



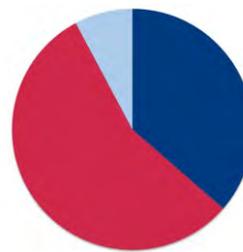
The Importance of Wild Fisheries For Local Food Security: **BANGLADESH**

The world's largest flooded wetland, the Bengal Delta, and the three main river systems that flow from the Himalayas into the Bay of Bengal contribute to Bangladesh having the third greatest aquatic fish biodiversity in Asia. Bangladesh's fisheries represent almost 7% of the world's inland fish production. The fisheries sector makes important contributions to the country's food security, nutritional status and economic growth through income generation, employment, and foreign exchange.

Food Security: About 41% of children under 5 in Bangladesh are stunted, 16% acutely malnourished, 36% underweight, and approximately half of children ages 6-59 months are anemic [1]. Although women's nutritional status has improved, 24% of women are still considered undernourished, and 42% have some degree of anemia [1]. Vitamin A, iron, and zinc deficiencies are major public health problems in the country [2]. Annual per capita fish consumption is estimated to be 18.9 kg and accounts for about 60% of Bangladesh's animal protein consumption [3]. Small indigenous fish species (SIS) play an important role in supporting the livelihoods of rural poor households and are an important source of protein, vitamins, iron, calcium, and other minerals [2, 4]. SIS have high vitamin A content and serve as an important source of dietary calcium, as the fish are usually cooked and consumed whole, including bones [4].

Economic Benefits: Fisheries make significant contributions to the socio-economic development of the country. The fisheries sector accounts for 4.4% of national Gross Domestic Product (GDP), contributes about 22% to the agricultural GDP, and slightly less than 3% to foreign exchange earnings through the export of fish products [3]. About 1.4 million people have full-time employment in the fisheries sector, and another 12 million are employed part-time [5]. Women's involvement in the fisheries sector is significant, especially in coastal areas and most frequently entails work in gear production, repair, and maintenance; fish processing; transportation; and marketing [5]. However, the efficiency, sustainability, and profitability of activities in which women participate are limited due their lack of access to resources, training, decision-making and leadership positions [5].

COUNTRY PROFILE: **BANGLADESH**



- Land Area
- Freshwater & Floodplains
- Marine Area/Exclusive Economic Zone

- **Average per capita annual fish/shellfish consumption: 18.9 kg (41.7 lbs)**
- **Provision of animal protein by fish: 60%**
- **Stunting: 41%**
- **Underweight children: 36%**

Challenges and National Development Priorities: Bangladesh has the third greatest aquatic fish biodiversity in Asia, due to the contributions of the three main rivers systems that flow from the Himalayas into the Bay of Bengal along with the world's largest flooded wetland, the Bengal Delta [6]. Bangladesh's wild fisheries represent almost 7% of the world's inland fish production and account for 52% of the country's fish production [3, 6]. A recent study found fisheries in Bangladesh have low adaptive capacity and high vulnerability to climate change [7]. In addition to the challenges posed by climate change, wild fisheries are threatened by overexploitation due to poor management and habitat degradation [6]. In order to mitigate these challenges, one of the country's investment priorities in fisheries development is to improve the management of both inland and marine fisheries resources and to restore some open

water wild fisheries [8]. The Department of Fisheries has a mandate “to enhance fisheries resources through enacting conservation and management measures.” [3]

Fisheries Management: Although there is legislation in place to manage fisheries, there is still a low level of compliance with and enforcement of fisheries management rules and laws [6, 9]. A study on the management challenges of small-scale fisheries found that sustainable management systems need to account for social, economic, and ecological factors and must have strategies in place that include enforcement of policies and laws, collaboration with relevant institutions, and community participation [10]. The USAID-funded Management of Aquatic Ecosystems through Community Husbandry (MACH) program serves as an example of a successful sustainable local fisheries management program. MACH implemented “a multi-disciplinary, multi-sector, and participatory process of planning, implementation, and monitoring for sustainable wetland resource management” [11]. The program led to improved food security and well-being for more than 180,000 of the poorest Bangladeshi citizens; from 1999 to 2006, fish catches in target villages increased by 140%, consumption by 52%, and average daily household incomes by 33% [11].

Sources:

1. National Institute of Population Research and Training, Mitra and Associates, and ICF International, *Bangladesh: Demographic and Health Survey 2011*. Available from: <http://dhsprogram.com/pubs/pdf/FR265/FR265.pdf>. 2013.
2. Roos, N., et al., *Linking human nutrition and fisheries: incorporating micronutrient-dense, small indigenous fish species in carp polyculture production in Bangladesh*. Food & Nutrition Bulletin, 2007. **28**(Supplement 2): p. 280S-293S.
3. Government of the People's Republic of Bangladesh, Department of Fisheries. Available from: <http://www.fisheries.gov.bd/node/143>. 2015.
4. Ahmed, S., et al., *Nutrient composition of indigenous and exotic fishes of rainfed waterlogged paddy fields in Lakshmipur, Bangladesh*. World Journal of Zoology, 2012. **7**(2): p. 135-140.
5. Ahmed, M.K., S. Halim, and S. Sultana, *Participation of women in aquaculture in three coastal districts of Bangladesh: Approaches toward sustainable livelihood*. World Journal of Agricultural Sciences, 2012. **8**(3): p. 253-268.
6. Hussain, M., *Freshwater fishes of Bangladesh: Fisheries, biodiversity and habitat*. Aquatic Ecosystem Health & Management, 2010. **13**(1): p. 85-93.
7. Allison, E.H., et al., *Vulnerability of national economies to the impacts of climate change on fisheries*. Fish and fisheries, 2009. **10**(2): p. 173-196.
8. Government of Bangladesh and Food and Agriculture Organization of the United Nations, *National Aquaculture Development Strategy and Action Plan of Bangladesh: 2013-2020*. Available from: <http://www.fao.org/3/a-i3903e.pdf>. 2014: Rome.
9. Rab, M.A., *River fisheries management in Bangladesh: drawing lessons from community based fisheries management (CBFM) experiences*. Ocean & Coastal Management, 2009. **52**(10): p. 533-538.
10. Ahmed, N., et al., *Socio-economic and ecological challenges of small-scale fishing and strategies for its sustainable management: A case study of the Old Brahmaputra River, Bangladesh*. Singapore Journal of Tropical Geography, 2013. **34**(1): p. 86-102.
11. World Resources Institute (WRI), et al., *Fisheries for the Future: Restoring Wetland Livelihoods in Bangladesh*, in *World Resources 2008: Roots of Resilience—Growing the Wealth of the Poor*. 2008, WRI: Washington, DC.