Food Security and Livelihoods Assessment of Fisher and Agro-Pastoralist Households in Upper Egypt
Food security and livelihoods assessment of fisher and agro-pastoralist households in Upper Egypt

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Preface

This work is the result of a collaborative effort and fieldwork in Upper Egypt, with the goal of highlighting the challenges faced by communities and livelihoods that are often overlooked in mainstream development projects. This field study draws attention to the context and challenges that are unique to fishers and agro-pastoralists living in governorates in Upper Egypt; an extremely vibrant and culturally rich area, while at the same time experiencing some of the highest levels of poverty in the country.

The people living in the governorates in Upper Egypt are known as being particularly poor, with the majority of people relying on food production and marketing systems as a predominant source of livelihood. This is particularly critical as they are not only producing food for their own households, but also for households throughout their communities, and in some cases for households throughout Egypt. While not uncommon among agricultural communities, the high levels of poverty among those supplying the country with the food they need to survive is unacceptable and the importance in addressing this is becoming increasingly urgent. The majority of those involved in the agriculture sector in Upper Egypt are small-scale producers, with their households and family being very integrated into livelihoods; making it neither easy nor necessarily desirable to separate households and household members from the livelihood sustaining it. Consideration of these small-scale fishers and agro-pastoralists in a holistic manner, while understanding and incorporating the dynamic nature of these livelihoods and households, will be key to the success of these interventions. Important factors for fishers and agro-pastoralists in Upper Egypt that should be considered include the varied and changing sources of household income as well as the extremely important role woman play in these households and livelihoods, despite the fact that their work is not always clearly visible and subsequently valued.

The information gathered during this field study would not have been possible without the kind time and patience of those fishers and agro-pastoralists who sat in focus groups for hours, and all those who assisted in bringing together these people.
Acknowledgements

The authors would like to express their appreciation for the support received from the Ministry of Agriculture and Land Reclamation (MALR), the General Authority for Fish Resources Development (GAFRD) and in particular the support of Mohamed Fathy Osman, the Department of Food Information and Economics, the extension offices at Fayoum, Beni-Suef and Sohag, the University of Fayoum, University of Minya, Sohag University, South Valley University, Qena, the staff at the Food and Agriculture Organization (FAO) Regional Office for the Near East and North Africa (RNE), as well as FAO Representation in Egypt.

The authors also acknowledge the support of the Egyptian government, particularly the valuable observations and inputs made by government officials by their representatives.

Additionally the mission would like to thank and acknowledge the assistance of the numerous people who facilitated this work in the field, specifically: Asmaa Samir, member of the field team from GAFRD, Mr Salah Nady, (Head of GAFRD, Fayoum), Mr Helmi Abdo Ghonami (Dean of the Faculty of Agriculture, El Fayoum University), Mr Ibrahim Bawdy Hassan, (Director for Fisheries, Beni-Suef), Mr Abd Allah Hassan Ali (Head of the Fishers’ Cooperative, Beni-Suef), Mr Hany Ghotas (Coptic Evangelical Organization for Social Services, Beni-Suef), Abd El-Qawi Ewais (Chair of the Fisheries Cooperative Board, Beni-Suef), Mr Ismail Sayed Ibrahim (Head of GAFRD, Minya) Mr Atef Shawky Mousa (Chair of the Fishers’ Cooperative Board, Minya) Mr Mortada (GAFRD, Sohag), Mr Wael Abd El-Rady (Head of the Fishers’ Cooperative, Sohag) Mr Haroun (Fishers’ Cooperative, Qena) Mr Mahmoud Haseeb (Head of GAFRD, Aswan), and all extension offices, cooperative union members and local authorities in each governorate.

Thanks particularly to Piero Mannini, Mohamed AwDahir and Markos Tibbo, (FAO) for their comments and input on the draft versions of this report.

Special appreciation goes to the agro-pastoralists, fishers and members of the communities visited who took time from their daily commitments to discuss issues affecting their livelihoods and households. This assessment would not have been possible without the time they devoted and the information provided.
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCRF</td>
<td>Code of Conduct for Responsible Fisheries</td>
</tr>
<tr>
<td>CEOSS</td>
<td>Coptic Evangelical Organization for Social Services</td>
</tr>
<tr>
<td>EGP</td>
<td>Egyptian pound</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>GAFRD</td>
<td>General Authority for Fish Resources Development</td>
</tr>
<tr>
<td>HDI</td>
<td>Human Development Index</td>
</tr>
<tr>
<td>MALR</td>
<td>Ministry of Agriculture and Land Reclamation</td>
</tr>
<tr>
<td>MSY</td>
<td>Maximum sustainable yield</td>
</tr>
<tr>
<td>UFC</td>
<td>Union of Fishing Cooperatives</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
</tbody>
</table>
Executive summary

A significant number of the rural population in Upper Egypt continues to experience food and livelihood insecurity because of a combination of factors, including a high poverty rate, civil insecurity and a lack of adequate income sources and employment opportunities. In 2011, a series of shocks affected Egypt. These included internal civil disturbances, the rise in food prices, an economic downturn and a disruption of normal life, all of which affected all sectors and led to a high rate of unemployment. The situation was exacerbated by a high rate of returnees from other parts of Egypt, as a result of loss of employment opportunities in the tourism and associated service sectors, and from surrounding countries affected by conflict, such as Libya, adding vulnerability to the households.

This assessment was undertaken in order to obtain updated information and an evidence-based analysis of the livelihood and food security situation among fisher and agro-pastoralist households in Upper Egypt. The objective was to better inform programming, planning, coordination and implementation of projects about the challenges and opportunities that actually exist. This study is the result of a food security and livelihoods assessment in fisher and agro-pastoralist households in Upper Egypt, which took place in July 2012. The results of this assessment explore the challenges faced by these households, the coping strategies they adopt, their interactions at the community level, their organization and the opportunities for livelihood enhancement and food security improvement.

Fisher and agro-pastoralist households are engaging in a number of income-generating activities in order to cope with low levels of incomes, lack of savings and changes that have negatively affected their livelihoods over the past years. The assessment determined that the livestock and fisheries sectors face a number of gaps. For the livestock sector these gaps include the limited ability of farmers’ associations to maximize the potential of the market and operational gaps in livestock management. For the fisheries sector, the challenges include the lack of capacity within fishers’ associations, lack of social insurance and financial services, pollution of the Nile and the presence of invasive crayfish. These sectors exist in a sort of fragmented state where it is difficult to realize the true potential of these livelihoods. Fisher and livestock households are facing different and unique challenges in the same communities. However certain elements are common, including their high degree of vulnerability to external shocks and changes, lack of resilience to adequately cope with these changes, inseparability of the livelihood and household, rising costs of inputs without a corresponding increase in sale prices, lack of market knowledge and a capacity to address market challenges and the lack of organization of the producers to engage with the challenges on a wider level.

Determination of livelihood opportunities must consider the dynamic situation of livestock and fisher households. The recommendations of the assessment are integrated and holistic. They include a number of activities focused on strengthening the position of fishers and agro-pastoralist in the value chain as a whole and in producer organizations, as well as addressing market deficiencies. The livelihoods of producers and traders are considered, as well as the food security of communities as a whole. The recommendations include:

- Better integration of fishers into broader community development projects and mainstreaming development policy;
- Improving the fisheries management strategy;
- Enhancing the capacities of fishing and agro-pastoralist cooperatives;
- Improving financial and social services to fishers;
• identifying alternative income generating-opportunities within and outside the fisheries sector;
• developing an integrated approach to the livestock management programme;
• strengthening skills in the technical areas of animal health care, quality of feeds and quality control at the community level;
• providing adequate equipment and infrastructure for dairy processing to improve quality and hygiene standards;
• addressing the gender gap in fisheries and livestock livelihoods;
• creating an enabling environment for accessing the market and strengthening the value chain;
• addressing markets and market-led livelihoods through the facilitation and support of business for the target groups to create significant benefits;
• increasing the competitiveness of Upper Egypt’s producers.
Introduction

This study is the result of a food security and livelihoods assessment in fisher and agro-pastoralist households in Upper Egypt which took place in July 2012. The results of this assessment explore the challenges faced by these households, the coping strategies they undertake, their interactions at the community level, their organization and the opportunities for livelihood enhancement and food security improvement. Included in the report are recommendations to address the main challenges and constraints identified. The field mission met with fishers, agro-pastoralists, household members, traders, cooperative members, local authorities, local universities and extension workers in Fayoum, BeniSuef, Minya, Sohag, Qena and Aswan.

Rationale

Egypt faces numerous challenges in addressing economic, social and regional inequalities, particularly with regards to livelihoods, food security, income generation and education. A significant number of the rural population in Upper Egypt experience food and livelihood insecurity as consequence of a combination of factors, including high poverty rates, lack of adequate and stable sources of income and a lack of employment opportunities. The current disparity between Upper Egypt and the rest of the country has existed for decades. Given the uncertain situation that has prevailed in the country since January 2011, revenue from tourism has decreased sharply, there has been a reduction in remittance income and almost 300 000 Egyptian workers are reported to have returned home because of instability in Libya and other parts of the region. New challenges have emerged that need to be addressed. It is thought that the addition of these recent developments has exacerbated existing livelihood constraints and poverty levels, adding stress to the existing chronic food insecurity and high malnutrition rates in Upper Egypt.

Given the effect these changes have had on households in Upper Egypt, and given the likely occurrence of changes in the future (continued socioeconomic instability, climate change impacts and, increased demand for food production), a need for increased preparedness for and better response to humanitarian needs was identified. In addition it is necessary to increase the resilience of vulnerable households to potential external shocks which may exacerbate the already insecure livelihood and food situations. This work was initiated from discussions held with fishers at the regional meeting on Reducing the Vulnerability of Fishing and Fish Farming Communities to Natural Disasters and Climate Change Impacts in the Near East and North Africa, held in March 2012 in Muscat, Sultanate of Oman.¹ In order to address the challenges to families, in terms of food security and livelihoods, in both fisher and agro-pastoralist households, it was determined that information on the current context and challenges faced was required.

An updated information and evidence based analysis of the livelihood and food security situation among fisher and agro-pastoralist households in Upper Egypt was undertaken. The objective was to better inform programming, planning, coordination and implementation of projects as to the challenges and opportunities that actually exist. It was determined that an analysis on different livelihood sources, including agro-pastoralism, fisheries and aquaculture, would be useful. It would be particularly so given that despite past activities by various international, national and UN agencies (FAO, World Food Programme, International Fund

¹http://www.fao.org/docrep/016/i2720e/i2720e.pdf
for Agriculture Development) in the agricultural sector in Upper Egypt, the livestock and fisheries sectors have generally not been the focus. In many cases these sectors were excluded and, therefore, these households have not benefited from the various projects and programmes.

Additionally it was thought that there was an information gap regarding the livelihood dynamics in Upper Egypt and a gap in understanding the linkages with the rest of Egypt and other countries, particularly Sudan. The cross-border effect on livelihoods and the avenues it provides for formal and informal trade to the local communities creates an income earning opportunity as well as access to food, and hence food security, in the area needed to be understood.

**Purpose and objectives**

This assessment of food security and sustainable livelihoods in Fayoum, Beni-Suef, Minya, Sohag, Qena and Aswan governorates, was undertaken in the areas of livestock, small-scale fisheries and aquaculture, as well as markets, and cross-border trade (formal and informal). Such an assessment would provide a better understanding of the needs and opportunities for enhancing food security, improving livelihoods and reducing vulnerability to food insecurity. The assessment sought to provide an indication of the main constraints to livelihood improvement in agro-pastoralist and fisher households, community planning and participation. It would assess also the existing coping strategies and the opportunities for effective and appropriate interventions. Opportunities for enhancing livelihoods as well as building household resilience exist and this assessment looked at an integrated approach to building on sustainable livelihoods and resilience for vulnerable households.

The objectives of this study were to:

- gather needed information in order to better understand the needs and opportunities for enhancing food security and improving livelihoods at the household level in the fisheries and agro-pastoralist sectors in Upper Egypt;
- explore opportunities for food security enhancement and livelihoods improvement, with particular regards to reducing vulnerability to external shocks and building resilience among households;
- examine the market interactions and processes and how these challenge and provide opportunities for livelihoods improvement;
- understand the role of women in these households, including how women contribute to livelihoods and food security and how that role can be enhanced and improved.

**Methodology**

The field assessment was undertaken over a period of ten days in villages in the governorates of Fayoum, Beni-Suef, Minya, Sohag, Qena and Aswan (Figure 1). The selection of the governorates was based on prior knowledge that these governorates were food insecure and characterized by very high poverty rates. However, the goal was to obtain a picture of Upper Egypt as a whole and so the exclusion of Assuit and Luxor was to do solely with time constraints. The field mission team consisted of two representatives from FAO, two representatives from GAFRD and one livestock consultant. In each governorate, focus groups of fishers and agro-pastoralists were gathered in a number of villages, identified and assisted by extension services, local offices of GAFRD and the leaders of fishing cooperatives. Villages and respondents were identified by these local counterparts in terms of the numbers.
of the target respondents, whether contacts had been established and the respondents were ready to assist with assembling focus groups.

The following respondents were interviewed:

- Using a questionnaire in addition to interviews with local GAFRD and fishing cooperative representatives in each governorate, 120 fishers across 17 villages in six governorates were placed in focus groups. In addition to the fishers’ focus groups, informal focus groups of women (approximately 30 respondents) from fishing households were interviewed in a number of the communities visited. Additionally, wholesale and retail fish markets were visited in each governorate and the traders were informally interviewed (approximately 20 fish traders were briefly interviewed).
- Using a questionnaire, 154 livestock holders were interviewed across 26 focus groups in six governorates. These focus groups included four gender and age subgroups (older and younger females, and older and younger males). Semi-structured interviews were also conducted with key informants from the Universities of Fayoum, Minya, Sohag and Qena.
- Market information was obtained through structured and semi-structured interviews with key informants, focus group discussions and market visits. The key informants included fisheries cooperatives’ leaders, wholesale and retail fish traders, the head of extension services, the presidents and deans of the universities and local village leaders. Focus groups comprised small-scale livestock keepers, medium scale livestock keepers, and representatives of extension administration. The mission visited one fisheries market (either cooperative or private) in five of the six governorates. In the case of livestock, as the market days differed in each governorate visited the mission opted to ask questions during the focus group discussions.

The purpose of the methodology used was to gather an initial assessment and picture of the main challenges faced by these households. It was a first-step in creating an overview of the needs of these households in order to improve livelihoods and increase food security. The results are not intended to be a scientific analysis of Upper Egypt as a whole and are not statistically significant. A questionnaire was developed for the purpose of gathering household and food security information and was used to form the basis of focus group discussions.

Given the above, a number of factors in the above sampling methodology should be mentioned that potentially affected the information provided in the focus groups:

- Fisheries respondents were selected using the network and contacts of local GAFRD representatives and the local fishing cooperative leaders. Additionally, time and travel distance were taken into account when considering which villages to visit.
- GAFRD, and in some cases local fishing cooperative leaders, were present during the focus group discussions.
- Agro-pastoralist groups were selected through contacts with the MALR extension administration department and universities.
Figure 1. Map of Egypt

Source: FAO AquaStat, 2005
Description of the current situation

Governorates in Upper Egypt\(^2\) account for approximately 29 percent of the total population of Egypt. Agriculture employs 30 percent of total employed population in Egypt and it is estimated that agriculture is the most important source of employment for the poorer populations in Upper Egypt. According to the Egypt Human Development Report for 2010 (UNDP 2011), Upper Egypt governorates had the lowest level of human development. However, since the 2008 assessment they have achieved the largest increase in HDI indicators. Table 1 highlights a few key statistics, demonstrating the differences in human development indicators between governorates and, importantly, the gap between Upper Egypt and Egypt as a whole.

### Table 1. Human development indicators for Upper Egypt

<table>
<thead>
<tr>
<th>Governorate</th>
<th>Population</th>
<th>Proportion rural (%)</th>
<th>Poverty rate</th>
<th>Literacy rate</th>
<th>Basic and secondary enrolment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Proportion</td>
<td>Total</td>
<td>Women</td>
</tr>
<tr>
<td>Fayoum</td>
<td>2 605 000</td>
<td>77.5</td>
<td>28.7</td>
<td>59.1</td>
<td>49.9</td>
</tr>
<tr>
<td>BeniSuef</td>
<td>2 371 000</td>
<td>76.8</td>
<td>41.5</td>
<td>59.5</td>
<td>47.8</td>
</tr>
<tr>
<td>Minya</td>
<td>4 308 400</td>
<td>81.1</td>
<td>30.9</td>
<td>58.7</td>
<td>47.1</td>
</tr>
<tr>
<td>Assiut</td>
<td>3 560 000</td>
<td>73.5</td>
<td>61.0</td>
<td>60.9</td>
<td>51.0</td>
</tr>
<tr>
<td>Sohag</td>
<td>3 874 000</td>
<td>78.6</td>
<td>47.5</td>
<td>61.5</td>
<td>50.0</td>
</tr>
<tr>
<td>Qena</td>
<td>3 096 900</td>
<td>78.7</td>
<td>39.0</td>
<td>65.2</td>
<td>54.6</td>
</tr>
<tr>
<td>Luxor</td>
<td>469 500</td>
<td>52.2</td>
<td>40.9</td>
<td>72.2</td>
<td>64.2</td>
</tr>
<tr>
<td>Aswan</td>
<td>1 222 300</td>
<td>57.5</td>
<td>18.4</td>
<td>77.0</td>
<td>69.7</td>
</tr>
<tr>
<td><strong>Upper Egypt</strong></td>
<td><strong>21 507 100</strong></td>
<td><strong>76.2</strong></td>
<td><strong>40.4</strong></td>
<td><strong>61.9</strong></td>
<td>***</td>
</tr>
<tr>
<td><strong>Egypt</strong></td>
<td><strong>75 097 300</strong></td>
<td><strong>56.9</strong></td>
<td><strong>21.6</strong></td>
<td><strong>70.4</strong></td>
<td><strong>62.7</strong></td>
</tr>
</tbody>
</table>

***No information provided
Source: UNDP 2011

Governorates in Upper Egypt (Assiut, Minya and Sohag, Beni-Suef and Aswan) account for approximately 90 percent of the poorest villages in Egypt (UNDP, 2011).

**Fisheries and aquaculture**

Capture fisheries in Upper Egypt is exclusively artisanal and small-scale and represents approximately 18 percent of the total capture fisheries production in Egypt (5 percent of total fish production). It includes over 20 000 fishers in addition to those people working in the pre- and post-harvest sectors and those members of the households who rely on these livelihoods for their survival. Nile capture fishers can broadly be described as poor in terms of income generation and have often been excluded from development programmes and projects. This is despite the fact that potentially they could be among the most vulnerable households in Egypt in terms of livelihood security. Aquaculture production in Upper Egypt is mainly centred in Fayoum. It varies in size, and accounts for approximately two percent of total Egyptian aquaculture production (one percent of total fish production). Aquaculture likely takes place in all governorates in Upper Egypt, however information on these is difficult to ascertain as the activity is largely informal and information on production, employment and livelihoods is limited.

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\(^2\) For the purposes of this report, Upper Egypt refers to the governorates of Fayoum, Beni-Suef, Minya Assiut, Sohag, Qena, Luxor and Aswan, and does not refer to Giza; Giza is an ‘urban’ governorate, while the others are ‘rural’ governorates. Rural governorates are divided into districts and each district comprises a small city and a number of village local units.
**Background information**

In 2011, fisheries production in Upper Egypt comprised approximately 18.2 percent of total capture fisheries in terms of recorded fish landed. This is shown by governorate in Figure 2.

Figure 2. Capture fisheries production in Upper Egypt 2011

The majority of recorded fisheries production in Upper Egypt is produced from Lake Nasser in Aswan, while Sohag and Minya governorates have the highest productions of capture fisheries from the Nile in Upper Egypt. In 2011, recorded fish landings from the Nile had decreased by 25 percent as compared with 2002, and generally there has been a decreasing trend with minor fluctuations over the past ten years. This combination of decreasing and unstable fisheries production has obvious implications for the ability of fishers to rely on fishing as their main source of household income. The main species caught in Upper Egypt are detailed in Table 2 and the composition of the overall catch by species is shown in Figure 3. While tilapia comprises the majority catch in capture fisheries in the overall Egyptian Nile fisheries, recorded tilapia landings in Upper Egypt have been declining. In 2011, recorded landings of grass carp increased by over 50 percent, as shown in Figure 4. This relatively recent change in dominant species has implications in terms of livelihoods and marketing challenges and opportunities. Grass carp were introduced to Egypt in 1982 and are now an integral part of the Egyptian diet.

Table 2. Main fish species in the Upper Egypt Nile capture fisheries

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>English common name</th>
<th>Arabic</th>
<th>Arabic (transliteration)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ctenopharyngodonidellus</em></td>
<td>Grass carp</td>
<td>مبروك حشائش</td>
<td>Mabroukhashaesh</td>
</tr>
<tr>
<td><em>Cichlidae</em> spp.</td>
<td>Tilapia</td>
<td>بلطي</td>
<td>Bolty</td>
</tr>
<tr>
<td><em>Claridae</em> spp.</td>
<td>Catfish</td>
<td>قراميط</td>
<td>Karameet</td>
</tr>
<tr>
<td><em>Late niloticus</em></td>
<td>Nile perch</td>
<td>قشر بياض</td>
<td>KishrBayad</td>
</tr>
<tr>
<td><em>Bagrus</em></td>
<td>Bagrus</td>
<td>بياض</td>
<td>Bayad</td>
</tr>
<tr>
<td><strong>Qarun</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mugilidae</em> spp.</td>
<td>Mullet</td>
<td>عائلة بورية</td>
<td>Aelaboreya (bory)</td>
</tr>
<tr>
<td><em>Tilapia zilli</em></td>
<td>Redbelly tilapia</td>
<td>بلطي</td>
<td>Bolty</td>
</tr>
<tr>
<td><em>Soleidae</em> spp.</td>
<td>Sole</td>
<td>موسى</td>
<td>Moussa</td>
</tr>
<tr>
<td><em>Penaeidae</em> spp.</td>
<td>Shrimp</td>
<td>جمبرى</td>
<td>Gambary</td>
</tr>
</tbody>
</table>

3 While *Tilapia* spp. are no longer the dominant species produced from capture fisheries, it remains the major species consumed in Egypt, comprising approximately 62 percent of aquaculture production, which in turn comprises over 70 percent of total fish produced in Egypt (GAFRD, 2012).

4 The main species of Lake Nasser do not necessarily include carp, catfish and bagrus.

5 Also mullet is common in Rayyan.
In 2011 there were approximately 17,000 fishers who were members of fishing cooperatives in Upper Egypt. The actual number of fishers in these governorates could be estimated at between 25 and 50 percent higher\(^6\) than this value, particularly when considering the number of vessels registered in each governorate and given the known number of crew per vessel\(^7\). Table 3 shows the number of fishers who are members of cooperative and the number of registered vessels in each governorate. Table 3 also shows the main species caught, the gear used, and vessels’ characteristics. This information was obtained through a combination of GAFRD statistics and discussions with fishers.

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\(^6\) Estimates are based on conversations about unlicensed fishing with local authorities.

\(^7\) Fayoum, for example has 615 recorded vessels. With 5 to 6 crew per vessel this would amount to 3,075 fishers if these fishers were the same fishers fishing every day. It is more common for 10 fishers to be working on one vessel, but with only 5 or 6 on board at any given time.
Table 3. Description of Upper Egypt fisheries

<table>
<thead>
<tr>
<th></th>
<th>Fayoum(^3)</th>
<th>BeniSuef</th>
<th>Minya</th>
<th>Sohag</th>
<th>Qena</th>
<th>Aswan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fishers*</td>
<td>2181</td>
<td>3043</td>
<td>2252</td>
<td>1838</td>
<td>2017</td>
<td>2848</td>
</tr>
<tr>
<td>Number of vessels*</td>
<td>615</td>
<td>920</td>
<td>835</td>
<td>1177</td>
<td>807</td>
<td>2671</td>
</tr>
<tr>
<td>Gear used</td>
<td>Trammel net Gill net</td>
<td>Trammel net Gill net</td>
<td>Trammel net Gill net Hook &amp; line</td>
<td>Trammel net Gill net Hook &amp; line</td>
<td>Trammel net Gill net Hook &amp; line</td>
<td>Trammel net Gill net</td>
</tr>
<tr>
<td>Vessel size (m)</td>
<td>6–8</td>
<td>4–5</td>
<td>4–5</td>
<td>4–5</td>
<td>4–5</td>
<td>6</td>
</tr>
<tr>
<td>Vessel material</td>
<td>Wood Fibreglass</td>
<td>Wood</td>
<td>Wood Fibreglass</td>
<td>Wood Metal</td>
<td>Wood Metal</td>
<td>Wood</td>
</tr>
<tr>
<td>Vessel power</td>
<td>Paddle Sail</td>
<td>Paddle</td>
<td>Paddle</td>
<td>Paddle</td>
<td>Paddle</td>
<td>Paddle</td>
</tr>
<tr>
<td>Crew (including owner)**</td>
<td>5–6</td>
<td>2–3</td>
<td>2–3</td>
<td>2–3</td>
<td>2–3</td>
<td>2–3</td>
</tr>
<tr>
<td>Daily catch/vessel (kg)</td>
<td>10–12</td>
<td>6–10</td>
<td>3–10</td>
<td>3–10</td>
<td>5–10</td>
<td>5–10</td>
</tr>
<tr>
<td>EGP/kg (assessment)</td>
<td>16 (mullet)</td>
<td>4–12 (tilapia)</td>
<td>5–12 (tilapia)</td>
<td>4–10 (tilapia)</td>
<td>4–12 (tilapia)</td>
<td></td>
</tr>
<tr>
<td>Avg.EGP/kg (Obour market)</td>
<td>Tilapia: 8.62*** Grass carp: 14.00 Catfish: 8.08 Nile perch 17.25 Bagrus 14.88 Mullet: 20.00 Sole: 19.53:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figures obtained from GAFRD statistics 2011, actual figures could be higher given the number of fishers who are not members of cooperatives (so not included here) and the unlicensed vessels.

** While fishers told the interviewers in Beni-Suef, Minya, Sohag and Qena that 2–3 fishermen per vessel was normal, only 2 per vessel were ever observed.

*** There are three grades of tilapia and prices range between LE 5 to LE 10.

As Table 3 shows, depending on the catch, the price and the number of crew income on a given day would be approximately in the range LE10 to LE50 per fisher per day. While this range may not provide an accurate picture of a fisher’s income, because of the inability of the field team to thoroughly verify responses, it does provide a picture of the large differences in terms of production and price on a daily basis. It illustrates the uncertainty fishers face in being able to meet their daily household needs.

Information on aquaculture as a livelihood is not readily available. GAFRD does not have any information on aquaculture farms (whether earthen ponds or constructed cement/brick basins) registered in the Upper Egypt governorates outside of Fayoum. According to field research conducted by CARE Egypt, aquaculture farmers in Minya are not willing to record or interact

\(^3\)In addition to regular fishing vessels, there exists also awamas, unique to Lake Qarun and Rayyan: An inner tube is filled with air and the fisher sits in it and fishes with a hook and line, using a small shrimp as bait. The tube has no oars, but is powered by the fisher’s arms. There are an estimated 850 awamas in Fayoum and they operate illegally without licenses.
with GAFRD (CARE, 2011). This is a further indication of why this assessment did not capture information from aquaculture farmers outside of Fayoum.

**Fishing livelihoods**

Figure 7 shows the different income sources of all the fishers interviewed. The category labelled ‘Other wage labour’ included both remittances and some seasonal income from fishing in Lake Nasser. What does not come through in this figure, which aggregates the information from all the group discussions, is that for approximately 30 percent of those interviewed fishing comprised 100 percent of their income. The remaining 70 percent had other income sources to supplement their fishing income.

Fishing constituted the major income source in almost all the focus groups. Income from household livestock and livestock ownership varied greatly in fisher households and between communities. Small numbers of poultry were owned by the majority of respondents and it was mentioned that some fishers owned 1–2 buffaloes, although this was much less common. Most of these livestock (poultry) however, provided a source of food for household consumption rather than income.

The fishers interviewed highlighted a number of changes to their livelihoods over the past five years. The main change noted was a decrease in income as a result of decreased fish production. This was mentioned as the main and in most cases the only change to their livelihoods in every governorate. This decrease was understood by the fishers interviewed to be caused by an invasive crayfish (*Procambarus clarkii*)

This crayfish was reported to eat fish eggs thus decreasing fish production as well as damaging fishing gear and increasing the cost of fishing.

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9 The main point of entry for the interview respondents was through the local GAFRD offices, and GAFRD officials formed part of the field team.

10 This crayfish was reported to eat fish eggs thus decreasing fish production as well as damaging fishing gear and increasing the cost of fishing.
Respondents were asked what strategies they employ when dealing with changes to their livelihood, focusing mainly on the loss of income as consequence of low fisheries production. The majority of fisher households employed more than one coping strategy. These are identified in Figure 9. Borrowing money was the most common coping strategy reported. Primarily this was reported to be in the form of informal credit through either family members or through the community.

In Fayoum, however, fishermen mentioned that formal debt with lending institutions is a serious constraint to their households and livelihoods. Repayment is difficult and those acting as guarantors are from the fishing cooperatives, but are often guaranteeing in a personal capacity.

This has implications for their own livelihoods. In terms of livelihood expenditures, Figure 10 highlights the main expenses of fishing, as well as their proportions. Daily running costs include items like food, tea and cigarettes. It was mentioned in a number of communities that net repair had increased over the past years, as fishermen have to repair their nets more frequently than in previous years; many mentioned that some sort of repair was required every 10 to 15 days. In the past it could have been between one and two months between repairs. Debt repayments were only mentioned as a regular expenditure item in Fayoum, and comprised 20 percent of livelihood expenditures in those communities.

Lake Qarun and Lake Rayyan

Fishermen on Lake Qarun and Lake Rayyan have a fairly stable level of production; they are able to sell high value fish such as mullet, sole and shrimp. Fishing is an activity undertaken by the entire household, with non-fishing members of the household involved in activities once the fish have been landed. Aquaculture as an employment opportunity is growing in Fayoum. Those interviewed, who also owned aquaculture farms, lived in both reportedly and visibly better conditions, had a higher standard of living and were much more satisfied with the services available to them as compared with those who were not involved in the aquaculture sector.

Nile fisheries

The Nile fisheries in Upper Egypt are characterized by daily small-scale fishing, with a fairly small catch size (reportedly 20 kg or less per vessel, and as low as 5 kg on some particularly poor fishing days). Income levels are often too low to support the fisher’s household
(averaging five to seven people per fisher) throughout the entire year. So the fishers rely on ad hoc labour opportunities locally or outside of their governorate. Household income and food security is dependent on a fisher’s ability to obtain a certain level of catch or to find an alternative income for that day or week. The fishers rely on external factors for income which means that these households are extremely vulnerable to changes and shocks, for example decreases in production, an increase in the number fishing, a decrease in employment opportunities, etc. Cooperatives exist, but are very limited in their capacity to provide services to fishers. There are one or two Sheikh Sayadeen (الشيخ الصيادين) or head fishers, who work to settle disputes that arise within fisher communities.

Lake Nasser fishing activity

Fishing in Lake Nasser operates under a different system from that used in the Nile fisheries. Research into the situation of fishers fishing on Lake Nasser has been conducted previously (Béné et al. 2008; Finegold et al. 2010; van Zweitan et al., 2011), so only a brief overview and additional information are provided here. Fishers who fish and reside along the shoreline of Lake Nasser are not permanent residents of Aswan governorate. Rather they are migrants from Qena and Sohag who live in temporary, mobile living units without electricity and running water, who send income back to their households. Arrangements for their living supplies, payment (percent of the profits on sales) and delivery of the fish from the fishing camps to landing sites is arranged by one person who may organize a minimum of ten such camps. While the living conditions are very basic and seemingly temporary, fishers live there for decades, some coming with their fathers from the age of 11, and return back to Qena or Sohag for a few weeks each year. The person who manages these fishers may either hold onto their salaries until the y return home themselves, or send the money back to their families as requested. It is estimated that there are 3,000 to 4,000 fishermen on Lake Nasser and as fishers come primarily from Qena and Sohag, there could be up to the same number of households in those two governorates relying on income from Lake Nasser fishing for their livelihoods.

Role of women

Women were involved in fishing in various ways and to varying degrees depending on the governorates and the communities. In Fayoum and Beni-Suef it was common to see women in the markets working as traders. It was reported by these women that it was common for the wives of fishers to work in this profession. In Sohag and Qena, women were not visible in the markets selling fish. However, women were observed selling other agricultural products. The market in Minya was not visited. The women interviewed mentioned that they assisted with cleaning fishing nets, some on the shore and some once the nets were brought home by the fishers. In some cases (focus groups in Beni-Suef) both women and men reported that a woman might fish with her husband. However, this was not common throughout Upper Egypt. Women were the primary family members responsible for taking care of any livestock owned by the household, particularly poultry.

Household information

The sizes of fishers’ households varied depending on whether the house was a ‘big’ house, where the sons with their wives and children remained in the family home. Under these circumstances there could be as many as 30 to 40 household members. The smaller unit would be where a son establishes his own household with his wife and children. Both types of household were found. However the fishers told the interviewers that it was becoming increasingly common to have the second type of household, with from seven to ten members
on average. In each household, at least two household members were working, some as fishers, others seeking alternative employment. In all the households, children are initially enrolled in primary school. While it was reported by the majority of respondents that they would ideally keep their children in school until reaching the technical level, often children stop attending school at about 11 years of age. At this age they can assist either in fishing or earning income from another source. Some boys would begin fishing at age 11, but would continue attending school as well.

Figure 11 details the household expenditures of the fishers interviewed. At almost 40 percent of total expenditures, food constitutes the major household expenditure. This is followed by health, utilities and education. The lack of health insurance was mentioned by many fishers as a problem as they faced a number of health problems because of the nature of their work (bilharzia was mentioned a number of times). They must pay for their own treatment.

The majority of fisher households keep small livestock, such as poultry, and while some households have larger livestock, such as buffalo, this is much less common and is limited to one or two buffalo.

Population movement

Migration from each of the governorates was considered common by approximately 80 percent of the focus groups. Seasonal migration within Egypt to seek some form of income was common. However, only those who travelled to Lake Nasser migrated for the exclusive purpose of fishing. The majority of interviewees said that they left to seek any kind of wage labour. The most frequently sought opportunities included a combination of construction, fishing and agricultural labour. Trading was also mentioned. Common locations for migration within Egypt are highlighted in Figure 12. Approximately 50 percent of the groups said that migration from the country occurred in their villages. The most frequently mentioned places included Libya, the Gulf and Sudan.

Role of cooperatives

The fishers interviewed were all members of a local fishing cooperative, as are the majority of licensed fishers. Respondents were asked questions on how they perceived their own power to influence decisions within the cooperative, as well as the effect cooperatives have on their livelihoods and fisheries policy. The responses, shown in Figure 13, reveal that over 80 percent of respondents believe that the impact of cooperatives on livelihoods and policy range from ‘none’ to ‘weak’. This limited capacity of cooperatives to provide services for fishers
was mentioned and agreed by both fishers and cooperative representatives. Cooperative services varied by governorate, but mainly included:

- facilitating licenses for fishermen
- running the cooperative market – in Arabic halaa, hal’aet (plural)
- facilitating small loans for fishermen to purchase gear

Cooperative representatives were working with very constrained resources and were restricted to limited individual initiatives to assist and improve the livelihoods of fishers in anyway.

**Figure 13. Fishers’ perceptions of cooperatives**

Cooperatives collect varying levels of fees depending on the governorate. There is a fixed annual fee of between EGP1 and EGP5, and fees are collected at the cooperative to run the wholesale markets (hal’aet). These are generally a percentage of sales. Fees may be collected from fishers, traders or both depending on the governorate and range between five and 15 percent of catch value.

The fishers interviewed had not been targeted by any development projects or programmes, nor, with one exception, were they aware of any projects or organizations which supported fishers. The exception was the Coptic Evangelical Organization for Social Services (CEOSS), which was active in fishing communities in Beni- Suef. The Misr Al Khair Fund was known to operate in the main towns or villages in most governorates, but was not known to be working with anyone in the fishing communities.

**Constraints and challenges**

During the assessment, as various distinctions between the fisheries on Lake Qarun and Lake Rayyan in Fayoum, and those along the Nile in Beni Suef, Minya, Sohag and Qena emerged regarding the livelihoods and food security context, the constraints and challenges were identified. These are addressed below.

**Lake Qarun and Lake Rayyan**

**Access to markets:** Lake Qarun and Rayyan are relatively isolated; long distances must be travelled to access larger markets. Fishers do not have the resources to seek alternative selling points so they rely on traders coming to them to sell their fish. Fishers in this case have little negotiating power in terms of the price they receive for their fish and there are few alternative opportunities or resources for sales.
Debt: Debt to lenders was frequently cited as a livelihood constraint as well as a great source of stress among fishers. The loan system through which they borrow does not take into account the unique context of fishers, namely their limited earnings, the high likelihood of unexpected costs (medical, boat repairs, etc.) at certain points during the repayment period, the changes in income because of closed seasons, etc. So the present loan system is not suitable for fishers. Additionally, fishers mentioned that they often take loans to fix a problem rather than to invest in their livelihood. This means that they are not increasing their earning potential in the way that is necessary to meet the loan repayments. Financial services catering to the needs of fishers are required to ensure investment in fishing livelihoods and to ease the debt constraints on fishers. These services need to be combined with the provision of comprehensive information and training on taking loans and the repayment process.

Nile fisheries

Exclusion of fishers: While there have been numerous projects and initiatives in Upper Egypt dealing broadly with the agricultural sector, it was observed that unless fishers were specifically targeted as beneficiaries, they have been excluded. While for the majority of fishers interviewed fishing is their main profession, they also generate income from keeping livestock, and undertaking agricultural labour. In fact, livestock product sales served as a coping strategy for fishers. More efforts are required to include fishers as beneficiaries of agriculture and livestock projects to ensure that communities in Upper Egypt as a whole benefit from these initiatives.

Invasive crayfish: The invasive species *Procambarus clarkii*, was reportedly introduced into the Nile in the early 1980s and according to the fishers interviewed, is affecting the production of fish as well as damaging nets. It impacts both the income source as well as the input costs (the occurrence of these impacts are supported by Fishar, 2006). In 2005, it was reported that these crayfish had travelled up the Nile as far as Beni Suef and were present at densities of 0.65/m² (El Zein, 2005 in Wizen et al., 2008). However, discussions with fishers and GAFRD local authorities confirmed that the crayfish were present as far as Aswan and were thought to have been there for approximately five years. Currently it is reported that the Aswan High Dam is blocking further migration upstream.

Limited capacity of cooperatives: The services provided by the cooperatives in all governorates are very limited; in the main they help fishers obtain their licenses. The fees that are collected are used primarily to pay staffing costs and, in some cases, to provide or facilitate small loans to fishers. They play no role in providing such social services as health insurance, social insurance, etc. Additionally, cooperatives do not have the capacity to advocate on behalf of fishers. They are unable to address the serious problems affecting the fishers’ livelihoods (small catches per vessel because of overfishing and illegal fishing, pollution, invasive crayfish, etc.)

Illegal fishing: Recorded fish stocks as well as the numbers of fish licenses have been stable over the past years. However, fishing as an activity is often undertaken by non-professional-fishers as a means of gaining immediate income. It is usually done using damaging and illegal practices such as explosives or nets with small mesh sizes. This is reportedly affecting the catch size per fisher, and therefore household income.

Lack of social insurance: Fishers in all governorates highlighted the need for social insurance, health insurance and the lowering of the retirement age. Fishers incur high health costs because of the high risk nature of their work and the exposure to illnesses such as bilharzias.
Access to health care was noted as expensive and the quality of the health care was rated as being very poor. As is evident by the low incomes of the fishers, if a fisher is sick and unable to fish it is extremely difficult for his household to meet their basic needs. Children in these households are working at a young age when required to supplement household income.

*Lack of financial services:* Fishers are using informal community strategies in order to meet their financial needs. There is very little future planning in terms of finances and loans are often taken to pay for unforeseen expenses and the purchase of fishing gear. There are no savings strategies.
Livestock

Background information

Communities in Upper Egypt have been heavily reliant on livestock as a means of livelihood and for food security for generations. The types of livestock kept are buffaloes, cattle, sheep, goats, rabbits and poultry. Livestock ownership provides a supply of meat and dairy for home consumption as well as being a source of income. Upper Egypt is home to approximately 45 percent of the livestock population of Egypt. Most livestock keepers are small-scale producers having between 1 and 10 head of livestock and some poultry. The main income activity of small-scale livestock keepers is linked to livestock rearing and dairy activity. Households are generally large with 8 to 12 family members per household and most households engage directly or indirectly in the livestock activities, which are run as a family endeavour. As small farmers they tend to rely on traditional knowledge and experience in how they engage in livestock keeping. Most women are aware that they do not produce quality dairy products and they are readily exploited for producing poor quality ones. Table 4 lists the large ruminant livestock population of Upper Egypt by genotype and governorate.

Table 4. Population of dairy cows and buffaloes by type in Upper Egypt in 2009

<table>
<thead>
<tr>
<th>Governorate</th>
<th>Baladi</th>
<th>Crossbred</th>
<th>Exotic</th>
<th>Buffalo</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giza</td>
<td>19 092</td>
<td>1 120</td>
<td>777</td>
<td>41 215</td>
<td>62 204</td>
</tr>
<tr>
<td>Beni-Suef</td>
<td>94 328</td>
<td>40 734</td>
<td>513</td>
<td>565 275</td>
<td>700 850</td>
</tr>
<tr>
<td>Fayoum</td>
<td>57 978</td>
<td>13 446</td>
<td>559</td>
<td>58 436</td>
<td>130 419</td>
</tr>
<tr>
<td>Minya</td>
<td>77 779</td>
<td>19 809</td>
<td>1 145</td>
<td>92 373</td>
<td>191 106</td>
</tr>
<tr>
<td>Assuit</td>
<td>30 224</td>
<td>38 007</td>
<td>2 783</td>
<td>67 443</td>
<td>138 457</td>
</tr>
<tr>
<td>Sohaq</td>
<td>68 676</td>
<td>40 834</td>
<td>1 441</td>
<td>107 339</td>
<td>218 290</td>
</tr>
<tr>
<td>Qena</td>
<td>48 034</td>
<td>5 899</td>
<td>1 099</td>
<td>73 493</td>
<td>128 525</td>
</tr>
<tr>
<td>Luxor</td>
<td>18 463</td>
<td>3 509</td>
<td>151</td>
<td>20 767</td>
<td>42 890</td>
</tr>
<tr>
<td>Aswaq</td>
<td>14 496</td>
<td>2 726</td>
<td>22</td>
<td>16 200</td>
<td>33 444</td>
</tr>
<tr>
<td>New Valley</td>
<td>30 914</td>
<td>22 517</td>
<td>6</td>
<td>195</td>
<td>53 632</td>
</tr>
<tr>
<td>Red Sea</td>
<td>129</td>
<td>37</td>
<td>5</td>
<td>90</td>
<td>261</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>460 113</strong></td>
<td><strong>188 638</strong></td>
<td><strong>8501</strong></td>
<td><strong>1 0428 26</strong></td>
<td><strong>1 700 078</strong></td>
</tr>
</tbody>
</table>


Interviews with livestock holders consisted of 26 focus groups across six governorates resulting in interviews with 154 livestock holders. These focus groups included four gender and age subgroups (older and younger females, older and younger males). Results of these interviews and focus group discussions are summarised in the following sections.
Pastoralist livelihoods

The main source of livelihood income from those interviewed was agro-pastoralism (51 percent) followed by agriculture (22 percent). Figure 14 shows the type and composition of livelihoods as sources of income. The high percentage of other wage labour is a consequence of the large numbers and percentages of income earning activities of young male smallholder groups (50 to 70 percent of the sample) as well as a large amount of other agricultural labour which often occurred, particularly in Fayoum and Beni Suef (other wage labour represented more than 40 percent of the livelihood income in about 50 percent of the focus groups in Fayoum and Beni Suef).

Many of the interviewees reported that they depended on livestock as the main source of income of their family. Respondents in Beni Suef and Sohag indicated their dependence on remittances was also a significant source of income for the family. In Sohag, it was observed that the governorate is an exporter of labour to other places in Egypt.

Basic needs are covered by cash income from livestock and its by-products. Households are under pressure given the increased cost of inputs and changing spending patterns. The breakdown of livelihood expenditures is highlighted in Figure 15. Respondents indicated that daily expenditure on fodder, veterinary services and fuel has increased over the years. Large households where the majority of the working family members is engaged in the non-wage earning household activities are affected particularly. It was also indicated that current transition changes in Egypt have affected livelihoods by decreasing market opportunities both locally and internationally. This has led to a lower demand for goods.

Figure 16 highlights the responses of pastoralists interviewed on the changes that have occurred and affected their livelihoods. Approximately 80 percent of the interviewees observed changes which have resulted in the reduction of their income. All focus groups across the governorates identified social and economic changes as the main factors affecting the household. Such factors include outbreak of diseases, increased expenditures and price inflation. Poor quality feed and vaccinations as well as inactive veterinary services were also mentioned as changes impacting livelihoods. If the high prices prevailing during the assessment continue these constraints will be perpetuated and resources will become increasingly limited. More than half of the income received by household will be affected by these changes as will their capacity to respond. The most commonly cited change to livelihoods was the decrease in work availability; this was followed by increased costs.
These differ between governorates. In Minya and Qena households are affected mainly by the lack of work opportunities, while in Fayoum and Sohag the revolution and market problems were cited more frequently as having affected livelihoods.

Figure 16. Changes affecting pastoralists’ livelihoods

Coping strategies vary from one household to another. Table 5 presents the most important strategies used by small-scale agro-pastoralists to mitigate potential income losses. Specifically, the majority (80 percent) resort to selling their livestock, freezing production till markets improve and selling products at low prices. These coping strategies were sufficient to enable those interviewed to meet their basic needs and pay for the cost of inputs, but these strategies mean that they are left more vulnerable to additional stress and shocks. These coping strategies result in lower productivity with fewer animals and reduced assets. Some key informants estimated that any additional shocks could lead to the collapse of their livelihoods and extreme food deprivation.

Table 5. Proportion of pastoralists interviewed using a particular coping strategy

<table>
<thead>
<tr>
<th>Coping strategy</th>
<th>Proportion of respondents adopting the strategy (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share production with other producers</td>
<td>50</td>
</tr>
<tr>
<td>Borrow money from the family</td>
<td>23</td>
</tr>
<tr>
<td>Bank loan</td>
<td>1</td>
</tr>
<tr>
<td>Reduce expenses</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>80</td>
</tr>
</tbody>
</table>

Role of women

For those interviewed, women’s activities accounted for between 20 and 60 percent approximately of household income; the proportion tended to be lower in Qena and Sohag than in other governorates. Although officially only 11 percent of women are estimated to be part of the labour force, their share in agricultural activities is much higher. Women represent some 40 percent of the agricultural labour force (FAO, 2010). The proportion of women sharing in generating household income is significantly related to the scale of production, as
shown in Table 6. The women’s share in household income generation is lower, in large scale subgroups (where 12.5 percent of the women generate less than 40 percent of the income) than in smallholder subgroups (where 100 percent of women generate less than 40 percent of the income). Here it is worth noting that women are most likely to get involved in non-wage employment in household economic activities and non-wage family agricultural employment. In agriculture, non-wage work is more likely to be more prevalent in small family-owned landholdings which comprise the majority in the Egyptian agricultural sector.\(^\text{11}\)

Table 6. Women’s contribution to household income generation in pastoralist households

| Women’s share in income generation (%) | Scale of production | |
|----------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                                        | Smallholders | Medium scale | Large scale | Smallholders | Medium scale | Large scale |
|                                        | No. | %          | No. | %          | No. | %          |
| < 40                                   | 2   | 100        | 1   | 25         | 2   | 12.5      |
| 40 – 50                                | 0   | 0          | 3   | 75         | 9   | 56.25     |
| > 50                                   | 0   | 0          | 0   | 0          | 5   | 31.25     |
| Total                                  | 2   | 100        | 4   | 100        | 16  | 100       |

**Household information**

The majority of the livelihoods of the interview respondents are run as household enterprises and over time the respondents have witnessed a decline in their real earnings. Figure 17 shows the different proportions of the household expenditures, illustrating the flow of income within a household. The main expenditure item is food. This is followed by clothing, health, transportation and education. The level of income for a household is influenced by changing social, environmental and political factors. It is clear from the table that the rising cost of food has adversely affected household spending. Analysis of the questionnaire results indicate that food constitutes 64 percent of household expenditures, clothes 10 percent, health and medical care 9 percent, education 6 percent, transportation 6 percent, electricity 3 percent, water 2 percent and fuel and gas 1 percent.

Respondents from Qena and Sohag had a relatively higher level of adult education and a higher percentage of children enrolled in school as compared to respondents in other governorates. The number of household members and the total number of children in the household tend to be higher in Fayoum, Beni Suef and Minya than in Qena and Sohag. Child enrolment in school also depends on the scale of production. All the large-scale producers interviewed had approximately 90 percent of their children in school while 75 percent of the

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\(^\text{11}\) Farm sizes in Egypt are generally small, averaging less than 2 feddan. It is estimated that nearly half the farmers own less than one feddan each, 95 percent of landowners own plots less than 5 feddan in size and 84 percent of small farmers hold only 50 percent of the total area. Islamic inheritance laws lead to the continuous exponential fragmentation of land.
smallholders interviewed had less than 50 percent of their children enrolled in school.

Population movement

Youth migration within Egypt varies by governorate. In Fayoum respondents estimated that 40 percent of the youth migrated. In Beni-Suef it was estimated to be 11 percent while in Sohag the estimate was 25 percent. Focus group discussions on the topic of migration revealed that the youth tend to migrate both within and out of Egypt in search of alternatives to agro-pastoral work. The main constraints to internal migration since the revolution were cited as the need for a license to work in other governorates and the availability of work. The most commonly cited destinations for emigration were Saudi Arabia (46 percent), Libya (27 percent), Jordan (19 percent), Iraq (15 percent) and the Gulf area (12 percent). The main constraints that deter emigration are the costs associated with getting a work contract, the difficulty in getting a permit following the Egyptian revolution and the effects of the revolution in Libya. The main reasons cited for migration were the desire to work as a labourer or a driver (95 percent).

In most villages visited there were no cooperatives or groups specific to livestock keepers and many believe that they can do very little to influence change, particularly with regards to prices. Established types of entrepreneurial groups were felt to be lacking. A small number of the small-scale livestock keepers kept records of their income/expenditure and knowledge of investment and market led livelihoods is limited.

Constraints and challenges

The small-scale producers groups are fragmented, earning them very little gain of an otherwise potentially lucrative market. Small-scale livestock keepers receive a small fraction of the ultimate value of their products.

Operating in the current context has produced various challenges. Small-scale livestock keepers are exposed to exploitation by market profiteers, changes in environmental conditions have affected the availability of fodder, and there are serious gaps in the veterinary services. These have led to low levels of production of products of poor quality. Improving livestock management and addressing social and economic constraints will benefit the majority of the country’s rural poor.
Markets and livelihoods

Village livestock markets are held once a week on different days in the different governorates, while the fish markets are open every day. The small village markets are all connected to the nearest market hubs.

Market activities cover both the retail and wholesale markets. They are visited by consumers, traders and distributors for goods and services. This is done either at the farm gate (in the case of livestock and aquaculture), by direct sales (livestock and fisheries) or at certain sales points (hala‘et in the case of fisheries). Market trade volumes in goods and services are estimated at EGP 2 million on average. Total volumes are affected by the seasonality of the products. The small-scale agro-pastoralists indicated that the prices of livestock and livestock products are correlated with the seasonal availability of fodder.

Livestock markets and livelihoods

According to the key informants interviewed, market information is basic. Dissemination of market information depends on buyers and sellers visiting the market to gather information. Most of the buyers and sellers are small-scale vendors and middle men. Price determination is mainly through auction, butchers and traders. Over 80 percent of respondents rely on auctioning as the main method for determining price. Eleven percent rely on the price by weight being determined at the butchers while 8 percent sell to traders at the farm gate.

Market information is limited to price information and the availability of buyers. During the discussions the interviewees shared the challenges associated with obtaining market information. Communications is the major limiting factor. There is a general lack of understanding when it comes to market functions so it is difficult to react to demand in the market.

Market components – demand, supply and response

Livestock market systems are open and driven by the supply of and demand for goods and services throughout the year. The different methods of trading used are highlighted in Figure 18. The main channels for markets are wholesalers and retailers, with information on market trends not readily available for all. An example of this was obtained from the livestock keepers interviewed. They were aware of the interactions between neighbouring markets, but none of the interviewees had information on how this influences the prices of the commodities they sold. Systematic market information is limited. Current market prices for products are obtained only by being physically present in the markets. This lack of information on markets and market trends leaves producers open to selling at low prices. The middle men, who also act as wholesalers, require commissions to act as brokers for small-scale livestock keepers. This, according to the livestock keepers, hampers their ability to negotiate prices. There is an overreliance on middle men along the value chain, resulting in livestock keepers being paid lower prices. Also there is no clear systematic connection between price, demand and supply; even with a good price one can still

Figure 18. Methods of trading

<table>
<thead>
<tr>
<th>Method of Trading</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesalers</td>
<td>58%</td>
</tr>
<tr>
<td>Traders in the market</td>
<td>23%</td>
</tr>
<tr>
<td>Retail market</td>
<td>10%</td>
</tr>
<tr>
<td>Butchers and sells at farm level</td>
<td>9%</td>
</tr>
</tbody>
</table>

21
lack a buyer because the markets are mostly spot markets. The price setting behaviour is one that does not give the small-scale livestock keeper control over price setting.

The market functions of demand and supply reward participants based on their level of investment in the system. Approximately 50 percent of respondents were aware of a trade linkage with neighbouring markets; however, a lack of systemic linkages between local markets limits their capacity to interact with them. In addition, the distances to markets, cost of transportation and lack of storage facilities limit the potential opportunities for greater returns. Also the majority of livestock keepers do not market their goods, but rely on traditional production methods which add little value to the end products. The challenge remains for small-scale farmers to enhance their ability to respond adequately and on time to market demands.

**Cross border trading**

According to respondents, there is a link between livestock markets in neighbouring governorates and also between Egypt and Sudan, which are strategic for domestic and export markets. Market dependence on cross border interaction has increased over the years and a significant number of households rely more on interaction with neighbouring markets. Household access to neighbouring trade markets is imperative for earning income from the sale of their animals. For example, as stated by the extension office, Sohag relies for up to 60 percent of its livelihood source on trade with other governorates as it specializes in animal fattening. It relies heavily on the neighbouring governorates to supply young calves for this purpose. Egypt relies on livestock from Sudan for meat, particularly camel. The trade between Egypt and Sudan at Aswan is crucial in addressing the shortfall in the domestic demand for meat.

It was observed that markets function well and are well integrated, with the surplus in one governorate readily moving to other governorates. Market supply is not stagnant, but changes seasonally. The main challenge is to promote a viable market where small-scale agro-pastoralist can integrate through the value/supply chain to enhance efficiency and productivity and establish viable livelihoods.

**Market and trade functions**

Livestock markets and trade functions must provide sellers with a fair price and buyers with adequate food. The size of the market, the demand potential and the level of participation are very important. There are no government requirements for engaging in livestock trade. All markets have one dedicated for the sale of livestock.

Markets do not use standard volumes and measurement units, such as measurement by weight in the case of livestock purchases, to determine the price. Where weighing scales are not available measuring tapes, with adjusted weights for the linear body measurements (e.g. chest girth), could be used to approximately estimate live body weight. Identifying animals using ear tags and recording their performance, including live body weight, carcass weight and milk yield, would allow objective marketing of livestock and livestock products, and provide traceability of these products. Simple weighing scales or graduated measurements for volume could be used to measure milk and dairy products. Alternatively locally available equipment could be converted into standard measurement implements, if the marketing of products is done using commonly agreed measures (e.g. cups).
The key market actors, the traders and brokers who are the main participants in the market, agree on the prices through negotiation. Approximately 70 percent of participants are aware of changes in the market and their effects; however, most stated that they have limited influence on system functions. It was frequently mentioned that their role was limited by brokers or the set prices.

Market linkages are very limited and do not naturally bring together buyers and sellers. Only 50 percent of respondents acknowledged trading outside their local markets, the rest lacked familiarity with neighbouring markets.

Different governorates face diverse challenges in terms of physical infrastructure. In Fayoum and Beni Suef the lack of storage meant that small-scale farmers had to accept the set price or return home with the animals, incurring additional transportation costs. In Sohag, limited access to markets and high transportation costs meant that livestock producers were more dependent on the middle men or agents who purchase the livestock from their homes. The women interviewed in Fayoum and Beni Suef indicated that services at the market are limited with no facilities for women. In the group discussions, women traders stated that they spent a limited time in the market because of this lack of basic facilities.

Constraints and challenges

**Market information and capacity building:** The potential of livestock and dairy markets in Upper Egypt is reduced by the limited reliable market information, such as price and price changes. Different areas face diverse challenges in terms of market information e.g. lack of reliable updated market prices and understanding seasonal market demand and supply trends. Though most of the small-scale farmers interviewed were aware of interactions with neighbouring markets, information from these neighbouring markets was not readily available. This exacerbates the gap in: a) their knowledge as to when and where they can sell their goods; b) their knowledge as to whether the price on offer is in line with market prices; c) their response to the supply and demand of the market.

**Market accessibility and physical infrastructure:** All villages have a livestock market running one day each week mainly under the direction of the local municipalities. Infrastructure is limited. They do not have permanent storage places for animals and hygiene is minimal. The lack of proper storage facilities means that if the small-scale holders do not sell their livestock they incur the cost of transporting them home. The medium scale holders have to sell their animals at the price available for fear that livestock in the market could be exposed to disease outbreaks in the neighbourhood villages. Markets lack access to basic facilities such as toilets and restaurants. Medium scale holders spend money to employ causal labourers to look after their animals in the market.

**Value chain and marketing channels:** Small-scale holders, their products and consumers have minimal links with other actors in the value chain. The lack of a sufficiently integrated value chains for small-scale agricultural enterprises affects potential livelihood development and income generating opportunities. As shared by most key informants during the assessment, their inability to access the supply chain and poor production methods are two of the gaps that pose barriers for small-scale enterprises to actively engage in the market.
Fish are marketed in a number of ways in Upper Egypt. These ways vary depending on the governorate. The methods for selling fish and their prevalence among the fishers interviewed are highlighted in Figure 19.

In Fayoum, on Lake Qarun, the fishers sell their catch to one of 11 cooperative wholesale markets called halaa or hala’aat (السمكحلة), located around the lake. They are usually located between the immediate shoreline and up to one kilometre in land. At these hala’aat, fishers sell by auction to traders. The sales are recorded by the cooperative and the fishers are charged a percentage, as shown in the receipt in Figure 20. The percentage taken varies by governorate and goes to a combination of the halaa itself, the cooperative and GAFRD. In Sohag, the process varies slightly as fees are collected monthly rather than at the time of sale.

Traders then take their catch to a retail market or directly to consumers and the fish are then sold fresh. In Fayoum, aquaculture farms work with traders who come to the fish farms to purchase fish, which are then sold on the retail market. This method allows for more control in the price as compared with capture fisheries, as the aquaculture farmers can search for buyers and other markets in order to obtain a better price for their fish. Some fish from Fayoum are taken to other governorates and sold in retail markets there.

Along the Nile in the other governorates the majority of fishers sold their catch through their cooperative halaa, but also used traders and the fish are sometimes sold directly to consumers. Fishers choose their sales method based on the size of their catch, price and ease of the process. When their catch is better (larger), they may sell at the halaa as it is easier and faster. However when the catch size is small, they may seek alternatives, such as selling directly to the consumer, in order to increase their profit margin. Where fishers do not go to the halaa, their fish catch may not be officially recorded. In some cases, particularly in Fayoum, there are financial services provided by traders and in these instances these arrangements will also influence where the fishers sell their fish. From the interviews and as indicated in Figure 19, selling fish through the cooperative halaa was the most commonly cited place for fishers to sell their catch.

12 Respondents were not receptive to questions regarding informal landings so it was difficult to determine the volumes of fish that were caught legally, but not recorded when landed.
The power fishers have to influence the price of fish was viewed to be either ‘no power’, ‘very weak’ or ‘weak’ by 90 percent of the fishers interviewed. The price is determined based on the species and size. The price is negotiated based on the size and type of the fish as well as supply and demand. Coptic holidays were noted to be an important factor in determining demand and prices. For the fishers interviewed, the perceived power to influence the price they receive for their catch is displayed in Figure 21.

Despite this general powerlessness over the price paid for their fish, the relationship between fishers and traders was viewed as positive by the majority of respondents, as indicated in Figure 22. The remaining 10 percent viewed it as neither positive nor negative. None of the respondents said that the relationship with traders was negative.

The relationship between fishers and traders was viewed as positive by almost all the interview respondents. Fishers said that they thought the price they received for their catch was fair, but it was often mentioned that they have no choice but to accept it; so they accept it as fair. Fishers generally are aware of the price paid for their fish on the final retail market, as it is usually sold locally.

Fisheries retail markets

Fish sold on the retail markets are a combination of locally caught fish and fish imported from other governorates. Local GAFRD officials and cooperative leaders estimated that, depending on the season, between 60 to 90 percent of fish consumed in these governorates is from other governorates in Egypt rather than being locally caught fish, as local production does not meet local demand. This affects the price and competitiveness of the locally caught fish as well as the marketing methods chosen. Fish caught by Nile fishers are generally sold in the retail markets in baskets, fresh, with no ice, making time an important issue in catching fish and selling it to the final consumer. This marketing method limits the opportunities for fishers to seek alternative prices or use sales points (see Figure 23).

Fish from farms in Kafr ElSheikh and Lake Nasser are transported in trucks with ice, or live in tanks of water, on a daily basis, and are either sold initially in private wholesale markets or brought to sellers located in the local retail markets. In Beni-Suef, and Minya, fish were transported in the main from fish farms in Kafr El...
Sheikh and to a lesser extent from Lake Nasser. In Sohag and Qena, the reverse was true. Fish from Fayoum were also reported as being sold on retail markets in Beni Suef and other governorates. These fish are usually sold either on ice or live in tanks of water (see Figure 24). If a private wholesale market exists, the market owner coordinates the trucks and the farms for the fish to be purchased and then sells to local traders who come to the wholesale market. Discussions with the owner indicated that between EGP0.5 and 1.0 is added to the per kilogram price of the fish sold. Additionally a fee is collected from traders.

In the retail markets visited fish was sold by the fishers, their wives or traders who are not involved in fish production. Where the information on market types and volumes was available for each governorate this is detailed in Table 7. These can be either formal or informal retail markets and in the case of Beni Suef there was one government organized fish retail market with a number of stalls available for yearly rental and market facilities available for a fee.

It was stated by a number of traders that a gross profit per kilogram of fish of between EGP 1 and 2 is taken by the trader, before fees are paid to the halaa, for transport and for stall rental (if applicable). In Beni Suef, the wives of fishers go to the private wholesale market and purchase fish brought in from other governorates. This fish is then sold together with their husbands’ catch.

Figure 24. Fish sold in markets in Beni Suef originating from farms in Kafr El Sheikh
**Table 7. Fish market information by governorates**

<table>
<thead>
<tr>
<th>Market types</th>
<th>Traders</th>
<th>Volume/market stall</th>
<th>Origin of fish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fayoum</td>
<td>Traders Fishers wives</td>
<td>Not known</td>
<td>Local (capture and farmed)</td>
</tr>
<tr>
<td>Private wholesale market Retail markets</td>
<td>Fishers wives Local traders</td>
<td>~35 kg</td>
<td>Local Fayoum Kafr El Sheikh Lake Nasser</td>
</tr>
<tr>
<td>Minya</td>
<td>Not known</td>
<td>Not known</td>
<td>Local Kafr El Sheikh Lake Nasser</td>
</tr>
<tr>
<td>Sohag</td>
<td>Local traders</td>
<td>35–50 kg</td>
<td>Local Lake Nasser Kafr El Sheikh</td>
</tr>
<tr>
<td>Qena</td>
<td>Local traders</td>
<td>50–80 kg</td>
<td>Local Lake Nasser Kafr El Sheikh (when fish from Lake Nasser is not enough)</td>
</tr>
</tbody>
</table>

Women were present as traders in the market in Fayoum and Beni Suef, but were not observed in Aswan, Qena or Sohag. It was reported that it was not common for women to be working in fish marketing in these governorates.

The fish marketing system in Lake Nasser is very well organized and fishers have very little if any involvement in the marketing of fish. Carrier boats are organized to pick up fish from fishing camps along the khors on a weekly basis and bring them to one of the landing sites. These same boats drop off supplies to the camps. Each cooperative on Lake Nasser has one main landing site. From there the fish are packed in ice and transported by truck to a specific destination. The man who owns the carrier boat and who is responsible for a number of fishers at certain fishing camps also organizes the trucks and their deliveries to the wholesale or retail markets in other governorates. A percentage of the profits are given to the fishers, and a percentage remains for the person who organizes the carrier boats, delivers the supplies-transport the fish.

**Challenges and constraints**

*Competition with imported fish:* As the amount of fish caught locally comprise just 10 to 40 percent of the fish consumed in the governorates of Upper Egypt, the ability to sell locally caught fish which are often smaller and visually less appealing is constrained.

*Lack of access to storage/processing/preservation:* Fishers sell their fish as soon as they are landed and, as is apparent from the above, there is little incentive to purchase ice or engage in other forms of preservation as it would reduce their already minimal profit margins.

*Marketing and trading infrastructure:* Fishers generally do not seek alternative places to sell their fish other than to the cooperative marketing system or in some cases directly to
consumers. This means that their opportunities for increasing the price received for their fish are somewhat limited.

**Implications for livelihoods and food security**

The assessment undertaken provided insight into the main food security and livelihoods sectors in the fisheries and aquaculture sectors of Upper Egypt. There are challenges, both internally within sectors and households and externally, which have implications as to how to maintain and improve livelihoods and to ensure and enhance food security among households. These challenges present themselves at both the micro and macro levels. As such, their implications are not only at the household level, but can also have impacts at the community, governorate and national level. The implications for livelihoods and food security are outlined below, by sector.

**Fisheries**

Challenges to food security must be considered at both the household and community level and these may be counter to one another in some cases. For example, increasing the price of fish sold locally may improve the income and further the household food security situation for fishers, but it may have negative implications for the wider community as fish is a cheap source of protein for the poor in these same communities. Fishers must be able to improve their own incomes to be able to provide for their families, but not at the expense of the food security of the community in general. Additionally, while it may be considered advantageous to remove the intermediaries, or traders, in order to increase the price fishers receive, it is important to consider the value chain as a whole. Traders are a part of the system and their livelihoods should be taken into consideration as well. Additionally, as these traders may in many cases be a part of the fisher household, this could negatively impact household income.

The main challenge to the livelihoods of fishers is earning a sufficient income from fishing in order to have at least a semi-stable source of income either year round or for specific seasons. The ad-hoc approach which fishers use to search for alternative sources of income when fisheries production is low reduces income and food stability, causing stress to the household. This can result in disruption to other areas of the household, such as the children being removed from school at certain times to assist with income generation. Improvement in the stability and reliability of income in fisher households, including income diversification through other more regular forms of labour and livestock keeping, will be an important method for enhancing food security and livelihood stability.

Fishers seek alternative income sources in order to supplement their household incomes. However, many family members are involved in fishing, even if in a non-income generating manner. Income from fishing is the main source of food security in the household as fishers do not have any other source of food production aside from some small livestock. Additionally, household assets are extremely limited. Fishers rely on what they are able to catch from the Nile on a daily basis and have no alternative but to find additional income sources if this catch proves insufficient for household needs.
Livestock

Agro-pastoralist households are facing increasing input costs at a time when the majority of their expenditures are being devoted to such basic needs as food. These households have coping strategies, such as selling their livestock assets, but when these strategies are employed they are rendered very vulnerable to any further shocks. Their coping strategies cannot be employed endlessly. As the livelihood is undertaken as a household enterprise, particularly among smallholders, household food security is obstinately intertwined with the livelihood. Changes to livelihoods will have direct impacts on household food security. In order to address household food security, livestock improvement must be addressed.

Conclusions

The Upper Egypt region offers significant opportunities for livestock, fisheries and aquaculture to contribute to the economy and the alleviation of household poverty. However, there needs to be substantial investment to address the challenges faced by those engaging in these livelihoods. As shown in the analysis above, the livestock and fisheries sectors face a number of gaps. In this fragmented state it is difficult to realize the true potential of these livelihoods. Fishing and livestock households are facing different and unique challenges in the same communities, but they have certain elements are common. These include:

- high degree of vulnerability to external shocks and changes;
- lack of resilience to adequately cope with these changes;
- inseparability of the livelihood and household;
- rising costs of inputs without a corresponding rise in sale prices;
- lack of market knowledge and a capacity to address market challenges;
- lack of organization among producers to engage with challenges at a greater level.

Fishing and livestock households are not sufficiently resilient to continue to absorb changes and shocks (social, economic, environmental) which are likely to continue. This has important implications for household food security and the challenges and constraints faced by these households urgently need to be addressed. Determination of livelihood opportunities to build synergies must realize the dynamic situation of livestock and fisher households.
**Recommendations**

**Fisheries**

1) **Better integration of fishers into broader community development projects and mainstream development policy:** While inland fishers live in a context that is unique, they are living in communities where they have been excluded from development projects and planning because they have not been targeted. Income diversification will constitute a critical component for improving food security and enhancing livelihoods. Fisher household members, particularly younger members, should be targeted for initiatives that have an employment component outside of fishing. It is important that the context of inland fishers in Upper Egypt is recognized and that they are given a high priority. Fishers should be specifically targeted as beneficiaries in projects which address households that keep livestock, engage in paid casual labour (including agricultural labour), etc.

2) **Improved fisheries management strategy:** A comprehensive fisheries management strategy is required to both facilitate the maximization of profit for fisheries households from the Nile fisheries and to ensure the sustainability of fish resources. This management plan should be in line with the Code of Conduct for Responsible Fisheries (CCRF), and in particular encompass the following:
   a. a strategy to mitigate the negative impact of the invasive crayfish, including assessing the potential for developing fisheries around this species, as well as marketing and nutrition components. Enhance enforcement capacities to mitigate the effects of illegal and destructive fishing practices;
   b. consider the benefits and appropriate timing of a closed season;
   c. cooperate with the relevant authorities to take measures to reduce pollution along the Nile.

3) **Develop a means for addressing the negative impact of the invasive crayfish (Procambarus clarkii):** This species is causing numerous problems to livelihoods of fishers in Upper Egypt, as indicated above, but the ability to generate income and enhance food security for communities in these governorates can be developed through the integration of this species into the fishing activities of these small-scale fishers.

4) **Consider enhanced stocking of the Nile by upgrading existing and establishing new hatchery and nursery units:** Steps must be taken to assess the feasibility and cost-effectiveness of this strategy, as well as the management measures that must be implemented and enforced to ensure the success of such initiatives.

5) **Enhance the capacity of fishing and fish marketing cooperatives:** Fishing cooperatives have extremely limited capacity to provide services to fishers consequently the fishers have to rely on their own communities for services, such as loan provisions and the settlement of disputes. Enhancement of cooperatives should involve:
   a. developing capacity so that cooperatives can provide services such as: microfinance, facilitate social insurance, improve and make more accessible storage and marketing infrastructure and enhance the bargaining power of fishermen;
   b. establishing fish marketing cooperatives to address the potential needs of fish marketing, particularly as regards the role of women in this sub-sector;
   c. enhancing the role of cooperatives to ensure they can advocate on behalf of fishers to address policy makers.
6) **Introduction of insurance facilities**, including:
   a. insurance for gears and vessels
   b. life insurance
   c. health insurance.

7) **Improve financial services to fishers, together with financial training**: Fishers have limited access to financial savings and loans mechanisms and should have access to these services to increase income earning opportunities. These services should be accompanied by outreach and raising awareness about the services available and how to best use the possible financial services, given the unique nature of their livelihood and households. Additionally, the development of a fisheries finance policy framework or fisheries finance guidelines could be undertaken, possibly using models from other regions (Tietze et al., 2007). It is recommended that financial services and training are developed for fisher households, with consideration given to:
   a. the reliance on daily fish production for income;
   b. the unpredictable nature of the costs incurred, such as for gear repair and health costs;
   c. the role of women in the household, particularly their roles in taking care of livestock, fixing and cleaning nets and marketing fish;
   d. the need for microfinance services to work towards increasing the income-earning capacity of fishers and fisher households.

**Livestock**

1. **Integrated approach to a livestock management programme. The approach will take a holistic approach to**:
   a) Identify areas of institutional change that will strengthen livestock keepers and link them to the main livestock and dairy markets locally and in neighbouring governorates. Explore the potential for joint ventures to undertake further improvements which can be achieved following meaningful dialogue between stakeholders.
   b) Build the capacity and skill resources of small-scale livestock keepers and producers’ organizations so that they can be responsive to and participate as key actors to improve the quality and volume of their products. This assessment has demonstrated the enthusiastic academic institutions in the five universities (Fayoum, Minya, Sohag and Qena) of Upper Egypt which were part of the assessment. A strong emphasis should be placed on applied research and evaluation by the universities. Developing a technical problem solving orientation would mean this information can be tapped and put into use.
   c) Identify and promote policies and strategies that strengthen the competitiveness of small-scale livestock keepers as actors in the market and which increase their net gains.
   d) Organize livestock keepers and producers into producers groups to allow them to collectively market their products and access veterinary drugs, vaccines and animal feeds thus reducing transaction costs.
2. *Strengthening skills at the community level in veterinary skills, quality of feed, and processing and quality control of milk and milk products.* Supportive measure and structures are required for the cooperatives.

3. *Consider providing adequate equipment and infrastructure for dairy processing to improved quality and hygiene standards.* This should be accompanied by training.

4. *Livestock is considered by households as a quick source of cash.* To ensure that in case of any shocks households can continue to be productive and the family provided for it is important that source of security is not compromised. This will require ensuring the facilitation of credit services to sustain cash flow and for asset creation, covering the cost of feed, veterinary care and insurance and targeting women, men and youth to create and protect this livelihood. This should be accompanied by training designed to increase the know-how and skills in entrepreneurial management.

5. *Addressing the gender gap:* Addressing the role of women and gender constraints in the livestock production and marketing chain is critical. This requires identifying opportunities to ensure the participation of women in the livestock sector and along the value chain.

**Markets and livelihoods**

1. *Creating an enabling environment to access market and strengthen value chain:*  
   a) Facilitate access to market information (formal and informal) at local village and community level through farmers'/group associations.
   b) Identify opportunities to participate in value added production and marketing strategies based on value chain analysis.
   c) Achieve market integration by enhancing relations and partnerships between marketing institutions, traders associations, intermediaries and livestock keepers to facilitate livestock and livestock product trade. These forums for direct communications will assist in developing competitiveness. This can be addressed at the macro and micro levels.

2. *Significant benefit will be created by addressing markets and market led livelihoods through the facilitation and support of business for the target group.* Most households do not view their livelihoods in the bigger picture of the economy. Assisting target groups to determine how to operate and what commodities and what activities to focus on would fit them to the larger picture lead to their potential being enhanced.

3. *Increasing competitiveness:* Upper Egypt needs an effective and sustainable approach to address these gaps:  
   a) Provide support to marketing groups, cooperatives for collective marketing and entrepreneurial organizations to promote competitiveness. Contribution to industry growth and returns on investment by small-scale holders will reflect positively on the reduction of poverty and hence lead to food security.
   b) Promote equity and integrate it in to the value/supply chains through enhanced efficiency, productivity and viable business partnerships.

4. *Rural Upper Egypt faces constraints in accessing markets.* At the same time the market continues to evolve in even more demanding ways. Collective action is an important strategy for small holders, such as those in rural Upper Egypt, to lower
costs, such as those for transportation and storage. To enhance access to markets it recommended that:

a) The quality of products should be improved. In Fayoum and Beni Suef women attributed poor hygiene standards to poor market access.

b) Innovative branding of products and marketing strategies should be explored.

c) Farmers’ associations and groups should be supported to undertake collective marketing. This will also result in an increase in their bargaining power and lead to inclusion of a diversity of small-scale holders.

5. Support the improvement of market infrastructure to provide the needed sanitary standards, providing adequate storage facilities and amenities in particular for women.


FAO. 2010. FAO country profiles Egypt. (available at [www.fao.org](http://www.fao.org)).


