2.6 Outcome 4: Facilitate efficient and sustainable value chains in the aquaculture sector and optimal institutional, policy and regulatory frameworks

Outcome 4 included the following activities in the period 1/12/2011 to 30/9/2012:

Efficient and sustainable VCs established
4.1 Two issue based workshops convened
4.2 Study to determine markets for value added products in restaurants in Cairo and Upper Egypt and the options to meet demand completed

The main activities planned under this outcome are policy initiatives, such as workshops and market studies. However, it has become apparent that aquaculture producer organizations are not working effectively in 4 of the 5 target governorates, so support for the development of aquaculture POs and a national aquaculture producer organization are additional priorities.

Institutional activities

The project proposal envisaged the formation of a project Policy Advisory Committee (PAC) and policy workshops to improve the policy environment for those in the aquaculture value chain.

This has been difficult to address as Egypt's political situation remains fragile following elections and frequent changes of key stakeholders. However there may also be a greater opportunity to bring common-sense to bear on decision-makers. The outline composition of the Policy Advisory Committee is as follows:

Mohamed Fathy, GAFRD (Chairman) Gamal el Naggar, WorldFish Country Manager, Hazem Fahmy, Deputy Director, CARE Egypt, Husein Hebicha, CLAR, representative of the Ministry of Water Resources and Irrigation (eg WRC), representative of an environmental NGO (eg HABY), Md. Gouda, Fayoum Fish Farmers Association, representative of SDC.

The PAC is expected to meet in early November to discuss the organization of the first policy workshop before the end of 2012. This will concentrate on one of the main topics, such as improving land and water tenure for aquaculture producers and will be the first in a series of workshops over the course of the project.

A workshop was held on 25th September to discuss the strengthening of aquaculture producer organizations. Potential activities for POs were discussed as well as experiences of aquaculture POs in other parts of the world and examples of POs from other sectors in Egypt. The meeting concluded by establishing a sub-group to investigate the options for establishing a national aquaculture PO as well as ways to form and strengthen governorate level organisations. This has been complemented by assessments of existing POs by WorldFish and one of CARE's Capacity Building Field Supervisors who carried out an

assessment of the Fish Farmers Association in Fayoum using an updated and modified CARE NGO assessment tool.

Market assessment

A consultancy assignment by Graeme Mafadyen of Poseidon Aquatic Resources was carried out in May 2012 with the aim of providing a better understanding of the market for Egyptian farmed fish.

The study provided market data on sales, volumes and values to explore the main determinants of prices for tilapia and mullet, and found that volumes of domestic farmed supplies are likely to be far more important than other factors such as imports of fish, prices of chicken, or prices of marine products. The data also suggested that volumes and prices of the largest size grade of tilapia have an impact on the prices of smaller size grades. Mullet prices over the course of the year on the other hand appear to be more independent of mullet supplies.

The study considered the main market segments selling farmed fish, and what their distinguishing characteristics are in terms of demand for farmed fish (e.g. sizes, product form, etc). In the retail sector, the two main market segments for tilapia and mullet sales at the present time appear to be independent fish retailers and street vendors, but there are also some small sales through multiple retailers (supermarkets).

Within the retail sector there is also a fast growing sub-segment concentrating solely on the sale of live tilapia. Smaller volumes of sales also pass through the food service sector, primarily through specialist fish restaurants and fish fryers/grillers. There are not thought to be any sales of farmed fish to hotels/restaurants, event caterers, airline catering companies, or companies providing food for large institutions e.g. hospitals, schools, the army, etc.

There is also a small but rapidly growing export market for whole fresh tilapia in countries in the Middle East. This market may have developed as a niche market with whole fresh tilapia being seen as distinct from frozen tilapia and *Pangasius* catfish fillets from China and Vietnam, but growth in this export business may also be driven by the low prices achieved for sales of tilapia in the domestic market.

The study found that almost all fish is sold in whole unprocessed form as a low value bulk commodity product, without any value-addition. There are many market segments which could offer scope for sales of tilapia, but which currently do not buy or sell any tilapia. Also, there has been very little work completed either to understand the complexities of the market for farmed fish in Egypt, or to try to assist with market development.

The study concluded that these factors combine to generate a very real threat of collapse of profitability in the farming sector in the coming years if production continues to rise and real prices continue to fall. They argue for much greater efforts on the marketing of farmed fish, based on value-addition, and structured around a market segmentation strategy catering to the different needs of different market segments, including poor consumers, and based on specific market promotion strategies.

In particular, priority segments should be: women street vendors because of the importance of this segment in generating female employment and in the provision of affordable fish to low income consumers; sellers of live tilapia because of the value-added this generates and the quality of the resulting product; multiple retailers because of the likely growth in this segment in the coming years and the potential they provide as an outlet for fillets and value-added products (with associated opportunities for female employment); and hotels/restaurants, which again offer strong potential demand for fillets.

Other market segments also offer potential for development which needs to be more fully explored. Different promotional strategies (e.g. mass media, TV chefs, price promotions, etc) appropriate for the development of sales into different market segments are likely to be necessary but all will need to be underpinned by improvements in fish handling and

hygiene/quality, as well as some generic market promotion to change perceptions (and misconceptions) about the quality of farmed fish.

Developing and implementing a market segmentation strategy would require strengthening of representative organisations (e.g. producer organisations), and cooperation between stakeholders in the value-chain. The IEIDEAS project is well placed to play a key role in facilitating such developments, as well as in supporting additional research and implementing the market promotional strategies that might be required. The IEIDEAS project has a limited budget and timeframe, however, and it is certain that other partners from within the government, the private sector, and other bilateral and multinational donor agencies, will be critical in supporting much needed developments in the market for Egyptian farmed fish.

Support from WorldFish Gender Specialist

WorldFish Gender Specialist, Paula Kantor, visited Egypt in June with the aim of stimulating thoughts on how the project could make a greater contribution towards improving the livelihoods of vulnerable households, and particularly poor women, by more focus on the gender implications of our work.

She visited women retailers in Fayoum and Abou Hammad and held workshops for project and WorldFish staff.

The following ideas were identified as having potential to increase aquaculture opportunities for women:

1. Immediate intervention around improving cold storage technology for fish retailers – targeting women but including men. Provide access to 'Coleman' ice boxes – accessible via fish retailer associations on rental basis.
2. Expanding the processing part of the value chain to link to (and further develop) demand for fillets among multiple retailers, restaurants, establishments with catering needs (ie hospitals, military).
3. Homestead catfish rearing, with backward linkages to homestead hatcheries (Fayoum, El Mineya)
4. Training women as hatchery managers

Other conclusions:

1. In transitioning to a research for development approach under the Livestock and Fish CRP, WorldFish need to emphasize more people-centered analyses, including gender analysis. Current WFC analysis in the IEIDEAS project is very fish focused, with less on who is benefiting, who is involved in value chains, etc.
2. Do more and better poverty, gender & social analysis to inform IEIDEAS gender program design and M&E indicator development.
3. Organize a design workshop to discuss the results of the gender and market analysis of the new aquaculture opportunities for women in order to engage external stakeholders in the design process and to learn from their experience.
4. Use the gender program design process to establish a gender research agenda within the project including more varied opportunities for women's employment in other segments of the value chain.
5. Establish mutually agreed upon processes for reviews of the quality of research instruments and designs. Both CARE and WorldFish are moving into new areas – aquaculture for CARE, social science research and gender analysis for both partners.
6. Consider applying the Making Markets Work for the Poor (M4P) approach within the project. This is a people-centered, poverty focused approach to facilitating shifts in how market systems work so that they engage more with the poor, or in the interests of the poor. There have been very recent efforts to integrate gender within the method.

Communication planning

The project held a communications planning workshop in July. This led to the development of a list of key communications activities to be implemented over the project period. This included general messages for a wide audience and specific messages for targeted project stakeholders.

2.7 Outcome 5: Contribute to nutritional health of low income consumers

This outcome was added to the project just before the project agreement was signed. The main indicators were outlined as increases in national fish production statistics, stable prices for fish and stable per capita consumption levels. The difficulty with these indicators is attribution. While it may be possible to attribute increases in national fish production statistics to previous WorldFish research and development efforts, current project initiatives will take many years to feed through to increased production levels by fish farms. Meanwhile, the market study indicated that fish prices are determined mainly by the quantity of fish supplied to the market, there is clear market segmentation and annual fluctuations so it is necessary to define precisely which prices, in terms of size/grade, species, location, retail/wholesale, etc. should act as the reference level for the project.

3 Progress against logframe indicators

Progress against key performance indicators is outlined below in Table 2.

These show that while great progress has been made at the activity level, many of the KPIs are either unrealistic or unmeasurable. The logframe indicators will be revised during a workshop in November 2012 to fit with the DCED Results Measurement system.

Table 2. Progress against key performance indicators

Outcome	Key Performance Indicators to 30/11/2012	Current situation (30/9/2012)
1. Reinforce profitability of aquaculture producers and create 9,142 jobs in the governorates of Behera, Fayoum, Kafr el sheikh and Sharkia.	• 2% increase in the number of women and youth employed • 5% profit increase among 400 target producers	• Dissemination of Abbassa strain Nile tilapia and BMP farmer training have both been initiated however it will take some time for impacts to feed through to increases in employment and profits • GAFRD production statistics indicate continued growth in production however this cannot be attributed to project activities • 2011 VCA data is being collected at present to compare with baseline employment and production levels • New, more direct indicators are required
2. Create/retain 900 jobs in the aquaculture retailing sector	• 25 women retailer jobs in Mineya, 50 in Fayoum	• 2 women retailer groups operating and others being formed • Logframe should be more specific about job creation or retention • Survey feedback suggests that objectives should be framed in terms of decent work and conditions for women retailers rather than increasing employment
3. Increase farmed fish production in El Mineya governorate and create 250 jobs; Pilot and disseminate methods to decrease environmental and water utilization impact of aquaculture	• 5% production increase in El Mineya	• Study found that there was some existing fish farming activity in El Mineya so there was a baseline. • Changes in practices on existing farms will lead to increases in fish harvested in 2013. • New farms will come into production and create employment in 2013 & 2014

4. Facilitate efficient and sustainable value chains in the aquaculture sector and optimal institutional, policy and regulatory frameworks	• Private-public and civil society alliances established to improve institutional and policy environment	• Only one of the governorate level aquaculture producer organisations is functioning (Fayoum); actions taken to re-establish Kafr el Sheikh and Behera. New organisations needed in Sharkia and Mineya. Also national apex body required for aquaculture producers. • Difficult to initiate policy dialogue during a period of political change however one policy workshop will be held in December 2012.
5. Contribute to nutritional health of low income consumers	• 5% increase in fish production	• According to GAFRD statistics, aquaculture production reached 986,820 tonnes in 2011, exceeding the EOP (2014) target of 900,000 t/yr however increases cannot logically be attributed to the project • Farmed fish prices fluctuated through-out 2012; very high early in the year because of severe winter, very low later in the year because of the quantity of fish coming onto the market • Price indicator needs to qualified; eg grade 3 tilapia in Obour market in September

4 Planned activities

4.1 Review of project logframe

While project management and governance systems are now well established, the project logframe needs to be revised to include more realistic indicators and reflect experience gained during the first year of implementation. Many of the indicators in the original logframe are either unattainable or unmeasurable or could not clearly be attributed to project activities.

This review will streamline project indicators with the DCED Results Measurement approach for project M&E and orientate project activities more towards the Making Markets Work for the Poor approach (M4P) so that links between project activities and poverty are more explicit. Both these approaches were co-developed by SDC with other donors.

The review will be achieved through a project workshop in the second half of November 2012.

4.2 Detailed activity planning for 2013

Each of the project teams will be responsible for developing detailed activity plans for 2013 to be reviewed in December 2013 at the project end of year review. In most cases, activity plans will simply continue and build from 2012 activities. However there may need to be reallocations of staff and/or budgets to cope with the growth of field based activities such as support for training and producer organisations.

4.3 Other project linkages

Two complementary projects have launched activities in Egypt focusing on food safety and the aquaculture value chain. Both projects are being implemented by the CGIAR organization, the International Livestock Research Institute (ILRI). The GIZ supported project, Safe Food Fair Food and the ACIAR supported project, Rapid Integrated Assessment[3] are dealing with different aspects of aquaculture-produced fish in Egypt as one of their focus value chains.

[3] Rapid Assessment of Potential Benefit to Human Health and Nutrition from Research on Livestock and Fish Market Chains in Asia and Africa

The projects will shed light on concerns over the quality of farmed fish in Egypt. The main concern expressed by many Egyptians is that farmed fish is produced in dirty water therefore it may be contaminated with heavy metals and pesticides. Initial indications are that the actual levels of contaminants in farmed fish are well within tolerable levels and in fact we should be more worried about poor post-harvest handling and storage leading to bacterial and autolytic spoilage.

5 Project budget and expenditure

Information on project expenditure from SDC funds against the budget is shown in Table 3 and in Annex 2 along with a table showing overall spending on the project (SDC and matching funds). These show that while expenditure of SDC funds to date is within 17% of the expected pro rata expenditure rate, spending on particular budget lines, such as travel and training are well below the projected rate. Spending on training will accelerate following the September 2012 training of trainers course and the start of field training campaigns. Project planning activities in late 2012 may include requests to reallocate expenditure from budget lines such as travel and operating costs to budget lines such as personnel.

According to the project contract, an audit covering the period 1/12/2011 to 31/12/2012 is due on 1/6/2013.

Table 3. IEIDEAS project expenditure from SDC funds ($)

Budget line	Total budget ($)	Expenses 01/12/2011 to 30/09/2012	Budget balance	% 0ver(-)/under expenditure for 10 months
Personnel	1583734	425186	1158548	3.35
Travel	171636	12140	159496	74.53
Consultancy	122544	19541	103003	42.59
Producer Organisations	980000	272000	708000	0.08
Training	339491	40780	298711	56.76
Operating costs	600811	104164	496649	37.58
Overhead (12%)	455786	104857	350,929	17.17
CGIAR non-research system costs financing (2%)	85079	22390	62689	5.25
GRAND TOTAL	4339081	1001058	338023	16.94

ANNEX 1 - Project Logframe

Logframe	**WorldFish: Improving Employment and Income Through Development of Egypt's Aquaculture Sector**			**Ph. 01**	**1 Dec11 – 31 Dec14**
Hierarchy of Objectives	**Key Performance Indicators + Baseline Data**			**Means of Verification**	**Assumptions & Risks**
Impact (Goal)			**Impact Indicators**		
To create around 10'000 jobs through the development of Egypt's aquaculture sector in 5 governorates, benefitting 50'000 household members; to develop the aquaculture sector in general; to contribute to the nutritional health of low-income consumers.			▪ Number of jobs created/retained ▪ Increase in profitability and production ▪ Institutional and policy changes		
Outcomes	**30 Nov. 2012**	**30 Nov. 2013**	**Final Outcome Indicators**		
1. Reinforce profitability of aquaculture producers and create 9'142 jobs in the governorates of Behera, El-Fayoum, Kafr-El-Sheikh and Sharkia	▪ 2% women and youth employed ▪ 5% profit increase among 400 target producers (*BSL + 5%*)	▪ 4% women and youth employed ▪ 10% profit increase among 400 target prod. and 800 sec. adopters (*BSL + 10%*)	▪ 9'142 jobs created. Baseline: 36,515 ▪ 6% increase in direct employment of women and youth. Baseline: 20,813 ▪ 15% profit increase among 400 target producers and 1200 secondary adopters Baseline: to be established ▪ +100% production increase as compared to non-project governorates	▪ Employment: Independent external evaluation utilizing project or independently commissioned surveys ▪ Profit increase: Independent external evaluation reviewing evidence from partial cost-benefit analysis ▪ GAFRD production statistics ▪ Other independent external evaluations	**SEE SECTION ON RISK IN MAIN PROPOSAL**
2. Create/ retain 900 jobs in the aquaculture retailing sector	▪ 25 women retailer jobs in Mineya, 50 in ElFayoum	▪ 75 women retailer jobs in Mineya, 100 in El-Fayoum, 100 in other 3 governorates	▪ 900 jobs created/ retained for women Baseline: 6293	▪	
3. Increase farmed fish production in El-Mineya governorate and create 250 jobs; Pilot and disseminate methods to decrease environmental and water utilization impact of	▪ 5% production increase in El-Mineya	▪ 10% production increase in El-Mineya	▪ 15% increase in farmed fish production in El-Mineya Baseline: 0-tonnes ▪ 250 new jobs created Baseline: 0 ▪ 50% of aquaculture surface in El-Mineya make use of integrated	▪ Independent external evaluations	

aquaculture.			aqua-/agricultural approaches, ensuring minimal environmental impact Baseline: 0 ▪ 50% of aquaculture surface in El-Mineya make use water efficient practices Baseline: 0		
4. Facilitate efficient and sustainable value chains in the aquaculture sector and optimal institutional, policy and regulatory frameworks	▪ Private-public and civil society alliances established to improve instit. and policy environment	▪ Institutional and policy environment improved	▪ Local aquaculture associations in production and retailing established and functioning Baseline: 1 producer association in El-Fayoum ▪ More supportive institutional, policy and regulatory framework established Baseline: Key challenges identified (first use of water; processing/export; social/environmental practices)	▪ Independent external evaluation utilizing government monitoring data or project-derived data ▪ Policy documents or other written evidence of regulatory, governmental or non-governmental support initiatives	
5. Contribute to nutritional health of low income consumers.	▪ 5% increase in fish production	▪ 15% increase in fish production	▪ 900'000 t of fish produced for domestic markets (government targets) Baseline: 720,000 t (2010; est.) ▪ Cost of fish ≤ price 2010 Baseline: 9.98 EGP / kg ▪ Per capita fish consumption in kg stable or above 2010 levels Baseline: 15.8 kg per capita (est.)	▪ Government statistics ▪ Seasonal price surveys in markets serving poor consumers ▪ Dedicated annual household panel survey	
Outputs (Results)	**30 Nov. 2012**	**30 Nov. 2013**	**Output Indicators**		
1. Productivity and profitability of fish farms in Kafr el-Sheikh, Sharkia, El-Fayoum, Behira governorates increased	Seed. ▪ Abbassa strain broodstock distributed by AFBC to partner broodstock multiplication centers *(# multiplication centers; # broodstock*) BMPs. ▪ Participatory BMPs	Seed. ▪ Sufficient broodstock for seed multiplication produced (*broodstock numbers*) ▪ Production trials on demonstration farms completed using seed provided directly from the AFBC and results shared via Pos	Seed ▪ Improvements in growth rates among 400 producers using Abbassa strain in target governorates (BSL + 30%), productivity (BSL + 5%) and profits (BSL + 10%) BMP ▪ Improvements in FCR (*BSL + 15%*) among partner producers in target	▪ Published reports for on-farm trials for tilapia growth rates and farm production survey data for production and profitability ▪ Published reports for on-farm trials comparing BMPs with current practice and farm production survey data for production and profitability ▪ Same as above	

	developed (*BMPs published*) ▪ BMPs used by 100 producers in target governorates *(# farmers using*)	<u>BMPs</u>. ▪ FCR on 400 farms improved in target governorates (*BSL+ 5%*)	governorates <u>Seed + BMP</u> ▪ Improvements among producers adopting both measures in target governorates in fish growth rates (*BSL + 25%*), production (*BSL + 8%*) and profits (*BSL + 15%*)		
2. New retailing opportunities and arrangements established	▪ The role of women retailer organizations in securing employment and equitable benefits from aquaculture VCs in five target governorates understood (*Report*) ▪ Market interventions to improve employment and benefits among women retailers in Mineya and Fayoum identified and initiated (*Report*)	▪ Results from Year 1 interventions evaluated (*Report*) ▪ Scale-out in target governorates initiated and data collected and analyzed (*Report; paper*)	▪ Establishment of women fish retailer organizations in five governorates	▪ Organizational establishment documents ▪ Survey data	
3. New aquaculture value chains in El Mineya established	▪ High potential production sites in Mineya identified on basis of biophysical resources and market linkages (*Report*) ▪ Target groups identified and Producer Organizations established (*Reports; workshops*) ▪ Barriers to uptake and market based interventions identified (*Report*) ▪ Prioritized technologies and other interventions initiated with target groups (*Milestones*)	▪ Production in Mineya and impacts on employment determined (*Report*) ▪ Implementation plan revised in the light of 2012 program results (*Report; revised implement-ation plan*)	▪ Effectve program of implementation underway in El Mineya ▪ Increased cooperation among aquaculture producers	▪ Government district level production monitoring data if available, or through market volume monitoring data ▪ Employment data from farm labor surveys ▪ Producer organization establishment documents ▪ Documentation of PO workplans incorporating project-derived market solutions	

4. Improved institutional and policy environment, fostering efficient and sustainable VCs	▪ Aquaculture private-public sector and civil society advocacy alliances to improve institutional and policy environment established	▪ Understanding and institutional and policy environment improved	▪ More supportive institutional and policy framework established	▪ Policy documents or other written evidence of regulatory, governmental or non-governmental support initiatives	
Activities + Inputs	**30 Nov. 2012**	**30 Nov. 2013**			
1. Increased productivity and profitability of fish farms in target	<u>Seed</u> ▪ Seed VC segment study conducted and results shared (*Report; workshop*) ▪ Abbassa strain broodstock (9^{th} generation) disseminated by AFBC to multiplication centers *(# multiplication centers; # broodstock*) ▪ Genetic improvement program sustained (*10^{th} generation produced*) <u>BMPs</u> ▪ Identification of stakeholders for BMP development (*BMP deevelopment teams formed*) ▪ BMP (seed, feed, and water use; harvesting) developed for Target governorates (*BMPs published*) ▪ Participatory development of BMPs for Mineya and Fayoum (*BMPs available*) ▪ Capacity building PPP networks established in target governorates (*three*	<u>Seed</u> ▪ Multiplication of Abbassa strain (9^{th} generation) by partners centers underway and brood-stock disseminated to hatcheries *(# brood-stock disseminated to # hatcheries in target governorates*) ▪ First Abbassa strain fingerlings distributed from AFBC to demonstration farms in target governorates *(# ponds stocked with Abbassa strain fingerlings*) ▪ On-farm production demonstration cycles completed, results analysed and shared (*farmer field days; report; scientific paper*) ▪ Genetic improvement program sustained (*11^{th} generation produced*) <u>BMPs</u> ▪ Impacts of capacity building on productivity and profitability			

	networks established) ▪ Capacity building plans for target governorates produced (*three plans produced*) ▪ Training of trainers implemented in target governorates *(# trainers trained*) ▪ Capacity building program implemented by POs (*programs implemented in Target governorates*) ▪ Feedback on courses collected and analyzed (*survey results available*)	established (*BSL + 10%*) ▪ Study and survey results used to revise BMPs (*revised BMPs produced*) ▪ Revised capacity building courses implemented *(# courses run in five governorates*) ▪ Study of power of feed VC segment on VC carried out (*Report; paper*)			
2. New markets and improved marketing arrangements	▪ Retailer VC segment in five governorates analyzed (*Report*) ▪ Women retailer organizations/groups in Mineya and Fayoum formed (*two operational trader organizations*) ▪ First interventions pursued and analyzed (*Report*) ▪ Study of impacts of Women Retailer Organizations on employment and benefits conducted (*Report; paper*)	▪ Women retailer organizations in Behera, Kafr El Sheikh and Sharkia formed in follow up tp employment study (3 operational retailer organizations) (*Report*) ▪ Follow up interventions in Mineya and Fayoun and first interventions in other governorates pursued and analyzed (*Report*)			
3. Establishment of new farms in El Mineya	▪ Study of high potential production sites in Mineya completed (*Report*) ▪ Study conducted to identify and	▪ Impacts of project activities on numbers of producers, production and employment by gender assessed (*Report*) ▪ Plan revised and implemented (*Report;*			

	prioritize target potential producers (Report) ▪ Participatory study to identify barriers conducted (Report) ▪ Market interventions, including workshops and farmer field schools, implemented (*Plan; targets and milestones*) ▪ Effectiveness of technologies and interventions assessed (*Study; report*)	*targets and milestones*) ▪ Workshops and farmer field schools conducted *(# activities and pafrticipants*) ▪ Production, productivity and profitability data collected, analyzed and published (*Report*)			
4. Value chain performance improved	▪ Two issue based workshops convened (private sector engagement; gender in the aquaculture sector) ▪ Study to determine markets for value added products in restaurants in Cairo and Upper Egypt and the	▪ Two issue based workshops convened (environment; role of government and higher education sectors and POs in continued technology development and uptake identified;) ▪ Study conducted to determine the feasibility of and impacts on employment of POs engaging in contractualization arrangements (*Report*) ▪ Study carried out on			

	options to meet demand completed (*Report*)	working conditions and rights of workers in the aquaculture sector (*Report*)			

Other fields of observation: Conflict sensitive programme management with regard to competition for resources between aquaculture and other users; disaster risk reduction, ecological impact resp. climate change; job creation in secondary industries.

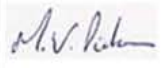
Unexpected results ?

Annex
2

Project Number	AP-4036-SDC
Project Title	7F-08042.01.02 Improving Employment and Income Through Development of Egypt's Aquaculcuture
Project Duration	1 December 2011 to 31 December 2014
Project Leader	Dr. Malcolm Dickson
Donor	Swiss Agency for Development and Coorperation
Total Grant	USD4,339,081.00

FINANCIAL REPORT
for the period from 1 December 2011 to 30 September 2012
In USD

BUDGET LINE ITEMS	TOTAL BUDGET FOR SDC CONTRIBUTION ONLY	EXPENSES 01 December 2011 to 30 September 2012	EXPENSES TO DATE	BUDGET BALANCE
(1) Profiability Improved				
Personnel	777,637.00	208,766.16	208,766.16	568,870.84
Travel	56,677.00	4,008.59	4,008.59	52,668.41
Consultant	45,636.00	7,276.98	7,276.98	38,359.02
Producer Organization/Retailer Group	98,000.00	27,200.00	27,200.00	70,800.00
Training Workshop	237,644.00	28,546.13	28,546.13	209,097.87
Operating Cost	465,215.00	80,654.42	80,654.42	384,560.58
Overhead (12%)	201,696.00	42,774.27	42,774.27	158,921.73
CGIAR Non Research System Costs Financing (2%)	37,650.00	9,142.29	9,142.29	28,507.71
	1,920,155.00	408,368.84	408,368.84	1,511,786.16
(2) Employment in retailling increased				
Personnel	221,376.00	59,440.95	59,440.95	161,935.05
Travel	40,942.00	2,895.37	2,895.37	38,046.63
Consultant	15,636.00	2,493.40	2,493.40	13,142.60
Producer Organization/Retailer Group	392,000.00	108,800.00	108,800.00	283,200.00
Training Workshop	-	-	-	-
Operating Cost	44,899.00	7,799.91	7,799.91	37,099.09
Overhead (12%)	85,782.00	21,771.56	21,771.56	64,010.44
CGIAR Non Research System Costs Financing (2%)	16,013.00	4,653.31	4,653.31	11,359.69
	816,648.00	207,854.50	207,854.50	608,793.50
(3) Farmed fish production in El Mineya				
Personnel	221,376.00	59,440.95	59,440.95	161,935.05
Travel	40,942.00	2,895.37	2,895.37	38,046.63
Consultant	15,636.00	2,493.40	2,493.40	13,142.60
Producer Organization/Retailer Group	392,000.00	108,800.00	108,800.00	283,200.00
Training Workshop	-	-	-	-
Operating Cost	44,899.00	7,799.91	7,799.91	37,099.09
Overhead (12%)	85,782.00	21,771.56	21,771.56	64,010.44
CGIAR Non Research System Costs Financing (2%)	16,013.00	4,653.31	4,653.31	11,359.69
	816,648.00	207,854.50	207,854.50	608,793.50
(4) Improved policy and regulatory environment				
Personnel	363,346.00	97,537.59	97,537.59	265,808.41
Travel	33,075.00	2,340.57	2,340.57	30,734.43
Consultant	45,636.00	7,276.99	7,276.99	38,359.01
Producer Organization/Retailer Group	98,000.00	27,200.00	27,200.00	70,800.00
Training Workshop	101,847.00	12,234.05	12,234.05	89,612.95
Operating Cost	45,799.00	7,910.06	7,910.06	37,888.94
Overhead (12%)	82,523.00	18,539.79	18,539.79	63,983.21
CGIAR Non Research System Costs Financing (2%)	15,404.00	3,940.62	3,940.62	11,463.38
	785,630.00	176,979.67	176,979.67	608,650.33
Grand total	4,339,081.00	1,001,057.51	1,001,057.51	3,338,023.49



Dr. Malcolm Dickson
Project Leader

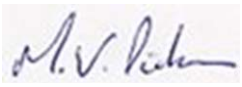
*Training Workshop including USD98,000 of the Producer Organization/Retailer Group Budget.

Project Number	AP-4036-SDC
Project Title	7F-08042.01.02 Improving Employment and Income Through Development of Egypt's Aquaculcuture Sector (Contract No: 81014118)
Project Duration	1 December 2011 to 31 December 2014
Project Leader	Dr. Malcolm Dickson
Donor	Swiss Agency for Development and Coorperation
Total Grant	USD4,339,081.00

STATEMENT OF FUNDS STATUS
for the period from 1 December 2011 to 30 September 2012
In USD

Fund Received:	
December 2011	1,212,743.00
Fund Disbursements:	
1 December 2011 to 30 September 2012	(1,001,057.51)
Fund Balance as of 30 September 2012	211,685.49

Certified by:



Dr. Malcolm Dickson
Project Leader

Project Number	AP-4036-SDC
Project Title	7F-08042.01.02 Improving Employment and Income Through Development of Egypt's Aquaculcuture Sector (Contract No: 81014118)
Project Duration	1 December 2011 to 31 December 2014
Project Leader	Dr. Malcolm Dickson
Donor	Swiss Agency for Development and Coorperation
Total Grant	USD4,339,081.00

FINANCIAL REPORT
for the period from 1 December 2011 to 30 September 2012
In USD

BUDGET LINE ITEMS	TOTAL BUDGET FOR SDC CONTRIBUTION ONLY	TOTAL BUDGET FOR MATCHING FUND	TOTAL OVERALL BUDGET	EXPENSES 01 December 2011 to 30 September 2012 SDC Contribution	EXPENSES 01 December 2011 to 30 September 2012 MATCHING FUND	EXPENSES 01 December 2011 to 30 September 2012 Overall Expenses	EXPENSES TO DATE	BUDGET BALANCE
(1) Profiability Improved								
Personnel	777,637.00	1,513,366.00	2,291,003.00	208,766.16	314,892.37	523,658.53	523,658.53	1,767,344.47
Travel	56,677.00	70,241.00	126,918.00	4,008.59	16,692.74	20,701.33	20,701.33	106,216.67
Consultant	45,636.00	-	45,636.00	7,276.98	-	7,276.98	7,276.98	38,359.02
Producer Organization/Retailer Group	98,000.00	-	98,000.00	27,200.00	-	27,200.00	27,200.00	70,800.00
Training Workshop	237,644.00	-	237,644.00	28,546.13	-	28,546.13	28,546.13	209,097.87
Operating Cost	465,215.00	412,191.00	877,406.00	80,654.42	174,863.66	255,518.08	255,518.08	621,887.92
Overhead (12%)	201,696.00	239,496.00	441,192.00	42,774.27	44,329.58	87,103.85	87,103.85	354,088.15
CGIAR Non Research System Costs Financing (2%)	37,650.00	44,706.00	82,356.00	9,142.29	-	9,142.29	9,142.29	73,213.71
	1,920,155.00	2,280,000.00	4,200,155.00	408,368.84	550,778.35	959,147.19	959,147.19	3,241,007.81
(2) Employment in retailling increased								
Personnel	221,376.00		221,376.00	59,440.95		59,440.95	59,440.95	161,935.05
Travel	40,942.00		40,942.00	2,895.37		2,895.37	2,895.37	38,046.63
Consultant	15,636.00		15,636.00	2,493.40		2,493.40	2,493.40	13,142.60
Producer Organization/Retailer Group	392,000.00		392,000.00	108,800.00		108,800.00	108,800.00	283,200.00
Training Workshop	-		-	-		-	-	-
Operating Cost	44,899.00		44,899.00	7,799.91		7,799.91	7,799.91	37,099.09
Overhead (12%)	85,782.00		85,782.00	21,771.56		21,771.56	21,771.56	64,010.44
CGIAR Non Research System Costs Financing (2%)	16,013.00		16,013.00	4,653.31		4,653.31	4,653.31	11,359.69
	816,648.00	-	816,648.00	207,854.50	-	207,854.50	207,854.50	608,793.50
(3) Farmed fish production in El Mineya								
Personnel	221,376.00		221,376.00	59,440.95		59,440.95	59,440.95	161,935.05
Travel	40,942.00		40,942.00	2,895.37		2,895.37	2,895.37	38,046.63
Consultant	15,636.00		15,636.00	2,493.40		2,493.40	2,493.40	13,142.60
Producer Organization/Retailer Group	392,000.00		392,000.00	108,800.00		108,800.00	108,800.00	283,200.00
Training Workshop	-		-	-		-	-	-
Operating Cost	44,899.00		44,899.00	7,799.91		7,799.91	7,799.91	37,099.09
Overhead (12%)	85,782.00		85,782.00	21,771.56		21,771.56	21,771.56	64,010.44
CGIAR Non Research System Costs Financing (2%)	16,013.00		16,013.00	4,653.31		4,653.31	4,653.31	11,359.69
	816,648.00	-	816,648.00	207,854.50	-	207,854.50	207,854.50	608,793.50
(4) Improved policy and regulatory environment								
Personnel	363,346.00		363,346.00	97,537.59		97,537.59	97,537.59	265,808.41
Travel	33,075.00		33,075.00	2,340.57		2,340.57	2,340.57	30,734.43
Consultant	45,636.00		45,636.00	7,276.99		7,276.99	7,276.99	38,359.01
Producer Organization/Retailer Group	98,000.00		98,000.00	27,200.00		27,200.00	27,200.00	70,800.00
Training Workshop	101,847.00		101,847.00	12,234.05		12,234.05	12,234.05	89,612.95
Operating Cost	45,799.00		45,799.00	7,910.06		7,910.06	7,910.06	37,888.94
Overhead (12%)	82,523.00		82,523.00	18,539.79		18,539.79	18,539.79	63,983.21
CGIAR Non Research System Costs Financing (2%)	15,404.00		15,404.00	3,940.62		3,940.62	3,940.62	11,463.38
	785,630.00	-	785,630.00	176,979.67	-	176,979.67	176,979.67	608,650.33
Grand total	4,339,081.00	2,280,000.00	6,619,081.00	1,001,057.51	550,778.35	1,551,835.86	1,551,835.86	5,067,245.14

Dr. Malcolm Dickson
Project Leader

*Training Workshop including USD98,000 of the Producer Organization/Retailer Group Budget.