

2024

# CASE STUDY PARTNERS DELIVER FRESH AND SAFE FISH TO CAMBODIAN SCHOOL MEAL PROGRAM



United States Department of Agriculture



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# EXECUTIVE SUMMARY

Cambodian children in 77 schools are benefitting from fresh, nutritious and safe fish in their meals thanks to leadership and cooperation that fosters a successful model for locally raised fish to nourish even more children. As a result of the extensive networking and business matching effort, wholesalers and school suppliers signed 16 contracts to provide part of the protein (fresh fish) component for approximately 11,400 children's meals over four months (January - April 2024). Three fish species (pangasius, striped snakehead, and walking catfish) pair well with local vegetables and supply high-quality nutrition. Schools source and serve locally available fish protein at an approximate per-student cost of 353 khmer riels (8.7 cents) per meal.

The initiative bridges two U.S. Department of Agriculture-supported programs, the Cambodian Aquaculturist Association (CAA), Cambodia's Ministry of Education and Ministry of Agriculture as well as local school officials and the United Nations Food and Agriculture Organization (FAO) and the World Food Programme (WFP). The USDA Food for Progress Program funds the Commercialization of Aquaculture for Sustainable Trade (CAST)-Cambodia project.

The American Soybean Association's World Initiative for Soy in Human Health (ASA/WISHH) implements CAST in alignment with the Royal Government of Cambodia's Strategic Plan for Aquaculture Development. CAST accelerates production of high-demand fish species for the Cambodian market, develops a lasting aquaculture industry and promotes Cambodian-raised fish. World Vision Cambodia is a partner with both ASA/WISHH on CAST as well as with the WFP on its USDA McGovern-Dole International Food for Education and Child Nutrition Program.

The CAA is helping foster dialogue and is supporting the WFP and the Ministry of Education in their goal planning to take the fish-for-school meals program to additional provinces. CAA's members, both women and men, are leaders to continue coordinating and following this demonstration among CAA's membership, development partners and the Cambodian government since CAA also has a role in policy advocacy. CAST is training farmers to be eligible for certification for Cambodian Good Aquaculture Practices and food safety standards. Cambodia's goal is to see this aquaculture quality and safety program go nationwide.

# 77 SCHOOLS ARE BENEFITTING FROM FRESH, NUTRITIOUS AND SAFE FISH

# UNIQUE NUTRITIONAL & HEALTH BENEFITS

FAO's 2024 State of World Fisheries and Aquaculture recognizes the importance of aquaculture and notes that "For the first time, aquaculture surpassed capture fisheries in aquatic animal production with 94.4 million tonnes, representing 51 percent of the world total and a record 57 percent of the production destined for human consumption."

The report also provides perspective on the value of aquaculture for Home-Grown School Feeding Programs (HGSF). "The incorporation of aquatic foods into HGSF programmes improves their nutritional value and their sustainability. Aquatic foods are a rich source of high-quality protein, essential fatty acids, vitamins and minerals, making them invaluable for the improvement of children's diets, nutrition and health. Proper nutrition plays a pivotal role in cognitive development and school performance. By sourcing locally produced, nutritious foods, schools ensure that children receive balanced meals that not only support their physical growth but also enhance their ability to focus and learn effectively."

According to FAO, aquatic animal foods provide high-quality proteins –15 percent of animal proteins and 6 percent of total proteins worldwide – and key nutrients including omega-3 fatty acids, minerals and vitamins. The potential of aquatic foods to contribute to food security, nutrition and poverty reduction is increasingly recognized in major global fora such as the UN Food Systems Summit and the UN Framework Convention on Climate Change.

In Cambodia, fish is a primary source of nutrition and income as strongly tied to Cambodian culture. According to FAO, "consumption of fish offers unique nutritional and health benefits and is considered a

key element in a healthy diet. Increased attention is given to fish as a source of essential nutrients in our diets, not only high value proteins, but more importantly also as a unique source of micronutrients and long chain omega-3 fatty acids...Foods from the aquatic environment have a particular role as a source of the long-chain omega-3 fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). DHA is a major building block of our neural system, and therefore particularly important for optimal brain and neurodevelopment in children."<sup>1</sup>

FAO reports that "sustainable public food procurement has the potential to impact both food consumption and food production patterns. It may enhance access to healthy diets for consumers of publicly procured food (such as schoolchildren) and promote the development of more sustainable food systems (through its demand and spillover effects)."

Such efforts are well aligned with the Royal government of Cambodia, which has supported school meals since 1999. The government has recognized the importance of school meals for learning as well as human health. By 2022, the Cambodian government's school meal initiative reached more than 280,000 children. According to the 2022 Global Nutrition Report, Cambodia has made some progress towards achieving the target for stunting, but 32.4% of children under 5 years of age are still affected, which is higher than the average for the Asia region (21.8%).

The partners recognized this potential for fish in school meals. However, a lot of matchmaking would be required for local fish producers to make the sales. That's where CAST stepped up.



*A school principal (right) describes a food pyramid to the CAST team. The educational tool is designed in the shape of the peak of Angkor Wat, Cambodia's national symbol. The school keeps the educational poster on display for teachers, students and guests to promote healthy foods.*

# PRIVATE-SECTOR ASSOCIATION LEADERSHIP

CAST had assisted Cambodians in launching the aquaculturist association. The CAA has more than 1000 members, ranging from fish farmers to wholesalers and distributors. CAA offered an excellent network for action to get local fish into Cambodian school meals, and the idea gained momentum as a result of CAA members attending a WFP partner meeting. USDA gave strong support for their initiative.

CAST has also played a leading role in working with the Cambodian government on a quality standard and certification program for producers. The CAA carefully communicated to both the public sectors and the multilateral agencies the importance of fresh and safe, local fish for the school meal programs. They also offered links to CAA members getting certification for good aquaculture practices, which

can help feeding institutions obtain fish supplies from certified safe producers. The Cambodian government also supports the certification program as a step toward building food safety into their local food systems.

CAST and CAA, with the help of CAST partner World Vision's market systems team, aimed to establish written contracts between the CAST-assisted aquaculturists and school suppliers in Stung, Baray, and Sun Tuk districts of Kampong Thom province. The model multiple agreements require that the contracted collectors who supply fish to schools must provide place of origin even when they get those fishes directly from ponds or buy from wholesale in market.



CAST and CAA coordinated a panel discussion about the school meal program during the regional business dialogue on June 13, 2024 in Siem Reap. From left, panelists included CAST's Market System Development Team Director Mr. Thano Im, Mr. Hong Chhiv who is a founder of Eco Farm and a school meal supplier in Dom Dek, Siem Reap, CAA Executive Director Mr. Suthavaridh Lempho, Ms. Socheat UI WFP's Programme Policy Officer, Mr. Yon Kim, a fish wholesaler in Stung District, and Mr. Na Neth Chan, a school supplier in Stung District.

# 16 CONTRACTS DELIVER 11,400 SCHOOL MEALS

As a result of this extensive networking and business matching effort, wholesalers and school suppliers have signed 16 contracts. The agreements facilitated the supply of fish to 77 target schools. This initiative provided part of the protein (fresh fish) component for approximately 11,400 children's meals over four months (January - April 2024), with three fish species (pangasius, striped snakehead, and walking catfish). Supplies totaled 11,740kg (25,882.27 lb.) valued at \$20,628. Moreover, 16 partnership supply agreements were formed between five buyers, three producers, and 16 school meal caterers.

WFP had supported the kitchen construction standards for the target schools. Therefore, when the fish collectors arrived to supply the locally produced

fish, the school's storekeeper was prepared to take responsibility for a quality and quantity check and then send the fish to the cook to store in ice.

Local school management committees set the menu for six days per week. Children receive one meal a day, six days a week, either breakfast, or a mid-morning meal, depending on meal preparation logistics and school timetables. The meal includes rice and a vegetable as well as protein. The approximate per-student cost for one meal with local fish was 353 khmer riels (8.7 cents). Therefore, the cost was comparable to other meals with protein under the HGSF-Hybrid model.



*Korko soup, made with local snakehead fish and vegetables, is popular with the children.*

# WOMENS' LEADERSHIP ROLES

Women, such as Ms. Sem who purchased fish from CAST project fish since 2023, are key players in the Cambodian homegrown school meal initiative. She is a regular supplier to the Throat Chum community and began providing fish from CAST farmers to four schools. She renewed her contract in 2024. As of July 2024, she supplied fish to 25 schools in two districts.

CAST assists such supply agreements by encouraging women and men to attend CAST market systems and CAA-led business matching forums that grow networks and knowledge about how school meals can drive market demand for locally grown foods. As a result, women like Ms. Chhoun Sothea Roth, one of the school suppliers in Pursat, told CAST that she saw how the contract agreement can help her gain a more stable price for her fish at the same time it meets schools' interest in supplies of specific fish species.

Local women have also played an important role in the school meal preparations and delivery, from the kitchen to classroom. The cooks ensure that the fish, meat and vegetables are cleaned and stored properly. They arrive at schools around 5 am to begin meal preparation for students who eat at approximately 8 am. Teachers, often women, help serve the food to students. Such teachers also often participate in the school meal committee to serve as champions of nutritious meals that are important for children to grow and learn. The school meal committee members assess what kinds of foods students would like to eat and bring this feedback to the school committee meeting. They also give suggestions for school menus to offer good nutrition. One example is korko soup, a Cambodian favorite, which combines vegetables with fresh cut snakehead fish.



*CAST assists supply agreements by encouraging women and men to attend buyer meetings that grow networks and knowledge about how school meals can drive market demand for locally grown foods.*

# SUPPORT FOR NEXT STEPS

The CAA is helping foster dialogue and is supporting the WFP and the Ministry of Education in their goal planning to take the program to additional provinces. CAA will be one of the key players to continue coordinating and following this demonstration among its members, development partners and Cambodian government since CAA also has a role in policy advocacy. On June 20, 2024, the CAA and CAST market systems representatives convened a preliminary briefing of key fish producers and buyer/distributors in Pursat, a province where school feeding is 100% funded and managed by the Cambodian government. CAST is training farmers in Pursat to be eligible for certification for Cambodian Good Aquaculture Practices and food safety standards. Cambodia's goal is to see this program go nationwide.

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*1* FAO also reports, "At present close to 50% of all fish for human consumption is farmed, a proportion which is set to rise making aquaculture the main source of essential nutrients provided by the fisheries sector. Even though the nutritional composition of farmed and wild fish in most cases is comparable, there might be some differences. From a nutritional point of view, the main difference between farmed fish and their wild counterparts is related to the quality and quantity of fat. The nutrient composition of farmed fish is frequently compared to that of wild fish, or to that of other farmed fish. However, farmed fish should rather be compared to other farmed meats to show how aquaculture products have a marked nutritional advantage by providing high levels of essential nutrients, some of which are hardly found in non-aquatic foods.

"Farmed fish have a more constant nutrient composition compared to their wild counterpart, whose environment, food and access to food varies during the year. The environment of farmed fish can be monitored and managed to secure an optimal product. By controlling the composition of aquaculture feeds and other inputs, healthy fish and healthful fish products with the optimal nutritional composition can be supplied."