

Impacts of COVID-19 on aquatic food supply chains in Bangladesh

The complete summary of survey results can be accessed [here](#).

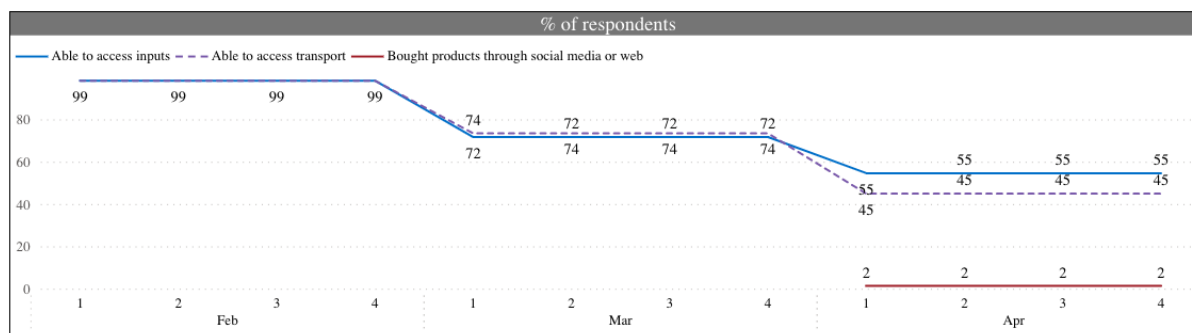
1. Overview

A survey was conducted with fish supply chain actors to assess the impacts of COVID-19 on the availability and price of aquatic foods and production inputs. Respondents answered questions about their activity during the months of February, March, and April 2020. The sample consisted of retailers (n=11), hatcheries (n=10), fishers (n=24), traders (n=10), processors (n=8), feed sellers (n=14), feed mills (n=3), and farmers (n=25), with the majority of respondents being male. The areas covered included Khulna (n=23), Chittagong (n=24), Barisal (n=19), Rajshahi (n=14), Dhaka (n=7), Mymensingh (n=6), Sylhet (n=6), Rangpur (n=3), Pabna (n=2), Noakhali (n=1).

2. Key findings

Between February and April, there was a slight decrease (-10 percentage points) of respondents hiring male daily labor, while there was an increase (+9 percentage points) in respondents unable to hire daily labor. Although the percentage of respondents attempting to buy inputs remained relatively stable, respondents' ability to access inputs and transport declined drastically, with a 44-percentage point and 54-percentage point change, respectively (**Figure 1**). The percentage of respondents attempting to sell products also remained relatively stable. At the same time, the percentage of respondents able to access transport for sale dropped from 100% to 56%, and those that were able to find buyers dropped from 98% to 39%.

Figure 1: Percentage of respondents who were able to access inputs, access transport, and bought products through social media or web



Hatcheries: In February, the majority of hatcheries were not operating because they were off season. In March and April, however, nearly all hatcheries were operating. Among the 10% of hatcheries not operating, reasons cited included reduced production because of low demand, restrictions on transportation, inability to hire transport, and suspensions due to COVID. While hatcheries experienced a moderate 9% production increase in both catla and rohu hatchlings between March and April, the production of tilapia and mrigal hatchlings decreased by 78% and 24%, respectively.

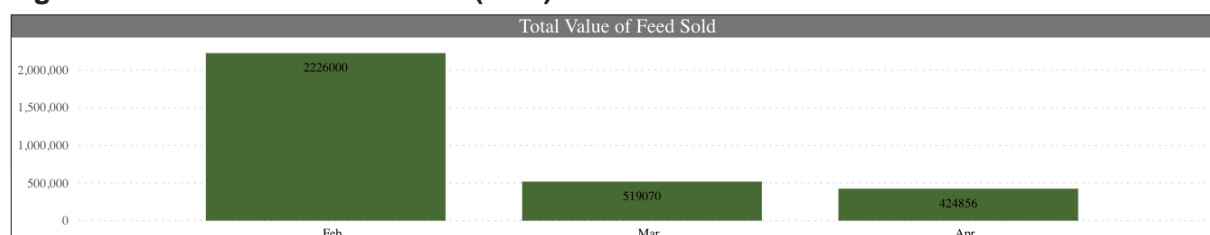
Feed mills: All feed mills remained operating from February to March. Feed mills experienced a 16% decrease in average procurement prices alongside an increase in total quantity of feed

ingredients procured, from 665 to 3,718 tons. While the average sales value of feed remained stable, the total quantity (+2,347 tons) and total value (+11.5 crores BDT) of feed manufactured increased.

Pelleted Feed Sellers: Almost all pelleted feed sellers were operating between February and April. The average sales value of pelleted feed remained stable from February to April. At the same time, the total quantity and total value of pelleted feed sold both increased by approximately 33%.

Non-Pelleted Feed Sellers: Although all sellers of non-pelleted feeds were operating in February, half were not operating from March through April. Among those operating, the number of days of operation fell by half from February to April. Among those not operating, 10% reported having closed permanently in March due to COVID-19. In April, 20% of non-operating businesses were temporarily closed due to COVID-19. Other reported reasons for not operating included current market prices being too high, input supplies not being open or out of stock, and an inability to hire transport services. The average sales value of non-pelleted feeds remained relatively stable between February and April. However, the average sales value of rice bran increased by 52% between February and April. The total quantity and total value of non-pelleted feed sold drastically declined by 82.7% and 81%, respectively (**Figure 2**).

Figure 2: Total value of feed sold (BDT)

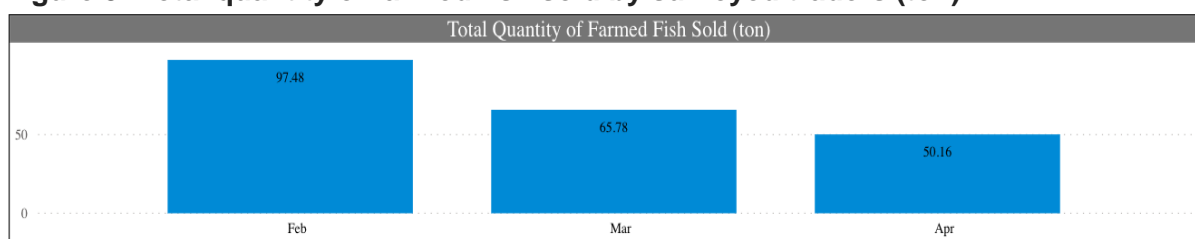


Fishers: The percentage of fishers who did not go fishing increased by 33 percentage points between February and March, peaking at 79%. The share of fishers active in April increased somewhat, to 46%. However, those still fishing in April did so for an average of just one day per week and four hours per day. The primary reason that fishers did not go fishing was because of the closed season, with only 8% citing a temporary suspension due to COVID-10. 42% of fishers were without a boat and among those with a boat, the majority used engine boats. The quantity of fish landed fell from 17.3 tons to less than one ton and the total quantity of fish sold dropped from 17.2 tons to less than one ton. Fishers experienced a 94% decline in the total sales value of fish, but this decline may largely be attributed to the closed season.

Farmers: Although the majority of farms were operating, the total area operated by farmers dropped from 1028 hectares in February to 661 hectares in April. In March, the average procurement price of fish seed was at its highest at 347 BDT per 1000 pieces, while the total quantity and total value of fish seed procured were at their lowest. As the average procurement price fell from 437 to 200 BDT per 1000 fish seed between March and April, the total quantity and total value of fish seed procured rose from 488,000 to 5,309,000 pieces and from 2 lacs to 11 lacs BDT, respectively. Between February and April, there were also increases in the total quantity of fish sold from 31 to 52 tons and total value of fish sold from 41 to 62 lacs BDT.

Traders: The majority of fish traders remained operating through April. Among the 20% of fish traders not operating in March and April, reasons cited included the season being closed for fishing, input suppliers not being open, restrictions on road transportation, and temporary suspension due to COVID-19. The total quantity and value of farmed fish, marine capture fish, and shrimp sold all decreased, while that of freshwater capture fish sold increased. Both the quantity and value of farmed fish sold decreased by nearly 50% (**Figure 3**). Similarly, the total quantity and value of marine capture fish declined by 80% and 85%, respectively, most likely due to the ban on hilsha fishing. Freshwater capture fish, on the other hand, saw large increases in quantity and value sold, from 1 ton to 20 tons and 12 lacs to 1.6 crores BDT, respectively. At the same time, the average sales value of freshwater capture fish dropped from 1,200 to 791 BDT per kilogram.

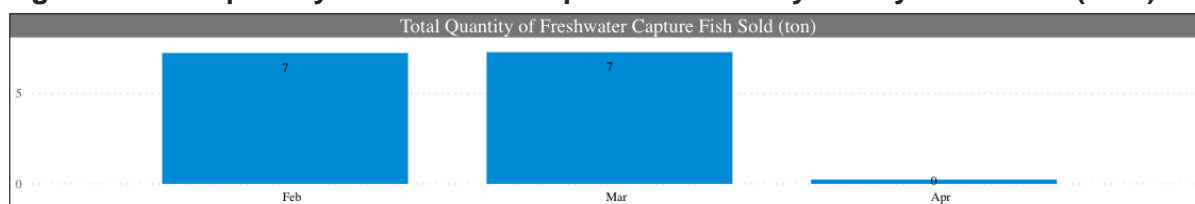
Figure 3: Total quantity of farmed fish sold by surveyed traders (ton)



Fish processors: 38% of fish processors (mainly fish driers) were not operating in April. For non-operating fish processors, the main reasons for not operating included restrictions on road transport and inability to obtain credit for inputs. 33% of non-operating fish processors temporarily halted operations due to COVID-19 in March. The quantity of fresh fish processed, the quantity of processed fish sold, and the sales value of processed fish all experienced marked declines at 73%, 73%, and 78%, respectively.

Retailers: The majority of fish retailers were operating from February to April. Among non-operational retailers in April, half were not operating due to restrictions on road transport, and the other half temporarily suspended operations due to COVID-19. The average sales value of freshwater capture fish increased from 295 to 371 BDT per kilogram. At the same time, the total quantity and total value of freshwater capture fish sold decreased drastically between March and April. Specifically, the total quantity of freshwater capture fish sold dropped from 7 tons to less than 1 ton (**Figure 4**), with the total value falling by 23.9 lacs BDT. Similarly, as the average sales value of shrimp rose by 366 BDT per kilogram, the total quantity and total value of shrimp sold fell. For farmed fish, the average sales value, total quantity sold, and total value sold remained relatively stable.

Figure 4: Total quantity of freshwater capture fish sold by surveyed retailers (tons)



3. Recommendations

- Support supply chain actors during the closed season through other income-generating activities and/or access to social-safety net programs.
- Provide financial support and access to credit for supply chain actors who have lost substantial amounts of revenue.
- Safeguard the ability to access transportation, movement of merchandise, and connections between supply chain actors.
- Conduct research on how COVID-19 may transfer through fish market practices and ways to mitigate this.