CGIAR RESEARCH PROGRAM ON Fish
Led by WorldFish

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Impacts of COVID-19 on Aquatic Food Supply Chains in Egypt

February – July 2020

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About FISH

The CGIAR Research Program on Fish Agri-Food Systems (FISH) is a multidisciplinary research program. Designed in collaboration with research partners, beneficiaries and stakeholders, FISH develops and implements research innovations that optimize the individual and joint contributions of aquaculture and small-scale fisheries to reducing poverty, improving food and nutrition security and sustaining the underlying natural resources and ecosystems services upon which both depend. The program is led by WorldFish, a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

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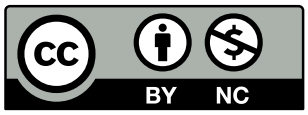

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1. Overview

We conducted a bi-weekly phone survey with fish supply chain actors in Egypt to assess impacts of COVID-19 on the availability and price of aquatic foods and production inputs. Respondents answered questions about their activity between the months of February and July 2020. The sample totalled 75 respondents, comprised of the following: feed mills (7), feed sellers (10), fish hatcheries (10), fish farmers (25), traders (7) and retailers (16). The areas covered included the Governorates of Kafr El-Sheikh (52%), Sharkia (33%), Beheira (4%), Fayoum (4%), Giza (3%), Damietta (3%), Cairo (1%) and Dakahlia (1%). Most farmers were located in the Kafr El-Sheikh and Sharkia Governorate. A complete summary of survey results can be accessed here.

2. Key findings

The percentage of respondents attempting to buy inputs or sell products gradually rose between February and July. The share of respondents attempting to sell inputs rose from 45% in February to 77% in July and remained relatively stable from March onwards (Figure 1). The percentage of respondents attempting to buy products rose from 73% to 100% over this period, suggesting that the demand remained relatively stable during and after the initial COVID-19 lockdown measures.

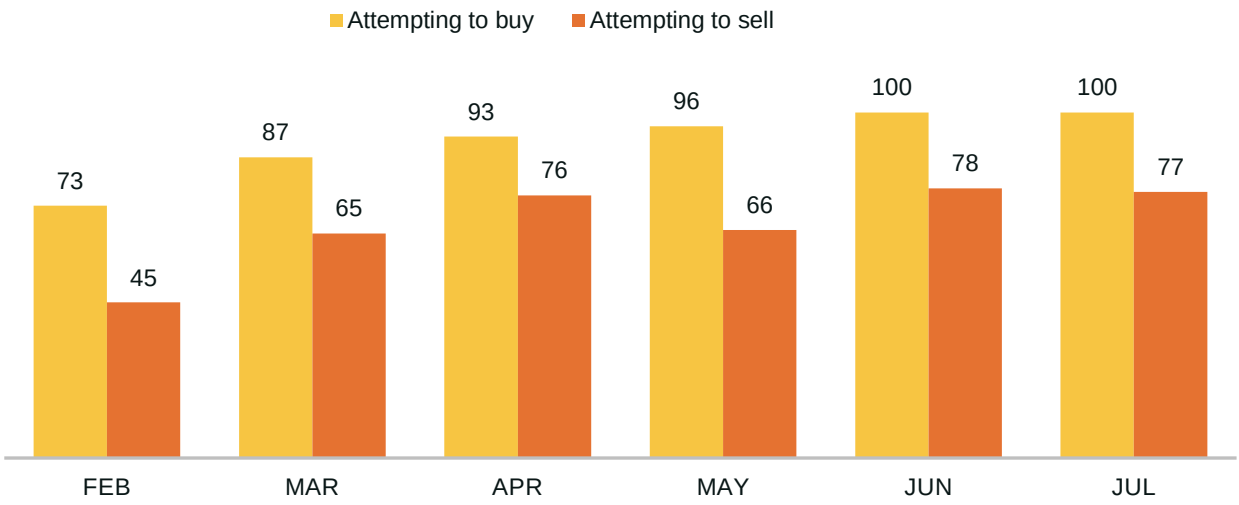

Figure 1. Respondents attempting to buy or sell inputs, by month (%).

The share of respondents able to access inputs, buyers and transport followed a 'U shaped' curve (Figure 2). The percentage of respondents able to access inputs dropped from 100% to 59% between February and April before climbing back to 100% by July. While the share of respondents able to access transport halved from 100% and 98% to 46% and 37% between February and May but also recovered by July, suggesting an increase in demand after the COVID-19 lockdown measures were lifted at the end of May.

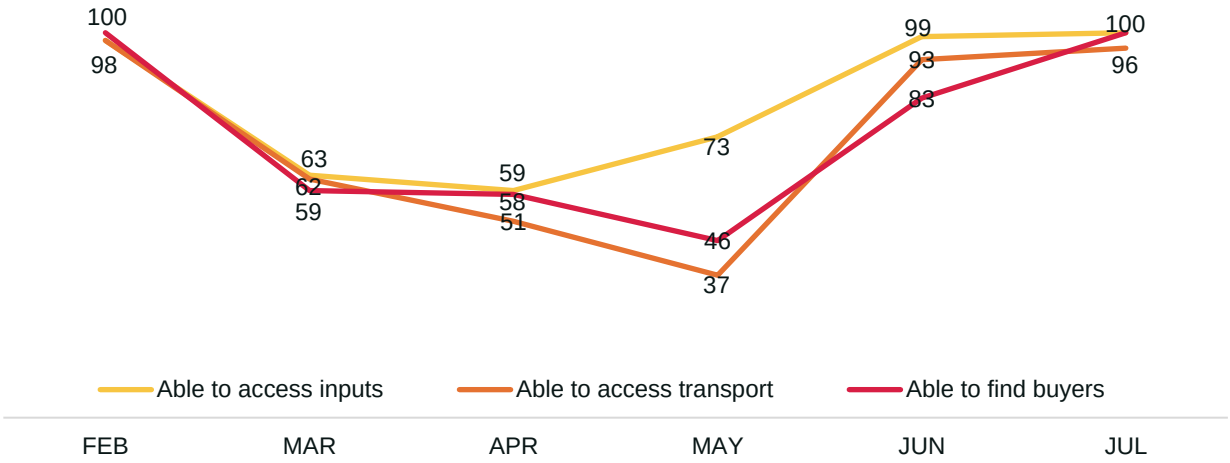

Figure 2. Respondents able to access inputs, transport or buyers, by month (%).

The percentage of respondents employing male casual workers fluctuated over the survey period, climbing from 8% to 25% between February and April before falling again in May, rising to 15% in May, and then dropping back to 25% in July (Figure 3). In contrast, only one female casual worker was employed during the entire survey period. The percentage of respondents reporting being unable to hire labour remained under 1% throughout the survey period, suggesting businesses' ability to find workers was not impacted by the lockdown measures.

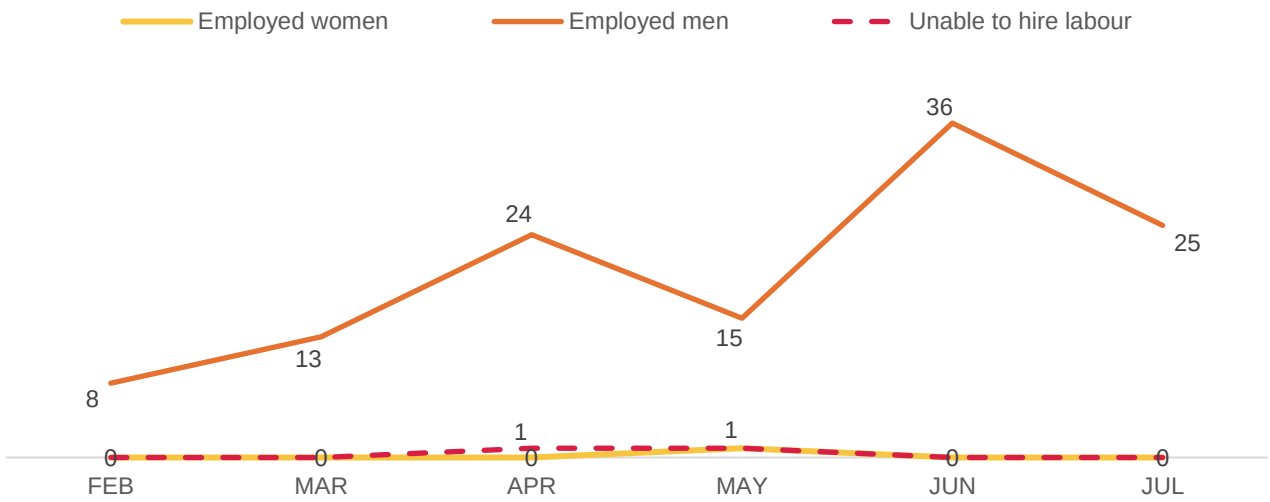

Figure 3. Respondents employing women or men casual workers, or unable to hire casual workers, by month.

In May, we began asking respondents whether they had experienced delays in accessing inputs and selling products, or experienced any reduction in the quantity of products sold as compared to usual expectations. 42% of respondents reported that they had experienced delays in selling products and 63%reported that they had sold less than usual in May. These numbers increased to 47% and 72% in June, before dropping to 38% and

57%, respectively, in July. The share of respondents that reported experiencing delays in accessing inputs followed a similar yet more pronounced trend dropping from 36% in May to 4% in July. The share of respondents who reported using fewer inputs than usual fell from 47% to14% over the same period, suggesting the impact of slowing demand and/or reduced cash flows.

From May onwards, we asked respondents if they had sufficient income to pay for their household's weekly expenses, and how the quantity of purchased food in the past month compared to usual. Both these indicators improved between May and July. The percentage of respondents with sufficient weekly incomes grew from 77% to 92% over this period. 76% of respondents reported purchasing the same quantity of food as usual in May, which rose to 100% in July, suggesting that after the COVID-19 lockdown measures were lifted, respondents' food security and income improved.

From May onwards, we also asked respondents if they had received any form of assistance and whether they travelled more than one mile from home during the past month (as an indicator of the severity of movement restrictions). 96% of respondents reported travelling more than one mile from home in May which then rose to 99% in July suggesting that the impacts of COVID-19 related regulations did not restrict movement during this time period. The share of respondents receiving any form of assistance remained low, but stable during this time period. 5% and 3% of respondents received assistance in May and June respectively, with trade associations reported as the main source.

Hatcheries

All surveyed fish hatcheries remained operational between March and July. Total hatchling production in surveyed businesses rose from no production in February to 9.7 million in March, before a sharp rise in April (16 million) due to rising temperatures, falling again in May; this trend continued and sharply climbed to 15 million in June before quickly dropping in July (Figure 4). As the temperature rose in April, signalling the start of farming season, there was an 83% increase in the total quantity of fry sold in comparison to March. Despite the spike in hatchling production in June, the quantity of fry sold was the lowest in June (4.6 million) and July (6.9 million). This may be due to low demand for fish in the previous few months which reduced the amount of harvesting done. Tilapia accounted for the majority of hatchlings produced and sold.

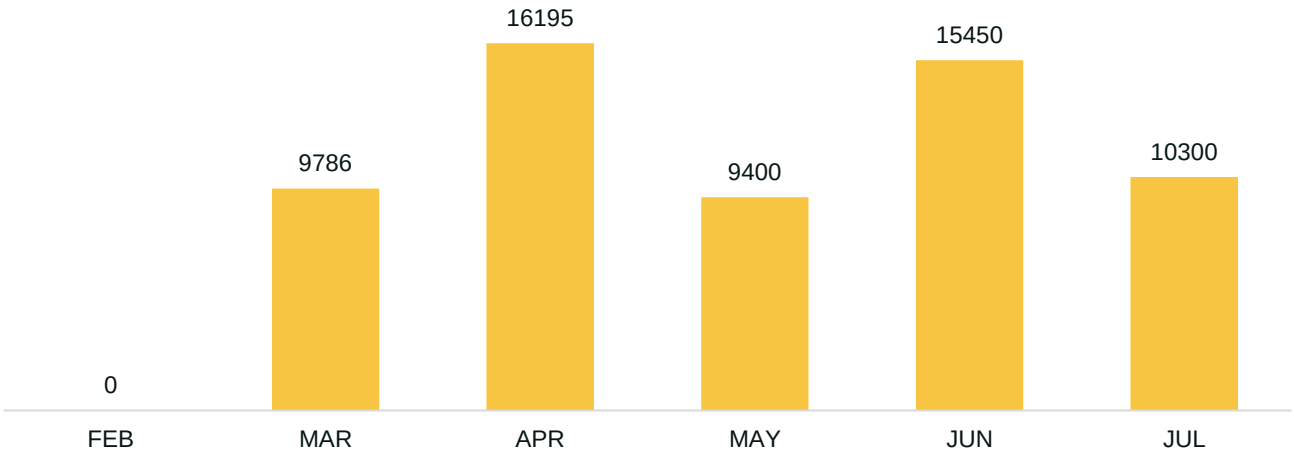

Figure 4. Total quantity (in 1000) of hatchlings produced, by month.

Feed Mills

All surveyed feed mills were fully operational between April and July; some had suspended their activity in February (57%) and March (29%) due to poor weather conditions as water temperatures are still too low during those two months for tilapia to eat artificial feed, though other fish such as mullet and marine species can eat artificial feed at this time of the year..

Average prices of common raw materials used in feed manufacture climbed slightly between May and June (e.g. rising by 8% for rice bran and 12% for maize), before falling by around 5% in July. The total quantity of raw material purchased by surveyed feed mills increased sharply from 1240 t in May to 3820 t in June before dropping slightly in July (-125t).

The total amount of feed manufactured by surveyed mills rose by 5492 t between February and April, but quickly fell in June (-45%) and remained relatively stable in July. In May we began asking respondents about the quantity of feed sold in the past month. Sales for May stood at 3010 t, increasing 8% to 3379 t in June, before dropping by 31% in July.

Feed Sellers

All feed selling businesses surveyed in Egypt sold pelleted feeds. All of the surveyed feed sellers were fully operational between April and July, while some suspended their businesses in February (60%) and March (10%) due to the off-season. The average number of days pelleted feed sellers operated steeply rose from 9 days in February to 23 days in April before falling to 16 days in May and remaining stable for the following months, reflecting an increased demand from farmers for feed to meet the needs of production during April, when the temperature rose.

The total quantity of feed purchased by surveyed feed sellers gradually declined from 3293 t in May to 1642 t in July, while the average procurement price remained stable between EGP 8189/t and EGP 8295/t. The amount of pelleted feed sold by surveyed businesses followed an ‘inverted U’ shaped curve, gradually climbing from 67 t in February

and reached its highest point in June (4803 t) before dropping in July (-2551 t) (Figure 5), while the sales value remained stable between March and July at around EGP 8700/t.

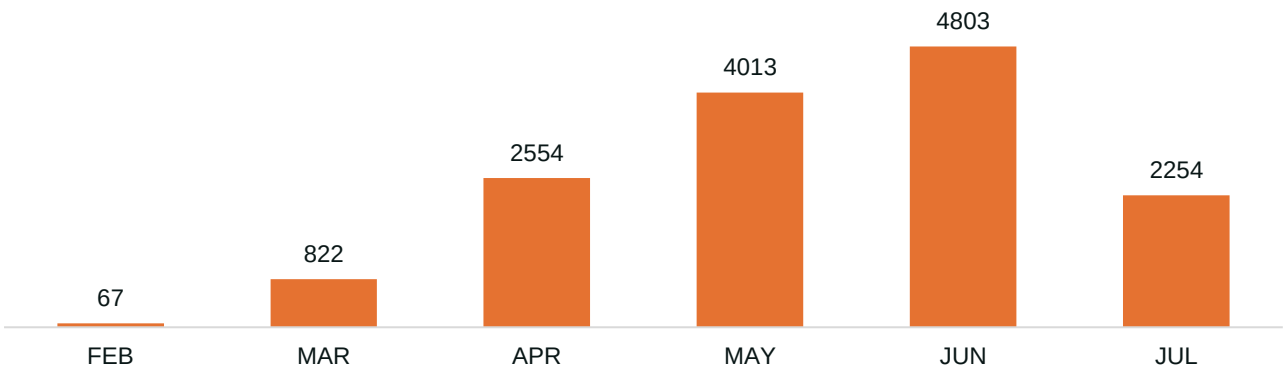

Figure 5. Total quantity (t) of pelleted feed sold, by month.

Farmers

Almost all surveyed farmers were operational between February and July. Of those not operating, the inability to obtain credit to purchase inputs was cited as the main cause.

The share of respondents procuring inputs rose from 26% in February to 100% in July, while the total quantity of feed procured by surveyed farmers climbed gradually between February (38 t) and May (880 t) before rising sharply to 2205 t in June, and dropping slightly in July, similar to the pattern of sales reported by feed sellers. The increase in feed procurement from April to June can be attributed to the rising in temperature, causing fish metabolism to increase, requiring more feed. Floating feed was the main feed purchased. The greatest quantity of fish seed was purchased during April (12.7 million pieces), mirroring the pattern of hatchling production. The amount of seed purchased by farmers plummeted between April and May and continued to fall in the following months.

Total monthly fish sales by surveyed farms rose by more than ten times, from 40 t to 433 t between February and April, before falling back sharply in May (-313 t). Sales increased again in June to 323 t, falling again by 29% in July to 250 t. The high fish sales in April can be attributed to Easter holiday, during which eating fish is tradition for Egyptian consumers. The average farmgate price received by farmers declined gradually, from EGP 26/kg in February to EGP 21/kg in July; a reduction of about 24%. Tilapia accounted for the bulk of fish sold.

Traders

All surveyed fish traders were operational between February and July, while the number of days operated per month fell from a high of 27 days in February, to 15-20 days during May-July.

Farmed fish were traded throughout the entire survey period, while marine capture fish were only traded from May to July. No respondents reported trading freshwater capture fish. The total quantity of farmed fish sold by surveyed traders fluctuated somewhat from month to month, being lowest in March (303 t) and May (318 t), and highest in February,

June and July (435-475t). In contrast, the total quantity of marine capture fish sold remained stable, standing at 67 t in May and June, falling slightly to 51 t in July (-24%).

The average wholesale sales price of farmed fish declined steadily from EGP 27/kg in February to EGP 18/kg in July (which is about 20% lower than the normal market price at this time of year). This amounts to a 50% drop in the price received by wholesalers over this six-month period. Tilapia accounted for the majority of the fish traded over this period.

Retailers

Surveyed fish retailers went from being fully operational in February, to 25% and 19% not operating in March and April, respectively. Approximately 10% of retailers were inoperational from May-July. High prices and the inability for respondents to obtain credit to purchase inputs were cited as the main causes for halting operations. The average number of days in which operational businesses traded fell from 17 days in February to 11 days in March, and remained stable until July.

The total quantity of farmed fish sold by surveyed retailers followed a similar pattern to farmed fish sold by traders, declining from 20 t in February to 9.3 t in May, rising in June before falling back to the same levels as May. In contrast the total quantity of marine capture fish sold by retailers remained stable at the low level of 2 t, between May and July. The retail price of farmed tilapia climbed slightly from EGP 25/kg in February to EGP 28/kg in April (for fish averaging 250 g in size), before falling steadily to EGP 24/kg in July (a drop of 19%). Surveyed retailer's income dropped by 53% between February and July, suggesting a decline in consumer purchase power as the income of many people fell after the COVID-19 outbreak.

3. Recommendations

- Safeguard ability to access transportation and movement of merchandise.
- Keeping markets open in a safe way is key to safeguarding demand and keep the supply chain from functioning adequately.
- Conduct research on how COVID-19 may transfer through fish market practices and ways to mitigate this.
- Provide financial support to actors of supply chain who have lost substantial amounts of revenue and often report reduced access credit and poor cash flow as a key constraint to doing business.
- Support and encourage fish processing as a means to utilize fish at times of lower prices, as a way to improve farmers' incomes and enable processed fish to reach wider market.
- Provide institutional support for fish farmers to export product to Middle East and Africa to improve market and to mitigate the impact of declining domestic purchasing power.
- Make greater use of digital marketing and ICT solutions to connect producers, marketing intermediaries and consumers.
- Reduce land rental fees for fish farmers who rent farmland from government to help lower production costs.

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