FISH is a collaborative global partnership to **sustainably improve the productivity** of fisheries and aquaculture and **enhance the contribution of fish to global development goals.**

The UN’s Sustainable Development Goals (SDGs) will not be achieved if we do not take into account the power of fisheries and aquaculture to positively affect livelihoods, and food and nutrition security.

Globally, 800 million people, including many poor and marginalized women, men and youth, depend on fish for food, income and nutrition. Fisheries and aquaculture provide 3.2 billion people with 20 percent of their animal protein. Fish is a rich source of micronutrients and essential fatty acids, which are critical to cognitive and physical development. In many low-income, food-deficit countries, fish contributes more than one-third of animal protein in the diet, and is often the cheapest and most accessible animal-source food. Demand for fish in Africa, Asia and the Pacific is growing fast, and in many countries a doubling or more of fish production will be needed by 2030.

The CGIAR Research Program on Fish Agri-Food Systems (FISH) fosters impact-driven research innovations across the whole spectrum of fisheries and aquaculture production systems and value chains, with the goal of achieving sustainable increases in socially and gender-inclusive production and equitable distribution of nutritious fish to those most in need.
Fast-growing fish breeds

Improved, fast-growing strains of fish boost the productivity and incomes of farmers in developing countries, where yields are often low. FISH is continuing research into improved strains of tilapia in Africa and Asia, and carps in South Asia, combined with accelerated dissemination of existing strains. Research on genetically improved farmed tilapia (GIFT), which WorldFish has developed over the last 30 years and disseminated to more than 16 countries, is exploring three new traits in fish breeding: feed efficiency, disease resistance and stress tolerance.

Fish-rice systems

In Cambodia, community fish refuges in rice-dominated floodplains are manmade ponds that provide a dry season sanctuary for brood fish. Research shows that improving the management of these refuges can lead to 20–120 percent higher fish productivity (per hectare) in rice field fisheries, a vital source of fish, income and nutrition for many Cambodian households. FISH research on sustainable management models in Cambodia, and scaling out with partners in other countries with extensive rice field landscapes, will enable sustainable fish-rice systems to be more widely adopted, potentially benefitting many hundreds of thousands of households.

Impacts by 2022

Through research and development in collaboration with its many partners, FISH expects to:

- help at least 5.0 million producer households to adopt improved breeds, feeds, fish health and best management practices
- assist at least 3.5 million people, half of them women, to exit poverty through gender-inclusive livelihood improvements
- assist 4.7 million more women of reproductive age to consume an adequate number of food groups
- reduce the number of women, men and children suffering from deficiencies in essential micronutrients by 2.4 million
- reduce greenhouse gas emissions and improve water and nutrient-use efficiency in at least 4.8 million metric tons of fish production per year
- help restore 3.3 million hectares of ecosystems through more productive and equitable management
Research
FISH research addresses the two interlinked challenges of sustainable production from aquaculture and small-scale fisheries, with crosscutting themes of gender, youth and capacity development.

Sustainable aquaculture
FISH focuses on environmentally sustainable farmed fish production and enhancing the contribution of aquaculture to poverty reduction, food and nutrition security, and natural resource management. Enabling enterprises to improve production efficiency and sustainability—through domesticated, selectively bred, healthy and disease-resistant fish reared on sustainable feeds and in low-carbon production systems—will contribute to new sustainable supplies of fish and create gender-equitable livelihood opportunities and employment for men, women and youth. Impact assessment and foresight modeling, linking fish production, consumption and trade, will generate knowledge to influence policies and priorities for civil society, development and government agencies.

Sustaining small-scale fisheries
FISH focuses on securing and enhancing the contribution that small-scale fisheries make to livelihoods, poverty reduction, and food and nutrition security. Research will address, through close partnerships, the challenges of realizing ecological sustainability, good governance, equitable distribution of benefits and socioecological resilience in the face of external shocks.

Where we work
FISH works in Africa, Asia and the Pacific. Research is located in six focal countries (Bangladesh, Cambodia, Myanmar, Nigeria, Tanzania and Zambia) and two hub countries (Egypt and Solomon Islands). FISH seeks collaboration with multiple partners to scale out research and create impact, with an initial focus on Ghana, India, Indonesia, Kenya, Malawi, Philippines, Timor-Leste, Uganda and Vietnam.

Country selection is based on demand from partners and the potential for FISH to make a significant contribution to livelihoods, poverty, and food and nutrition insecurity challenges.

“Fish is crucial to any debate and action to reduce poverty and improve food security and nutrition.”

Where we work

FISH works in Africa, Asia and the Pacific. Research is located in six focal countries (Bangladesh, Cambodia, Myanmar, Nigeria, Tanzania and Zambia) and two hub countries (Egypt and Solomon Islands). FISH seeks collaboration with multiple partners to scale out research and create impact, with an initial focus on Ghana, India, Indonesia, Kenya, Malawi, Philippines, Timor-Leste, Uganda and Vietnam.

Country selection is based on demand from partners and the potential for FISH to make a significant contribution to livelihoods, poverty, and food and nutrition insecurity challenges.

Importance of fish

Fish is the only animal-source food that can be produced in salt water.

Aquaculture production has grown rapidly since the 1990s, and now provides half of all fish for human consumption globally.

Sustainable aquaculture offers water, energy and feed-conversion efficiencies superior to any other farmed animal food.

For livelihoods

The very poor often rely on fishing as a primary source of income.

800 million people, 90 percent of whom live in developing countries, depend on fisheries and aquaculture for their livelihoods.

For nutrition

A 150-gram portion of fish provides about 50-60 percent of an adult’s daily protein requirements.

Globally, more than 1 billion people obtain most of their animal protein from fish.

For food security

Fish is an important food source in developing countries, where more than 75 percent of the world’s fish consumption occurs.
Global partners for impact

FISH partnerships are crucial to success and impact. The program is led by WorldFish, together with the International Water Management Institute (IWMI) and three advanced research institutes.

FISH collaborates with global, regional and national partners to achieve quality research outcomes and deliver the development outcomes and impact at scale necessary to contribute to the SDGs.

Working to achieve the global goals

1. No Poverty
2. Zero Hunger
3. Good Health and Wellbeing
4. Gender Equality
5. Clean Water and Sanitation
6. Decent Work and Economic Growth
7. Reduced Inequalities
8. Responsible Consumption and Production
9. Peace, Justice and Strong Institutions
10. Life on Land
11. Life Below Water
12. Partnerships for the Goals

We would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund.

www.cgiar.org/funders