

ID: W2604368273

TITLE: Higher fish but lower micronutrient intakes: Temporal changes in fish consumption from capture fisheries and aquaculture in Bangladesh

AUTHOR: ['Jessica R. Bogard', 'Sami Farook', 'Geoffrey C. Marks', 'Jillian L. Waid', 'Ben Belton', 'Masum Ali', 'Kazi Ali Toufique', 'Abdullah Al Mamun', 'Shakuntala H. Thilsted']

ABSTRACT:

Malnutrition is one of the biggest challenges of the 21st century, with one in three people in the world malnourished, combined with poor diets being the leading cause of the global burden of disease. Fish is an under-recognised and undervalued source of micronutrients, which could play a more significant role in addressing this global challenge. With rising pressures on capture fisheries, demand is increasingly being met from aquaculture. However, aquaculture systems are designed to maximise productivity, with little consideration for nutritional quality of fish produced. A global shift away from diverse capture species towards consumption of few farmed species, has implications for diet quality that are yet to be fully explored. Bangladesh provides a useful case study of this transition, as fish is the most important animal-source food in diets, and is increasingly supplied from aquaculture. We conducted a temporal analysis of fish consumption and nutrient intakes from fish in Bangladesh, using nationally representative household expenditure surveys from 1991, 2000 and 2010 (n = 25,425 households), combined with detailed species-level nutrient composition data. Fish consumption increased by 30% from 1991-2010. Consumption of non-farmed species declined by 33% over this period, compensated (in terms of quantity) by large increases in consumption of farmed species. Despite increased total fish consumption, there were significant decreases in iron and calcium intakes from fish ($P < 0.01$); and no significant change in intakes of zinc, vitamin A and vitamin B12 from fish, reflecting lower overall nutritional quality of fish available for consumption over time. Our results challenge the conventional narrative that increases in food supply lead to improvements in diet and nutrition. As aquaculture becomes an increasingly important food source, it must embrace a nutrition-sensitive approach, moving beyond maximising productivity to also consider nutritional quality. Doing so will optimise the complementary role that aquaculture and capture fisheries play in improving nutrition and health.

SOURCE: PloS one

PDF URL: <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0175098&type=printable>

CITED BY COUNT: 79

PUBLICATION YEAR: 2017

TYPE: article

CONCEPTS: ['Aquaculture', 'Micronutrient', 'Fish farming', 'Fishery', 'Nutrient', 'Fish consumption', 'Fish products', 'Consumption (sociology)', 'Biology', 'Fish <Actinopterygii>', 'Ecology', 'Medicine', 'Social science', 'Sociology', 'Pathology']