

Socio-economic and Environmental Aspects of Fish Consumption in Qatar

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Summary

After the blockade in 2017, Qatar has undergone an important development of shifting from full dependency on food imports to self-sufficiency in perishable foods. Qatar has launched a food security strategy 2018-2023; therefore, research studies on fish consumption becomes very important for the strategy. Studying fish consumption will help estimate local demand and hence identify the gap between production and imports. The study may also help decision makers to understand the socio-economic characteristics and attitudes of consumers, which assists in improving their satisfaction and regulating markets. The study's results showed that fish production in Qatar meets all food security indicators. The study examined the differences in fish consumption among Qatar's society, in relation with socioeconomic factors such as employment, education and health awareness and fish species. The study also found that half of Qataris are willing to consume "*Tilapia*", an emerging freshwater species in Qatar produced as aquaculture product, which should help reduce the consumption pressure on species in high demand and preserve diversity.

Main findings

- The rate of fish consumption in Qatar is very high (90%).
- Fish in Qatar meet all indicators of food security: availability, affordability, good quality, accessibility, and health.
- *Safi*, *Hamour*, *Kanaad* and *Shaari* are ranked the highest in terms of consumption among Qataris
- Both Qataris and white-collar workers are moderate consumers, while blue-collar workers register the highest rate in the frequency of consumption.
- There is a high level of health awareness regarding the benefits of fish as a good source for child's brain development among all respondents.
- Sixty-five percent of respondents were willing to consume *Tilapia*, while the rest were not.
- Both white-collar and blue-collar workers are willing to consume *Tilapia*; however, 50% of Qataris would consume it.

Policy Recommendations

- Conducting a health awareness campaign to increase the consumption rate of fish species that are not under pressure, especially to safeguard fish biodiversity.
- Using species that are not highly demanded, as animal feed and/or feeding aquaculture species by converting these fish to small cubes.
- Studying the Qatari community's willingness to consume processed fish of species in low demand in the form of canned fish, snacks and dry fish protein.
- Opening foreign investment opportunities in some areas, including efficient aquaculture and land-based systems to produce fish species that supports the fish stock under pressure.
- Rationalizing the management of the fisheries in Qatar to meet increasing demand and to change the fish industry from its artisanal nature to a more commercialized sector.

Fish Consumption Results

The following results show consumers' perceptions, attitudes, and behaviors toward fish consumption in Qatar. The fish consumption rate analysed according to resident type to capture diversity in the community. Other graphs and tables show more details about the socioeconomic characteristics of fish consumption in Qatar.

Table 1: Data description

Descriptive data	Percentage
Respondent Type	
Qataris	28%
White-collar workers	35%
Blue-collar workers	36%
Gender	
Male	80%
Female	20%
Employment	
Employed	88%
Unemployed	12%
Eating fish	
Yes	90%
No	10%
Consumption frequency	
Low	32%
Moderate	36%
High	31%

Methodology

- "Qatar Semi-Annual Survey"- QSAS 2019
- Cross tabulation and figures
- Data collection (May 2019)
- Sample size = 2,335 respondents
- Fish consumption by respondent type

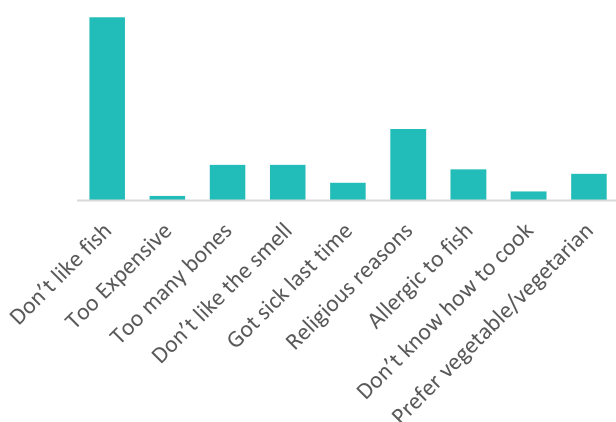
SESRI at Qatar University conducted its fourteenth QSAS in May 2019. QSAS used a scientifically grounded sampling and interviewing methodology to provide valuable information to decision-makers. Consumption rates were determined by asking respondents about the number of times they consumed fish per month. Based on that information, we created three categories: low (1–3), moderate (4–8) and high (more than 8).

Table 2: Socioeconomic factors by fish consumption rate (high, moderate, low)

Variables	Consumers (%)		
	Low	Moderate	High
Respondent type			
Qataris	26%	52%	22%
White collar workers	36%	41%	23%
Blue collar workers	31%	33%	36%
Employment status			
Employed	31%	37%	32%
Unemployed	38%	38%	24%
Education level			
Less than High school	35%	33%	32%
Vocational/Sec/Post-secondary	30%	35%	35%
Undergrad and beyond	33%	41%	26%
Fish preference			
Local fish	32%	38%	30%
Imported fish	26%	33%	41%

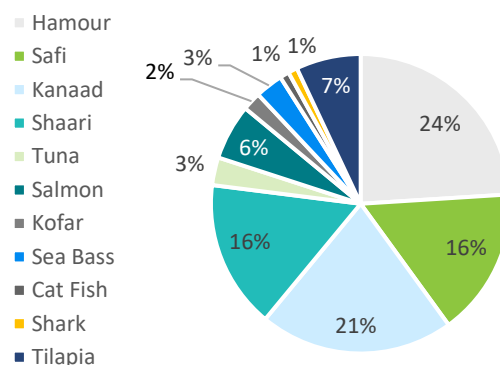
Among all respondents, blue-collar workers reported the highest fish consumption compared to Qataris and white-collar workers. Moreover, the frequency of consuming fish increased with education and preference to consume local species for moderate consumers. White-collar workers and Qataris prefer local fish, while blue-collar workers prefer imported fish. This may be because of lower prices and willingness to consume species found in their home countries, such as freshwater fish.

Figure 1: Reasons for not eating fish



The religious reason for not consuming fish is the most important. This might be affected by the fact that the data were collected during Ramadan, when most people prefer not to eat fish. Other factors negatively influencing fish consumption in Qatar are the existence of bones and the strong smell of the fish, in addition to people being vegetarians or allergic to fish.

Figure 2: Most preferred type of fish in Qatar



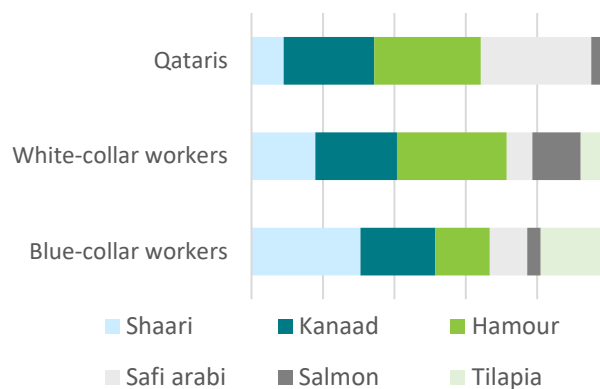
The figure above shows the different rate at which commercial fish species are consumed in Qatar. It is quite clear that there is consumption pressure on only four species compared to others.

Table 3: Places to buy fish

Place	%
Supermarket	59%
Um Salal Market	15%
Souq Al Markazi (Abu Hamour)	9%
Corniche Market	6%
Al Wakra Market	5%
Al Khor Market	3%
Fishing	2%
Al Ruwais Market	1%

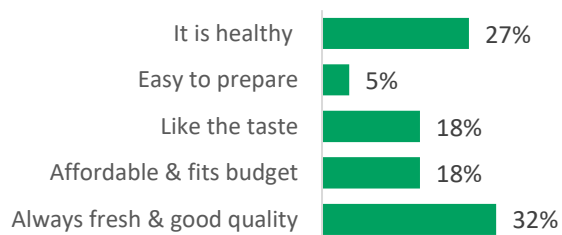
Most respondents reported buying fish from supermarkets. Moreover, as part of its food security strategy, Qatar has established new local markets for fish, such as the Um Salal market, which was the second most common place to buy fish among respondents. This might be because Um Salal market replaced the old Abu Hamour market because of its proximity to fresh fish sources, such as Al-Khor and Al-Shamal.

Figure 3: Fish species by respondents



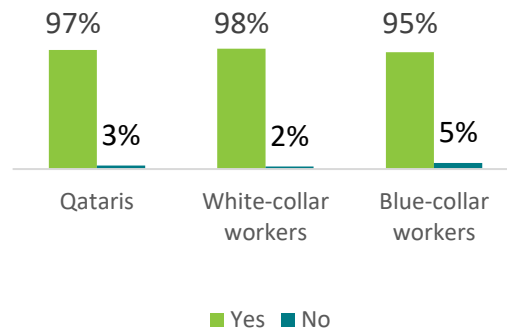
Among a total number of ten commercial species, Qataris mainly prefer to consume four: *Humour*, *Safi*, *Kanaad* and *Shaari*. Other respondents prefer these fish species too, but with different preference rate. In addition to these most popular species, white- and blue-collar workers prefer freshwater fish *Tilapia* and *Salmon*, likely because they consumed them in their home countries.

Figure 4: Factors that affected the purchase of fish or other fishery products



Fish products are affordable, fresh, healthy and tasty. Commercial fish species are available at various prices to ensure that all members of Qatar's diverse community can access and consume fresh fish according to their budgets. Some of attitude factors positively related to fish consumption in Qatar are the availability and accessibility of fish species, which can be deduced from the above graph.

Figure 5: Importance of fish consumption for children's brain development by respondents

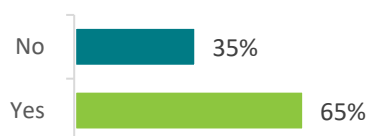


Mostly all respondents were aware of the health benefits of fish for children's brain development, which may reflect good health awareness and a culture of fish consumption among respondents in Qatar.

Tilapia Consumption Results

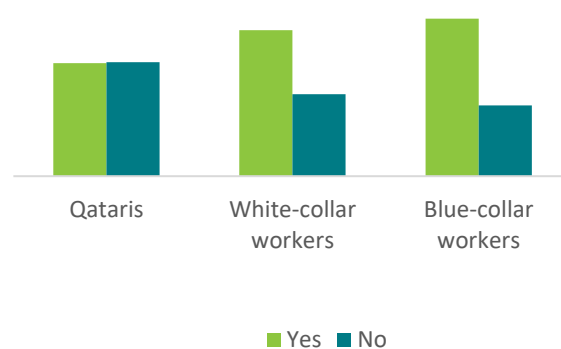
Tilapia is a fresh water fish that is new to Qatar, and that is produced as an aquaculture product to fill the fish consumption gap and shift to 90% self-sufficiency. The next following graphs present social acceptance of this emerging product.

Figure 1: Acceptance of Tilapia consumption if it would be produced locally



To test people's attitudes toward *Tilapia* in Qatar, respondents were asked if they would eat *Tilapia* if it were produced locally. The results showed that 65% of people in Qatar would probably eat it, which gives a good indication that producing *Tilapia* would be a step toward fulfilling the ministry's goal.

Figure 2: Tilapia consumption by respondents



We further analyzed *Tilapia* demand by respondent type. We found that Qataris were divided into two equal categories: yes and no. It seems that both white-collar and blue-collar workers have enough knowledge about the emerging *Tilapia* fish and are willing to consume it, that likely reflect their diverse origins from countries with fresh water fish species.