

Small Fish, Big Solution

Access to affordable small fish is key to achieving zero hunger and improved nutrition in Ghana's poor urban households, a new study shows

Small fish are indeed the backbone of Ghana's animal protein supply in the poor urban neighbourhoods of Accra (such as Nima, Chorkor, Ga Mashie and James Town) and Tamale (such as Sagnarigu, Kukoo, Sakasaka and Salamba). This is the conclusion of a recent research project called Fish4Food. The academic team behind the project drew from the University of Amsterdam (UoA), the University of Ghana (UoG) and the Kwame Nkrumah University of Science and Technology (KNUST). Until recently, this critical aspect was largely overlooked. The research findings demonstrate that despite the high appeal of large-sized fish—not to mention the increasingly popular farmed fish like tilapia and catfish—the urban poor prefer smaller pelagics like anchovies, herrings and mackerels.

Fish size and nutritional value aside, fish is inseparable from Ghanaian cuisine. Nearly a third of the average urban household income spent on food goes into fish. With such a big appetite for fish, it is of little wonder that Ghanaians consume an estimated 25 kg of fish per capita per year; this is higher than Africa's average of 10.5 kg and the global average of 20.3 kg. Beyond the raw figures, the study provides a larger picture of fish for food and what the high consumption of fish means to the already declining fisheries and, more crucially, for its capacity to feed the urban poor.

Even before the advent of modern science, indigenous communities in Ghana were nutrient-savvy. The expert cook knew the right type of fish and ingredients to combine in the precise order and at the exact moment, not only for dietary value but also to capture the delicate elements of regional and ethnic taste. Staple food such as *akple*

with *abobi tadzi*, *etsew* with *Fante-Fante*, and *banku* with *shitorlo* are rich sources of protein and omega-3 fatty acids. For centuries, households have appreciated the health benefits of these staples and their recipes have hardly changed.

Household size

It was from the analysis of survey data from 300 low-income households in Accra and Tamale that the Fish4Food

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project found that fish is relatively affordable and accounts for a big chunk of the food budget of poor urban households. Besides price, the researchers found that other factors like location, availability, taste, fish size and religion influence the type of fish consumed.

What makes a household spend more or less on fish? The study offers a number of insightful answers, including household income and household size. "The rich spend a smaller amount of their budget on fish while the poor allocate a larger share," says the study. As the poor get richer, the proportion of income they allocate to fish declines. An increase in income frees up part of the budget to be spent on other protein sources like beef, goat and chicken.

The study shows the influence of household size: "An increase in household size leads to a decreasing probability of the household allocating income to fish consumption. A household with larger size needs

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more fish and, hence, it becomes more expensive to acquire large quantities of fish. Therefore, large-sized families spend less on fish and switch to cheaper alternatives such as imported chicken and eggs.”

Regardless of how household income and size influence the purchasing decision, fish consumption is not likely to decrease any time soon. And as the population expands, demand for fish is expected to rise. Naturally, the sustainability of the fishery resources becomes an increasingly pressing concern.

To satisfy an ever-increasing demand for fish, Ghana draws about 450,000 tonnes of fish from marine and inland waters, as also from fish farms. The country imports an additional 450,000 tonnes. An estimated 2.6 mn Ghanaians are dependent for their livelihood on fisheries and value chains related to them. Given the large number of actors and communities dependent on the fish value chain, the sector is pivotal to employment, poverty reduction and food security. The great demand for fish also puts tremendous pressure on the fishery resources. In

recent times, the landings have been declining; this is further aggravated by a growing annual fish deficit of about 50 per cent that is filled up largely through imports.

Any significant increase in the fish import bill bodes ill for low-income earners because a steep rise in price will put a strain on their ability to buy fish. Considering that fish provides up to about 60 per cent of the national average animal protein intake, any disturbance in the fragile food security mix—availability, stability, utilization and access—has serious repercussions on the nutritional health of the urban poor.

Successive governments have developed policies to address the challenges plaguing the fisheries sector. Much emphasis has been placed on legislations such as the Fisheries Law (Act 625) in 2002 and Fisheries Regulations in 2010. More recent efforts include the vessel monitoring system, marine patrols, fisher watchdog groups and closed seasons. Yet, despite modest achievements, the overall scorecard is not encouraging. Marine fish stocks continue to decline. Why?

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Plastic waste at a landing site in Teshie, Ghana. Plastic fragments and chemical pollutants such as mercury and dichlorodiphenyl trichloroethane (DDT) can be ingested by fish and passed up the food chain to consumers.

The Ministry of Fisheries and Aquaculture Development (MoFAD) identifies overfishing and overcapacity of fishing vessels as some of the obstacles to the recovery of the fish stocks. While fishers cannot be criminally charged for overfishing, there is ample evidence of illegal, unreported and unregulated (IUU) fishing in the sector, verging on criminal activities.

Informal sector

While the fisheries infractions include the use of light, explosives and violations of mesh size, a more destructive form of IUU is trans-shipment of fish at sea. Called as *saiko* in the local parlance, trans-shipment of fish involves the sale or exchange of by-catch fish between trawling vessels and artisanal fishers or collectors at sea, for money or goods. Just how much *saiko* is affecting the local fisheries is yet to be ascertained. But this much is certain: the use of brute force by trawling vessels is taking so much of juvenile fish from the sea that the fish are barely able to reproduce their numbers and grow to maturity.

In addition to the problems of *saiko* is pollution, particularly from plastics. Plastic fragments and chemical pollutants such as mercury and dichlorodiphenyl trichloroethane (DDT) can be ingested by fish and passed up the food chain to consumers. The serious concerns expressed by stakeholders and the renewed attention by MoFAD to sanitize the fishing sector are very important since the security of fishers' livelihood and Ghana's main animal protein supply is at stake.

Ghana has a working fish-value chain supported by a strong informal sector, networks of relationship and improved telecommunication infrastructure such as the mobile phone and mobile phone banking. Among its recommendations, the Fish4Food study advocates the enhancement of the value chains of small pelagic fish, through improvement in packaging, storage and transportation. If adopted, the researchers are convinced this will make fish safer, fresher and more affordable for low-income households, contributing significantly towards achieving SDG2: ending hunger and malnutrition.



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A fishmonger preparing fish for processing. An estimated 2.6 mn Ghanaians are dependent for their livelihood on fisheries and value chains related to them, and the sector is pivotal to poverty reduction and food security.

Nevertheless, without consultations to promote free, prior and informed consent (FPIC) of small-scale fishworkers and industry and the regulatory bodies, achieving zero hunger will remain elusive, as evidenced by previous ineffective attempts. In this respect, the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) provide a framework to address the inherent challenges of artisanal fisheries in a more organized, all-inclusive and dignified manner, guided by such principles as human rights and dignity, non-discrimination, transparency and accountability. The real strength of the SSF Guidelines, however, lies not in merely mapping out obstacles but also guiding amendments and/or inspiring new or supplementary legislative and regulatory provisions. 3

For more

<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/88535/101263/F583967126/GHA88535.pdf>

Ghana Fisheries Act, 2002 (Act 625)

<https://www.mdpi.com/2071-1050/11/10/2807/htm>

Assessment of Household Food Security in Fish Farming Communities in Ghana

<https://www.mdpi.com/2071-1050/12/19/7932/pdf>

Fish Consumption Behaviour and Perception of Food Security of Low-Income Households in Urban Areas of Ghana