FISHING FOR NUTRITIOUS AND RESILIENT FOOD SYSTEMS

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Growing recognition that “Food System” approaches must integrate nature-based foods and environmental services for nutrition, sustainability and resiliency.

Particularly important to understand and assess sources of nutrition, including from nature-based foods.

Fishing is one of the largest sources of nutritious food, and the largest extractive use of biodiversity.

Source: FAO 2016.
FISH IS THE MOST WIDELY TRADED FOOD IN THE WORLD

- Export value of fish from developing countries is greater than the value of rice, tea, bananas, sugar and cocoa combined
- Wild fish support a $260 - $500 billion seafood industry

Source: FAO 2016
Fish is a better source of essential nutrients such as calcium and vitamins A and D when compared to chicken, goat, beef and soybeans.

Compared with farmed catfish, wild-caught catfish and sardines are higher in essential nutrients such as calcium and vitamins A and D.

Fish is a primary source of essential nutrients for pregnant mothers and children, omega-3 fatty acid that is critical for early brain development.

3 billion people depend upon fish for substantial part of their food security.

Sources: USDA 2016, Swanson et al. 2012
GLOBAL FISH DECLINE, DUE TO INADEQUATE MANAGEMENT, CAN LEAD TO NUTRIENT DEFICIENCIES

• A recent analysis found that at least 10 percent of the global population is at risk of fatty acid and micronutrient deficiencies due to a decline in wild fisheries productivity.

• Countries that are particularly vulnerable due to their high reliance on fish as a source of nutrition include Mozambique, Ghana, Senegal, Nigeria, Cameroon, Ivory Coast, Bangladesh, Indonesia and the Philippines.

• Nutrition-sensitive policies and strategies that improve fisheries management and balance fish exports with local use of fish are urgently needed.

Source: Golden et al. 2016
CONTRIBUTIONS OF WILD FISHERIES ARE OFTEN OVERLOOKED: WHY?

- Under BRIDGE, we surveyed USAID staff from BFS, Global Health, Food for Peace, and Resilience Center for their perspective and to identify knowledge gaps:
  - Role of fisheries in food security and nutrition?
  - Fisheries contribution to poverty reduction, income and resilience?
  - Emerging risks from poor fisheries management?
  - Should future investments focus on wild fisheries or aquaculture?
  - What lessons from Feed the Future can be applied to fisheries management?
  - What are examples of successful fisheries projects and approaches?

I don’t think about fisheries at all – how important can they be?

I hear that fisheries are declining so we have to invest in aquaculture, right? What can be done?

Aquaculture is not the solution – I have seen too many abandoned fish ponds. We need fisheries.
Gathered evidence to fill identified knowledge gaps, supported by USAID BRIDGE activity and Smithsonian Institution

Compiled findings into report

Resources available on USAID’s AgriLinks and USAID’s Biodiversity Conservation and Development Gateway
CONTRIBUTION TO FOOD SECURITY AND NUTRITION

• On average, fish accounts for 21% of animal protein consumed in Africa; over 50% in several countries

• For 400 million Africans, fish is an affordable and accessible source of protein

• Fish catches in West Africa are 2 to 7 times higher than official reports

• Wild fish, especially small fish species that are eaten whole or as fish sauce, provide many important nutrients, including calcium, iron, omega-3 fatty acid, phosphorous, sodium, zinc and vitamins A, B-12, D, E

Gleaning by women can make important contributions to household nutrition, but is poorly studied.

CONTRIBUTION TO LIVELIHOODS, POVERTY REDUCTION AND RESILIENCE

• In Africa, 93% of people in the fish sector are employed in wild fisheries, 7% in aquaculture

• Women make up about 50% of fish industry workers, with 90% engaged in post-harvest activities

• Small-scale wild fisheries support up to 25% of the workforce in some coastal countries

• West African small-scale fisheries employ about 1.7 million people

• In West Africa, the number of people relying on wild-caught fisheries has increased by about 2% each decade, driven in part by decreasing crop productivity and climate change

The World Bank estimates that poor management of wild-caught fisheries leads to $10 billion in lost economic benefits in Africa each year.

Sources: Belhabit et al. 2014, Belhabib et al. 2015,
In many African countries, wild-caught fish collected from coastal waters are dried, processed and transported inland for trade and consumption.

In West Africa, the informal artisanal fish trade is often undertaken by disadvantaged populations, particularly women, and provides important social and economic benefits.

More research is needed on informal fish trade routes and their contributions to local food security, household nutrition and livelihoods.

Freshwater fisheries are important sources of local, low-cost and highly nutritious food.

A recent global analysis found that many of the continent’s freshwater fisheries are fully exploited.

Fisheries in Lake Victoria, the largest lake in Africa, provide livelihoods for over three million people and generate $500 million in revenue annually.

Sources: McIntyre et al. 2016, World Bank 2016
EMERGING RISK OF MICRONUTRIENT MALNUTRITION FROM FISHERIES DECLINE

- At least **10 percent** of global populations could face fatty acid and **micronutrient deficiencies** due to **poor fisheries management**

- **West African countries are among the highest at risk** for malnutrition due to declining fisheries and high reliance on fish as a source of nutrition.

Source: Golden et al. 2016
PROVEN PRACTICES TO ENHANCE PRODUCTION AND RESILIENCE OF WILD-CAUGHT FISHERIES: WORK WITH NATURE AND FISHERS

- Promote **participatory co-management**
- **Secure tenure and access** to fishing grounds for small-scale fishers
- Strengthen **fisher associations** and **social cohesion**
- Use **fish reserves/sanctuaries, closed seasons** and **appropriate gear** to enhance natural productivity and resilience
- **Reduce or eliminate subsidies** that distort the market and drive overfishing
- Use **extension services** to scale-up capacity
USAID’S ECOSYSTEMS IMPROVED FOR SUSTAINABLE FISHERIES PROJECT (2012-2017) IN THE PHILIPPINES

• Worked with fishing communities and the Philippines Department of Agriculture to **improve fisheries management** in **1.8 million hectares** of municipal waters

• Reduced destructive fishing gear

• Established networks of fish reserves

• Enhanced productivity and resilience:
  – **24% increase** in fish biomass within select fisheries
  – **12% increase** in employment or better employment in focal areas

Source: USAID 2017

Photo: Jason Houston/USAID
WILD-CAUGHT FISHERIES ARE TOO BIG TO IGNORE: PROGRAMMING IMPLICATIONS?

• Recognize the value of integrating nature-based foods and ecosystem services into “food systems” and development programs
• Assess and monitor the contribution of nature-based foods and environmental health:
  – Demographic Health Surveys; Country assessments; Famine Early Warning Network (FEWSNET)
• Promote increased investments in equitable and resilient fisheries management
• Promote adoption of nutrition-sensitive fishing policies to ensure local access to fish
• Measure food production at the watershed-scale and include coastal, river and lake aquatic productivity
THANK YOU!

USAID’s AgriLinks & USAID’s Biodiversity Conservation and Development Gateway
RESOURCES AVAILABLE on USAID’s AgriLinks and USAID’s Biodiversity Conservation and Development Gateway

• The Role of Wild-Caught Fisheries in African Development

• Facts About Wild-Caught Fisheries and Africa Development (Infographic)

• Fishing for Food Security: The Importance of Wild Fisheries for Food Security and Nutrition

• The Importance of Wild Fisheries for Local Food Security – Country profiles for Eight Feed the Future Countries

• Integrating Food Security and Wild-Caught Fisheries Management in USAID Programming

• Sustainable Fisheries and Responsible Aquaculture: A Guide for USAID Staff and Partners