

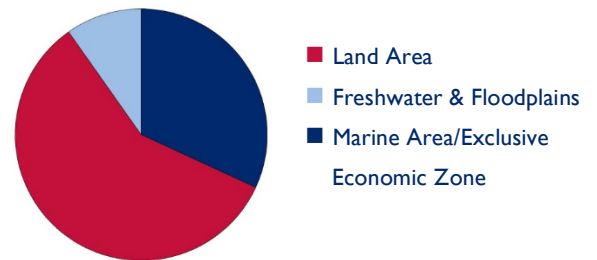


# The Importance of Wild Fisheries For Local Food Security: CAMBODIA

*Cambodia's wild fisheries are among the most diverse and productive in the world and provide employment, income, and food security for millions of people. However, both productivity and diversity are declining due to poor management, with fish harvests exceeding sustainable limits, widespread use of illegal fishing methods, climate change, and the loss and degradation of essential floodplain/fishery habitats.*

**Food Security:** Among children under 5 in Cambodia, 28% are underweight, 40% suffer from stunting, and 11% are acutely malnourished [1]. Further, 55% of children ages 6-59 months and 44% of women have some degree of anemia [1]. A key driver of maternal and child malnutrition is low dietary diversity [2]. Average annual per capita fish and shellfish consumption is estimated to be 34 kg and accounts for over 60% of Cambodia's animal protein consumption [3, 4]. The Tonle Sap supports one of the world's most productive inland fisheries and with it, the nutrition and livelihoods of more than a million people who live in the region around the lake [5, 6]. Fisheries are critical for increasing food security and dietary diversity and provide critical sources of essential micronutrients, including vitamin A and iron. Some indigenous fish are very micronutrient-dense and may be especially important for combating nutritional deficiencies [7, 8]. For example, a serving of a traditional Cambodian fish soup contains 45% of the daily iron requirement for women [7]. With the large dependence on fish as a source of protein intake, any decrease in domestic capture, quality, or diversity would have serious repercussions, especially for poor and marginalized communities [9].

## COUNTRY PROFILE: CAMBODIA



- **Average per capita annual fish/shellfish consumption: 34 kg (75 lbs)**
- **Provision of animal protein by fish: 66%**
- **Stunting: 40%**
- **Underweight children: 28%**

**National Development Priority:** Cambodia's fisheries face a number of threats including poor management, fish harvests that exceed sustainable limits, widespread use of illegal fishing methods, habitat degradation, and climate change [10]. The 2014-2018 National Strategic Development Plan (NSDP) highlights the progress that the country has made towards fisheries reform, including the increase in conservation areas and the promotion of community-based fisheries management. The NSDP prioritizes fisheries laws and emphasizes the importance of strengthening fishing communities and conservation zones. The government also aims to continue to implement measures to sustain freshwater and marine fisheries to meet their goal of boosting fish production for domestic and export markets [10].

**Economic Benefits:** Cambodian fisheries are a major source of employment and contribute about 10% of Cambodia's gross domestic product [11]. The livelihoods of almost 30% of Cambodians directly depend upon small-scale fisheries [12, 13]. Many households depend on fishing as their main source of income and have seen declines in profits in the past two decades. Women account for more than 50% of individuals involved in the total fisheries workforce [11].

While the contribution of small-scale fisheries to job security is thought to be large, their economic viability is under pressure by increased competition, declining catch per unit effort, and increases in the cost of inputs [13]. Despite the recent reduction in the poverty rate, many Cambodians are still only marginally above the poverty line [14]. Equitable access to fisheries is an engine for growth and a principal means of poverty reduction for poor, rural households [15, 16].

**Fisheries Management:** The Department of Fisheries (DoF) of the Ministry of Agriculture, Forestry, and Fisheries is in charge of national fisheries laws and policies. Cambodia has created a dedicated Community Fisheries Development Office within the DoF [17]. In 2007, the Tonle Sap Basin Authority was established to facilitate coordination, management, and conservation [18]. There is active engagement between the central government, grassroots organizations, and non-governmental organizations around fisheries management and governance [19]. Efforts to reduce threats, recover stocks, and enhance wild fish productivity, livelihoods, and food security – such as USAID’s successful Management of Aquatic Ecosystems through Community Husbandry (MACH) program in Bangladesh – could be applied in the management of Cambodia’s freshwater fisheries.

## Sources:

1. National Institute of Statistics, Directorate General for Health, and ICF Macro, *Demographic and Health Survey: Key Findings*. Available from: <http://dhsprogram.com/pubs/pdf/SR185/SR185.pdf>. 2010.
2. Chaparro, C., L. Oot, and K. Sethuraman, *Cambodia nutrition profile*. Available from: <http://www.fantaproject.org/sites/default/files/download/Cambodia-Nutrition-Profile-Apr2014.pdf>. 2014: Washington, DC.
3. FAO Fisheries and Aquaculture Department, *Summary tables of Fishery Statistics: Food Balance Sheets 2011*. Available from: <ftp://ftp.fao.org/FI/STAT/summary/default.htm>. 2011.
4. National Marine Fisheries Service, *Per Capita Consumption*. Available from: [http://www.st.nmfs.noaa.gov/st1/fus/fus11/08\\_percapita2011.pdf](http://www.st.nmfs.noaa.gov/st1/fus/fus11/08_percapita2011.pdf). 2011.
5. Arias, M.E., et al., *The flood pulse as the underlying driver of vegetation in the largest wetland and fishery of the Mekong Basin*. *Ambio*, 2013. **42**(7): p. 864-876.
6. Hall, A.S., et al., *The stationary trawl (dai) fishery of the Tonle Sap-Great Lake, Cambodia*. Available from: <http://www.mrcmekong.org/assets/Publications/technical/Tech-No32-Stationary-Trawl-Dai-Fisheries.pdf>. 2013.
7. Roos, N., et al., *Iron content in common Cambodian fish species: Perspectives for dietary iron intake in poor, rural households*. *Food Chemistry*, 2007. **104**(3): p. 1226-1235.
8. Roos, N., et al., *Freshwater fish as a dietary source of vitamin A in Cambodia*. *Food Chemistry*, 2007. **103**(4): p. 1104-1111.
9. Sok, S., X. Yu, and K.K. Wong, *Impediments to community fisheries management: Some findings in Kompong Pou commune, Krakor District in Cambodia's Tonle Sap*. *Singapore Journal of Tropical Geography*, 2012. **33**(3): p. 398-413.
10. Ministry of Planning, *National Strategic Development Plan 2014-2018*. Available from: <http://www.mop.gov.kh/Home/NSDP/NSDP20142018/tabid/216/Default.aspx>. 2014.
11. World Bank, FAO, and WorldFish Center, *The hidden harvests: The global contribution of capture fisheries*. Available from: <http://siteresources.worldbank.org/EXTARD/Resources/336681-1224775570533/TheHiddenHarvestsConferenceEdition.pdf>. 2010: Washington, DC.
12. Hori, M., et al., *Role of small-scale fishing in Kompong Thom Province, Cambodia*. *Fisheries Science*, 2006. **72**(4): p. 846-854.
13. Navy, H. and M. Bhattarai, *Economics and livelihoods of small-scale inland fisheries in the Lower Mekong Basin: a survey of three communities in Cambodia*. *Water Policy*, 2009. **11**(S. 1): p. 31-51.
14. World Bank, *East Asia and Pacific economic update*. Available from: [http://www.worldbank.org/content/dam/Worldbank/document/EAP/cambodia/Cambodia\\_EAP\\_Update-Oct2013\\_ENG.pdf](http://www.worldbank.org/content/dam/Worldbank/document/EAP/cambodia/Cambodia_EAP_Update-Oct2013_ENG.pdf). 2013.
15. Ratner, B.D., *Common-pool resources, livelihoods, and resilience critical challenges for governance in Cambodia*. Available from: <http://www.ifpri.org/sites/default/files/publications/ifpridp01149.pdf>. 2011.
16. United Nations, *High Level Task Force on the Global Food Security Crises- Cambodia country fiche*. Available from [http://un-foodsecurity.org/sites/default/files/09November\\_fiche\\_Cambodia.pdf](http://un-foodsecurity.org/sites/default/files/09November_fiche_Cambodia.pdf). 2009.
17. Felsing, M., *System Requirement Report for 'Level 2' - National Management Institutions, Fisheries Department of Cambodia*. Available from: [http://aquaticcommons.org/177511/Cambodiasrr\\_opt.pdf](http://aquaticcommons.org/177511/Cambodiasrr_opt.pdf). 2004.
18. Ratner, B.D., K. Mam, and G. Halpern, *Collaborating for resilience: conflict, collective action, and transformation on Cambodia's Tonle Sap Lake*. *Ecology and Society*, 2014. **19**(3).
19. Ratner, B.D., G. Halpern, and M. Kosal, *Catalyzing collective action to address natural resource conflict: Lessons from Cambodia's Tonle Sap Lake*. Available from: <http://www.ifpri.org/sites/default/files/publications/capriwp103.pdf>. 2011.