

A Sustainable Future for Ghana's Fishing Sector

Fishing makes a substantial contribution to Ghana's economy and employment, sustaining the livelihoods of at least 3 million people, including half a million women. In West Africa, fish constitutes about one-third of animal protein consumed. However, the marine fish stock in Ghana is biologically over-exploited and at risk of collapsing. Catches have declined in recent decades, small-sized fish have become prevalent, and only 40% of the fish consumed in Ghana today is produced locally. Excess fishing is worsened by illegal, unreported activities and destructive techniques.

Ghana's fishing sector requires urgent solutions to avoid ecological collapse and guarantee a sustainable income to the artisanal fishers and the entire value chain dependent on the activity. The government needs to make sure it is implementing the correct policies to secure the livelihoods of people who rely on this sector, which is why it's crucial to know where public resources should be directed first to generate the highest benefit.

Ghana Priorities, a collaboration between the National Development Planning Commission and the award-winning think tank Copenhagen





Consensus, commissioned 28 teams of economists to study the most cost-effective initiatives to improve Ghanaians' lives. The researchers calculated the social, environmental and economic costs and benefits of more than 80 promising policy interventions, from eradicating malaria to improving education, to find out which would do the most good for every cedi spent. The results are now published for free, for all Ghanaians.

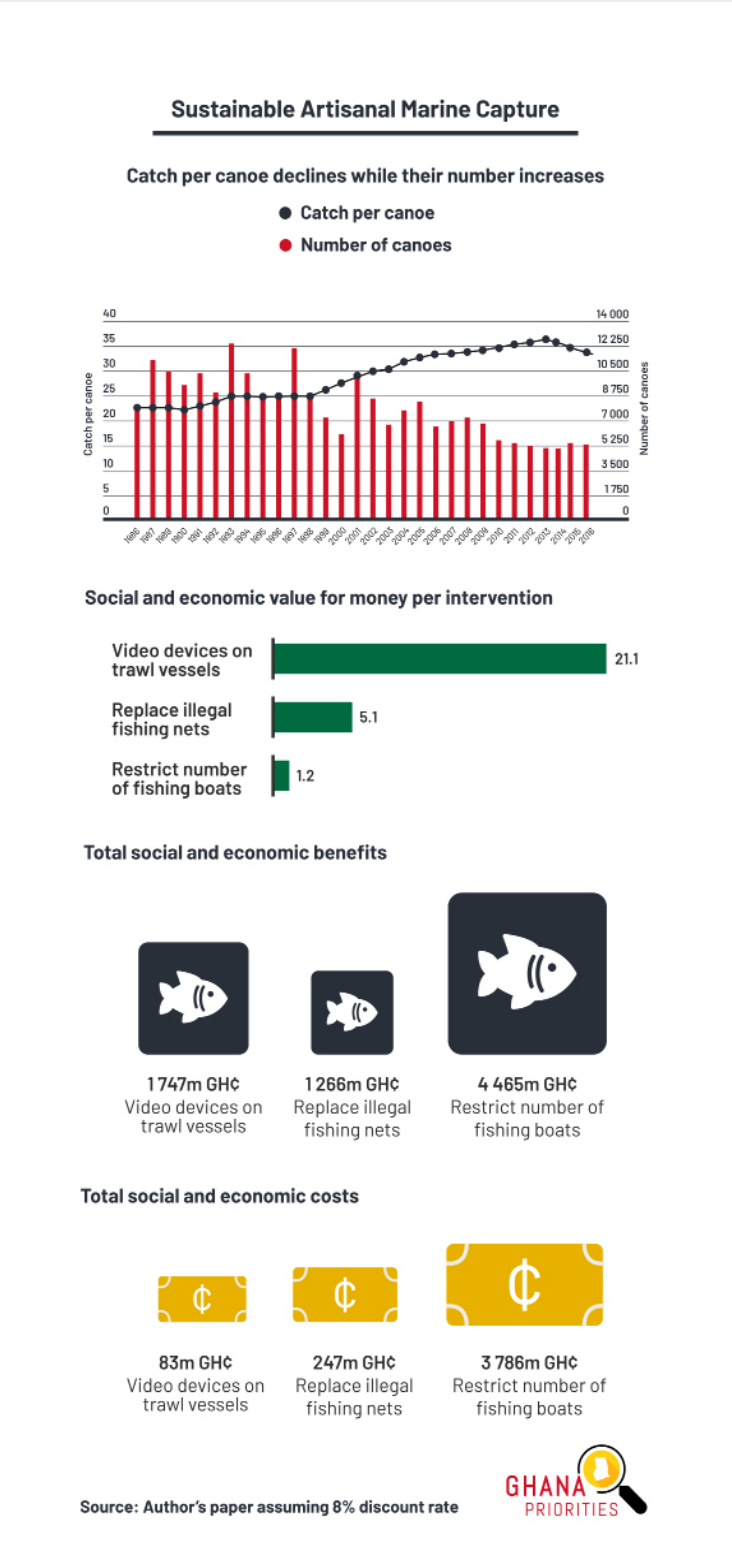
To address the overfishing problem, Prof. Wisdom Akpalu from the University of Ghana analysed three policy interventions: replacing illegal fishing nets, limiting the number of boats while providing training and subsidies for fish farming, and installing video devices in trawl vessels to monitor harmful illegal activities.

Artisanal marine fishery is the livelihood of many coastal communities and the most important sector of fishing in Ghana for GDP, employment, and supply of animal protein. However, approximately nine of every ten artisanal fishermen in Ghana use nets with illegally small mesh sizes, contributing to the depletion of resources by not allowing smaller fishes to grow. One way to improve this situation is by replacing the illegal nets with legal ones, which will reduce harvest in the short term. Since the stocks are fast-growing species, within a year, the fish caught will be bigger and more valuable. The intervention would have a total cost of GH¢ 250 million in both the nets and initial loss of income for the fishermen, but in the long run would increase revenue from selling mature fish, more than twice the price of juveniles. This benefit was calculated to be worth GH¢ 1.3 billion over a 10-year period, approximately 5 times larger than the total cost of the intervention.

To reduce excess fishing in the artisanal sector, the number of canoes should also be reduced. Doing so would increase profits for the remaining boats by GH¢ 107 million per year but lead to 40,000 jobs and GH¢ 66 million of annual income lost. The fishermen who would lose their jobs could be incentivized to take up fish farming in ponds and cages by supporting them through interest-free loans and subsidies for fish feed for four years, until the farming becomes profitable. This intervention would cost GH¢ 3.8 billion but create revenue worth GH¢ 4.5 billion for both the fish farmers and the remaining fishers, thanks to stock build-up

and increased profits. Every cedi spent would return 1.2 cedi, including the added long-term benefit of protecting the marine fishing sector.

The final intervention studied focused on the industrial trawling vessels that operate farther away from the coast. This sector contributes heavily to the overfishing problem both because of the large number of vessels and due to saiko, the practice of illegally targeting small, juvenile stocks that could become bigger and more valuable, freezing them into pellets, and shipping them to middlemen for processing, resulting in a poor-quality product. The intervention aims to install video equipment on each vessel to impede these illegal practices, at an estimated total cost of GH¢ 83 million. However, the potential increase in profit for artisanal fishers thanks to better stock and a product of better quality would be approximately GH¢ 1.75 billion for the ten-year time period. This intervention would thus bring a benefit 21 times higher than the original investment, if the cameras contributed to better enforcement.





The impact of the activities of trawl vessels on artisanal stocks has serious implications for food security and sustainable livelihoods within and beyond the fishing communities, and halting their illegal catch of small species can generate high benefits. Altogether, these initiatives provide cost-effective measures for policymakers to prevent the collapse of Ghana's marine fish stocks and guarantee a sustainable future for this important sector of the economy.

BCR SUMMARY TABLE

INTERVENTIONS	BENEFIT (GH¢ MILLIONS)	COST (GH¢ MILLIONS)	BENEFIT-COST RATIO
Planting of video devices on trawl vessels	1,747	83	21.1
Replacement of illegal fishing nets	1,266	247	5.1
Restricting fishing boats while providing training and subsidising feed for aquaculture	4,465	3,786	1.2