

Special Initiative “Transformation of agricultural and food systems”  
Global Programme Sustainable Fisheries and Aquaculture

# Newsletter #9

07.04.2023

Dear reader,

Welcome to the 9th issue of the **Global Programme Sustainable Fisheries and Aquaculture newsletter**.

In many parts of the world, food and nutrition insecurity remain a major challenge, particularly for rural and coastal populations. The Global Programme Sustainable Fisheries and Aquaculture understands the importance of fish as a healthy and sustainable source of nutrition for these communities.

In this Issue, we want to share our experiences in providing access to more fish products from resource-friendly fisheries and aquaculture for a healthy future.

We hope you enjoy reading and learning about our ongoing projects!

The Communication Team



# Fish for a Healthy Future: Tackling Food & Nutrition Insecurity



In this issue, you will find articles from our modules in:

Zambia



Malawi



Mauritania



Madagascar



Cambodia



India





## Small pelagic fish – dense nutrients for a low price

Guest article by  
the Sector Project  
Food and Nutrition  
Security

### The consumption of small pelagic indigenous fish (< 30 cm) is deeply rooted in coastal communities around the world. Why?



Foremost, because small pelagic fish are productive, therefore abundant and generally cheap: a 100 g portion of small pelagic fish cost only 12–20% of the cheapest daily diet. They are, therefore, the most accessible animal protein source to low-income populations in near coastal areas, but their consumption is often undervalued in society. However, is that justified? Not at all demonstrates increasing evidence from research that highlight the high micronutrient (Zinc, Calcium, Iron, Selen), vitamin (A, B12) and essential fatty acid content of small fish species that are commonly too small to be filleted and, therefore, eaten whole with

head, bones and viscera or are being dried. In 22 countries, predominantly in Asia and Africa, 20 % of current catches in the coastal exclusive economic zone could meet the dietary requirements for all children under five years, who are particularly vulnerable regarding micronutrient deficiencies. This highlights the need for targeted nutrient-sensitive policies that prioritize the sustainability of small pelagic fisheries, and promote and protect their use for human consumption, which could significantly enhance their contribution to global food and nutrition security.



A "Cooking demonstration" with Mola to improve child nutrition.  
© Saikat Mokumder / World Fish ([www.flickr.com](http://www.flickr.com))

# Achieving food security in rural communities



**In most rural households of Luapula and Eastern Province, especially pregnant and breastfeeding women, as well as children in their first 1000 days of life, lack adequate animal protein intake.**



To improve nutrition and food security through fish consumption, Zambia's "Fish for Food Security" (F4F) Project educates farmers, fishers and communities on the nutritional value of fish and its importance in a healthy diet.

In Eastern Province, the project supports and sensitizes communities by encouraging them to include fish in their meals. During cooking demonstrations, participants are informed about the benefits of the nutrients found in fish and their importance for muscle, brain and bone development.

Fish is currently the most accessible source of animal protein in Zambia. Through teaching new recipes, including various fish products during the cooking demos, a more diverse diet is promoted. Fish-based meals for infants, such as porridges including fish powder, are prepared and tasted together, to promote fish consumption from an early age among the food-insecure population. Additionally, lessons on fish processing, such as sun-drying of species like Catfish, Tilapia and Matemba (small fish), are designed to ensure a better quality of the fish consumed.



*Community members in Eastern Province participate in cooking demonstrations and learn about the benefits of fish-based meals for a healthy diet. © GIZ / F4F*



# Think about fish for your next meal: Catching a healthy future with fish in Malawi



On 25th November 2022, the “Aquaculture Value Chain Project” (AVCP) partnered with the Department of School Health, Nutrition, HIV, and AIDS, and the Department of Fisheries to launch a “Fish for Nutrition” awareness campaign, in Lilongwe, Malawi.



The national launch event was attended by key players from various ministries and sectors, including the Ministry of Education, the Ministry of Natural Resources and Climate Change and the Ministry of Health, as well as partner projects and organizations, and was graced by Dr. Marc Nolting, group leader at GIZs Global Agenda for Food and Nutrition Security.

The goal of the “Fish for Nutrition” campaign is to raise awareness of the importance of fish in a healthy diet among 24.000 students at 22 selected primary schools across the country using posters,

comic books, wall murals, and sports and other school competitions. The campaign seeks to foster a sustainable fish-eating culture and improve food and nutrition security in Malawi. The campaign further aims to empower small-scale fish farmers, acknowledging their role in promoting human well-being, healthy food systems, and poverty reduction.

The “Fish for Nutrition” campaign recognizes the potential for upscaling fish farming and serves as a model for collaboration with other regions and countries facing similar challenges of food and nutrition insecurity.



*Symbolic cutting of a ribbon on a wall mural by James Manyetera, Director of Administration, Ministry of Education to the left and Knut Gummert, Head of Development Cooperation at the German Embassy in Malawi in the middle, and Wezzie Banda to the right. © GIZ / AVCP*

# Consume fresh, consume healthy, consume Mauritanian!



**Due to the worsening of food and feed shortages caused by the Ukrainian war, Mauritania's meat-based consumption has reached a crossroads. Fortunately, they have a local protein source that neither needs to be imported nor relies on additional feed: fish.**



The project "Sustainable small-scale fisheries in Mauritania" (Pêche Artisanale Durable en Mauritanie, PADeM) works closely with local fishermen who specialize in nearshore fish species for local markets, so-called pelagic species. These local species are not only available – they also bring along numerous health benefits.

Under the slogan 'Consume fresh, consume healthy, consume Mauritanian!' the project launched the national communication campaign 'Our Fish' (7Outna) in July 2022, to promote this important resource. Radio and television commercials, billboards, and the social networking sites [YouTube](#) and [Facebook](#) were used to create awareness of the

health benefits of fish consumption. It was highlighted that pelagic fish is affordable and easy to prepare. The campaign reached more than 950.000 Mauritians.

However, understanding nutrients and minerals of fish such as Omega-3 and Iodine is not an accessible topic for everyone. Education plays an essential role, as does the way complex information can be transmitted in easily understandable formats.

This year, PADeM alongside World Food Programme (WFP) plans to do both by expanding the campaign to the context of local school canteens, where fish-based meals will provide a richer and more diversified diet to Mauritanian school kids.



Billboard of the national information campaign : 'Consume fresh, consume healthy, consume Mauritanian!' in Nouakchott. © Alena Göbel / GIZ

# Can we achieve nutrition security through education?



**Eating fish plays an important role for food security as it compensates for possible protein and nutrient deficiencies in the diet.**



The project “Sustainable Aquaculture in Madagascar” (Projet Aquaculture durable à Madagascar, PADM) partnered with 19 schools in the Central Highlands to launch an information campaign, which aimed to educate 570 students and their parents. Informative brochures, a nutrition calendar, posters, an educational game and radio spots were used to highlight the importance of fish for a balanced diet.

Six months after the campaign, an evaluation was conducted to investigate its impact. 280 students aged six to 14 years, 230 parents and 19 school officials filled out questionnaires and participated in focus group discussions. Results showed that the materials were used by all students, 95% of whom informed their

parents about the campaign, and 70% were able to explain them the key messages. Over 80% of the students either read some or all of the school booklet, which contained puzzles, poems, handicrafts and stories about fish. In addition, a third of the students used the materials together with their parents. The large majority of students was able to recall the messages on a healthy diet and the benefits of eating fish. The main reasons why their fish consumption did not increase despite the information received, were primarily a lack of purchasing power and limited availability of fish. One recommendation is to conduct a longer-lasting campaign or repeat campaigns at schools to ensure sustainable behavioural changes.



*Students in Madagascar's Central Highlands complete questionnaires to evaluate a fish information campaign at schools. © YOUNG PROGRESS*



# Improving homemade feed through fermentation



**Fish production is crucial to achieving food security and reducing malnutrition in many countries including India, but especially aquaculture is often based on external feeds**



Feed is the primary limiting factor in aquaculture and makes up to 70% of the input costs, thereby determining largely the success of fish farming.

Aquaculture systems that are based on natural feed can increase productivity by supplementing agricultural by-products such as rice bran and oil cake. These by-products are easily accessible to farmers and are used to make their own homemade feed. However, these plant-based feeds are difficult to digest for the fish and thus lead to reduced growth compared to conventional feed.

To address this problem, the GIZ project “Sustainable Aquaculture for Food and Livelihood” (SAFAL) in India is conducting a study trial on fermented feed in collaboration with the College of Fisheries Raha in Assam. Previous studies have

shown that fermentation can improve the overall nutritional quality and digestibility of feed for different fish species.

The study will test the effects and benefits of fermentation of supplementary feeds on digestibility, pond ecosystem and taste of fish, using different carp species commonly cultured in India. If fermentation proves to increase growth or reduce the risk of diseases, SAFAL will incorporate the study results into the ongoing training for farmers, helping to lower the costs for external feeds and improve fish production for a more sustainable fish supply to their communities. Feed fermentation has the potential to reform aquaculture practices and provide more healthy and nutritious fish, helping to fight food and nutrition insecurity.



*A farmer prepares homemade feed by mixing rice bran and mustard oil cake.*

© Laxmi Nunisa GIZ / SAFAL



# Boosting fish production despite declining wild stocks in Cambodia



**The Sustainable Aquaculture and Community Fish Refuge Management project (SAFR) in Cambodia is working to reduce food insecurity by improving fish production.**



As part of the project, SAFR improves the conditions of Community Fish Refuge (CFR) systems and supports self-managing committees in these communities. This includes strengthened governance and capacity building and is being implemented by WorldFish and partners from December 2020 to March 2024 in Kampong Thom province, benefiting over 8.000 households.

Almost half of the Cambodian population faces food insecurity and fish is the second most consumed food in the country after rice. Wild fish stocks, which often live in rice fields during the rainy season, have been declining due to climate change, illegal fishing, and lack of

stock management. As fish is highly nutritious, the declining stock further impedes food security.

The project implementations have resulted in an increase of household catch from 146 kg to 291 kg from 2021 to 2022, and an additional 4 kg of fish per person consumed annually. The communities not only have access to fish, but also other aquatic animals and plants which provide additional nutrition and surplus food to process for the dry season. This type of project has upscaling potential to support government development strategies such as a post-COVID-19 recovery plan, climate change resilience and ecology restoration for wild capture fisheries.



*Besides consuming and selling fresh fish, many women in the communities dry surplus fish that their families caught from the rice fields to extend its shelf life. © GIZ / SAFR*



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