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ISSUE BRIEF:
Ghana's Small Pelagic Fishery in Crisis
National and Regional Food Security at Risk

SUMMARY:

Ghana's small pelagic fishery teeters on the edge of collapse.

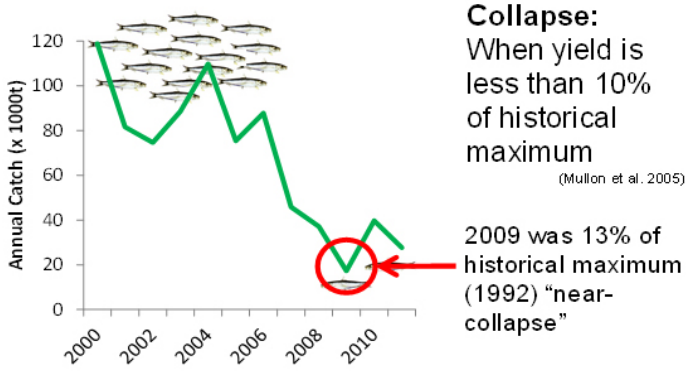
The canoe fishery's annual sardinella catch plummeted to just over 17,000 metric tons in 2012 from a high of 120,000 metric tons a dozen years earlier. Weak governance, overcapacity and an open-access fishery that allows overfishing from an increasing number of boats and fishers contribute to the crisis. At risk are not only the livelihoods of more than 130,000 Ghanaians engaged in the fishery sector but also the food security of the nation and region. Business as usual means empty nets for fishing communities and empty plates for consumers. Immediate, bold action is needed to reverse this decline.

Other nations have confronted similar crises and were able to rebuild their fisheries into healthy and vibrant resources that now provide more jobs, food and profits than they did before their declines. Ghana can do it, too. The menu of potential management measures that can reverse this decline and rebuild the fishery has proven effective elsewhere.

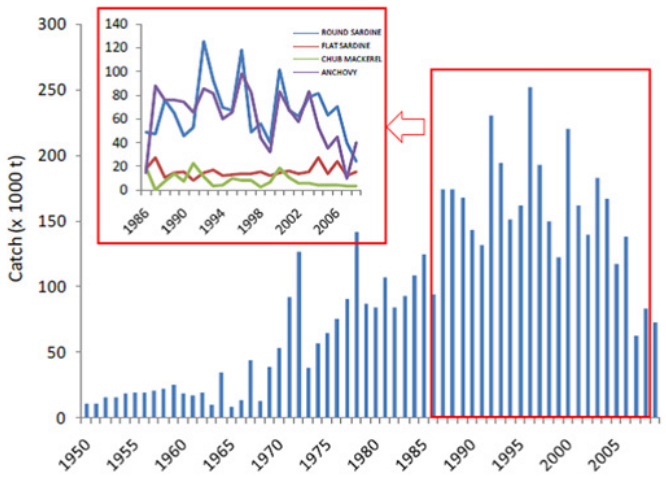
A combination of several of the following options—based on the best scientific information available—is necessary: Ending open access, closed seasons, closed fishing areas, additional weekly fishing holidays, increased net mesh size, cap and reduction in the number of fishing vessels and removal of fuel subsides. These actions will work only if all stakeholders—including fishermen, (canoe, semi-industrial and trawlers) fishmongers, processors and the government—work together to develop measures and to ensure that everyone follows the agreed-upon rules. In a few years, fish yields could increase and profitability could return for those who earn their living from the small pelagics fishery. The USAID/Ghana Sustainable Fisheries Management Project (SFMP) goal is to work with all stakeholders to achieve this vision. *Yes, we can do it if we work together!*

Artisanal fishing canoes crowd the harbor in Tema, Ghana. (CRC photo)

From top, women fish processors at work; a fisherman mends his net; and a makeshift home, all scenes from landing sites around Accra. (CRC photos)



Ghanaian canoe catch of sardinella spp.
(Source credit: Proceedings of the 3rd National Fisheries Dialogue: WorldFish)



National data on changes in catch of the small pelagic resources, main graph. Catches of sardine, anchovy and chub mackerel since 1986, inset.
(Source credit: FISHSTAT(FAO) and Fisheries Commission)

THE PROBLEM:

The reality is stark: Ghana's small pelagic fishery teeters on the edge of collapse. The annual sardinella catch has plummeted year after year while the number of artisanal fishing canoes has risen year after year to more than 13,000 in 2014.

The canoe fleet that makes up the majority of landings and employs the greatest number of people has been greatly affected. Annual catch fell to just over 17,000 metric tons in 2012 from a high of 120,000 metric tons just a dozen years earlier (Western Region Fisheries Sector Review, USAID/Ghana ICFG Project). Ghana's small pelagic resources are exploited by all segments of the fishing fleet, though industrial trawlers do not specifically target them. Sardinellas, anchovies and mackerel—small, schooling species—make up the majority of the small pelagic catch, which is at its lowest level in four decades. Whether this decline will have lasting impacts is yet to be seen, but it is clear that the fishery is in the longest period of decline since the beginning of heavy exploitation.

This decline has coincided with an increase in light fishing, which has put additional pressure on the stocks.

Unlike the crash of one dominant small pelagic species that occurred in the 1970s, the current decline is evident in three of the four main species, according to a detailed review of the small pelagic catch since the mid-1980s. Fishers interviewed in the Western Region have indicated that this trend has continued in the last five years.

Ghana is a net importer of fish and can ill afford a further decline in fisheries productivity from unsustainable practices. This situation is made more troubling as nearly a quarter of children below the age of five are undernourished, according to the Food and Agriculture Organization. The demand for fish currently exceeds supply by 360,000 tons (Fisheries Commission).

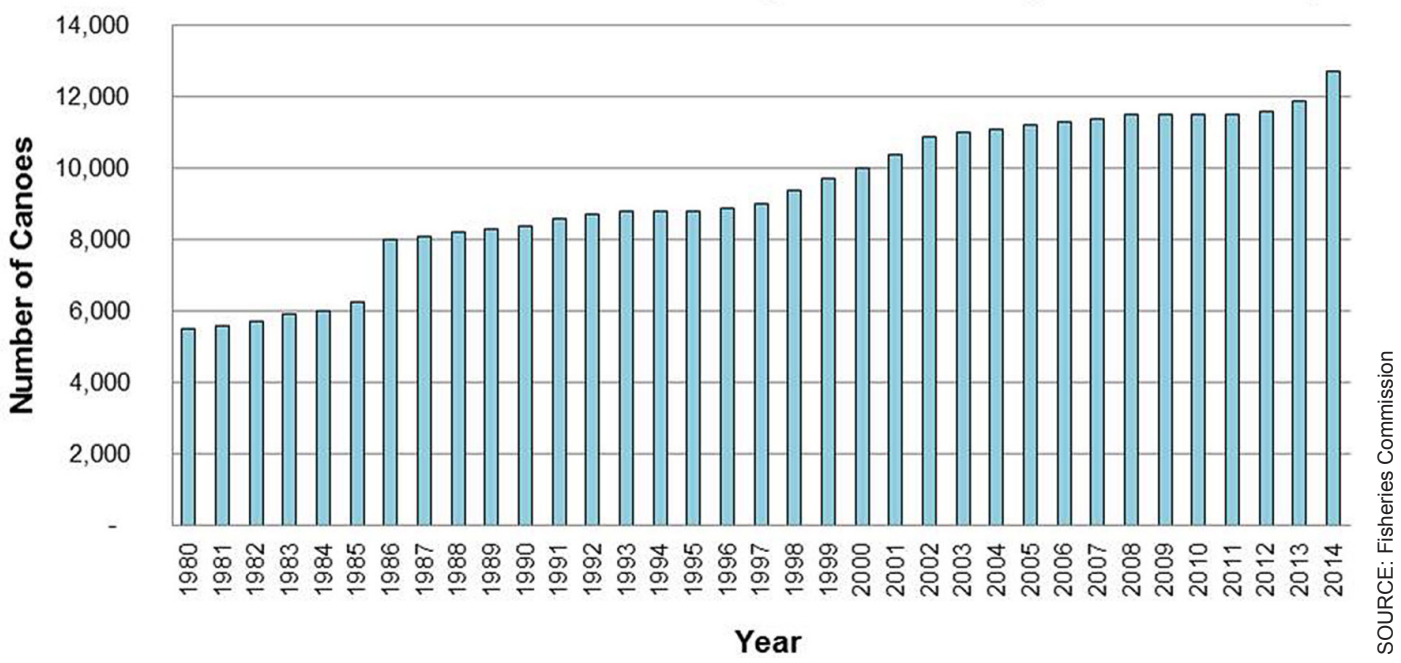
Small pelagics for sale at a landing site. (CRC photo)

CAUSES OF THE CRISIS:

A combination of factors has resulted in the current crisis in the fishery. First, the artisanal fishery is open access, and the number of canoes has increased dramatically in the past two decades; entry into the fishery also has been encouraged by government subsidies to the canoe sector; and the number of active semi-industrial vessels now has doubled since the 1990s.

As catches have started to decline, the frequency of illegal fishing practices has increased. Use of fine mesh nets, light fishing, bomb and carbide fishing are rampant, and law enforcement has been unable to control these illegal activities. Ghana has relied on only a few measures to control fishing effort, with mesh size and bans of certain gear and species. The Tuesday fishing holiday is a traditional practice that also helps limit fishing effort. However, even if all fishers complied with these measures, they are insufficient to regain the ecological and economic health of the fishery. Reversing the trend of stock depletion to support the socio-economic lives of present and future generations requires bold and immediate management actions.

NUMBER OF FISHING CANOES (1980-2014)



SOURCE: Fisheries Commission

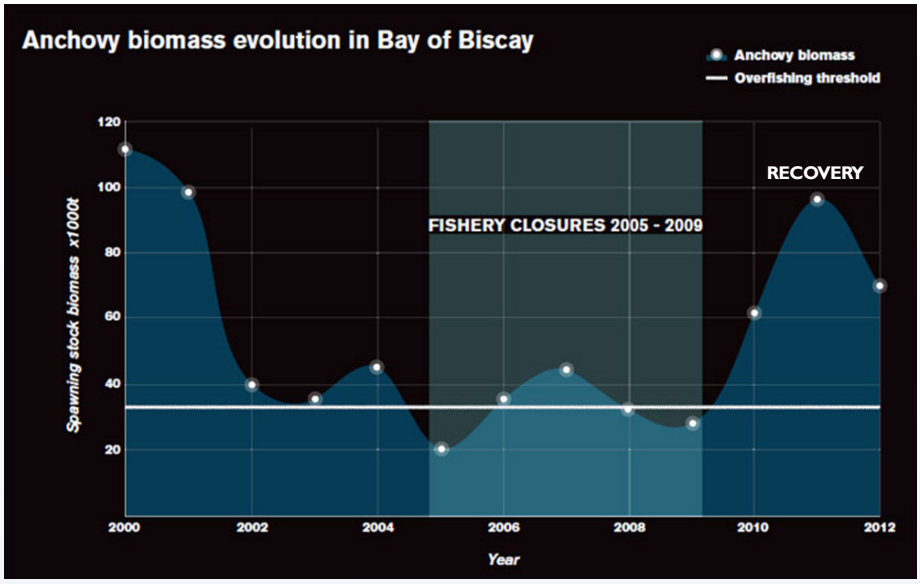
WHAT IS AT RISK:

The importance of Ghana's fishery to the local economy cannot be overstated. The sector directly employs about 135,000 fishers in the marine capture sub-sector alone, 92% of whom are artisanal fishers. An additional 27,000 women, who play critical roles in fishing households, are involved in fish processing and marketing. An estimated two million Ghanaians rely of fishing either directly or indirectly for their livelihoods.

Ghanaians also consume an average 23 kg of fish per person per year, which is well above the global average of 16 kg per person per year. Fish is also the preferred protein source of Ghanaians for whom *entaban, amoni* and *salmone* (sardinella, anchovies and mackerel) are familiar staples because of their high nutritional value and relatively low cost. Fish comprises a third of animal-based food protein consumed in Africa, and in Ghana that number reaches approximately 60%, according to Fishing for a Future. Fish is an important and healthy food source for Ghanaians, particularly small children, as it provides a concentrated source of protein, iron and other nutrients unequaled in beef or chicken. Furthermore, numerous studies have shown that fish as part of a healthy diet in pregnant and lactating mothers improves child development.

WHAT CAN BE DONE?

A combination of a number of management actions can help rebuild the small pelagic fish stocks. In the Bay of Biscay off the coasts of France and Spain, for example, the EU imposed a complete fishing moratorium for several years after stocks were severely depleted. Within a few years, the fishery returned to a more healthy state. See graphic, right.



(Source credit: Oceana Magazine Fall 2012: "Anchovy's Return")

In the Philippines, commercial fishing interests and processors proposed a seasonal closure of several months around the spawning season of sardinellas. Working with the Bureau of Fisheries and research institutions, stakeholders documented a 30% increase in landings after two years of seasonal closures.

In the U.S. the science-based management approaches implemented in the U.S. since 2000 have been able to rebuild 37 fish stocks, create new jobs, and generate more than $600 million of net revenue in the fishing sector.

In Ghana, stakeholders can reverse the trend of lower earnings and income due to depleted fish stocks, if they come together to end business as usual—that is, continued open access, pre-mix fuel subsidies, poor compliance with rules on fine mesh nets, lights, pair trawling and an increasing number of fishermen.

Stakeholders must debate and decide on a menu of potential options, outlined below, and take action. No single measure will be sufficient; a combination of efforts will be required. Some measures can be implemented quickly and can have real impact in a relatively short period of time. Others will need to be implemented in the medium or longer term to ensure early gains can be sustained for future generations.

These measures could include:

- A several-month seasonal closure for small pelagics only during and after the spawning season.
- Increased mesh size—allows small/juvenile fish to grow bigger and have a chance to spawn at least once before being caught.
- Cap on the number of fishing licenses, with a reduction in total issued over time.
- Phase out subsidies.
- Reinforce bans on light fishing.

How they would work:

- During a seasonal closure for small pelagics, fishermen could still catch other species of fish. The closure would help small pelagics because of their high reproductive output and fast growth, with a rebound possible within 1 to 3 years.
- Increased mesh size protects juvenile fish, and while changing gear will yield less catch for a few months until the fish get bigger, the yield and value will then increase.
- Issuing licenses to artisanal fishermen along with canoe registration will allow proper monitoring and will help control catch and effort to assure long-term sustainability of fish stocks. Capping fleet size now means locking in the current economic state of the

fishery to allow managers and stakeholders to find proper ways to match the number of fishing canoes with the amount of fish available. However, the current number of canoes has been determined to be excessive for the resources and an effort reduction plan will be required. The extent of this reduction is difficult to determine as long as open access is in place.

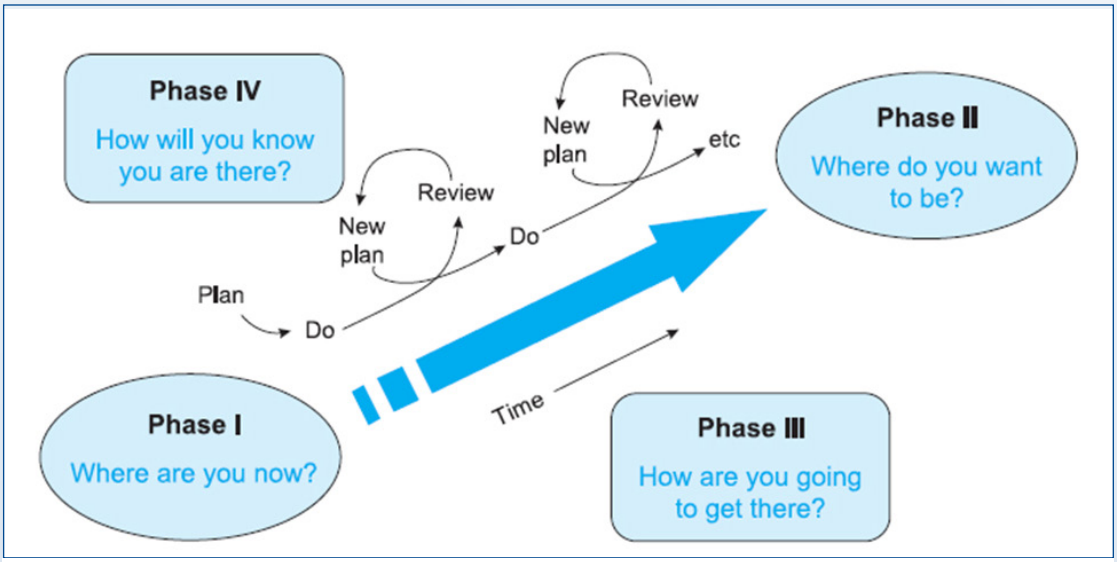
- While catch and effort monitoring and catch certification are vital to ensure informed management decisions, there are currently inadequate monitoring systems of the biology and size of fish stocks, making it difficult to align stocks with current effort.

- Subsidies tend to increase fishing effort as they reduce costs and increase profits. However, in an open-access fishery, short-term gains are lost over time as the subsidies encourage more fishermen to enter the fishery, and profitability and total yields again decline. Eliminating subsides can help reduce overfishing, but by itself the measure is not sufficient to obtain maximum profitability or yields.

- Light fishing is a highly efficient means of catching fish that eliminates a traditional rest period for fish. With this technique, fish can be caught all year long with no rest period. Light fishing itself is not necessarily destructive, but it increases effort to an extent that exacerbates overfishing. Many women processors also complain that fish caught by this method is of poorer quality than fish harvested without use of lights. Strict compliance with the light fishing ban is one way to reduce fishing effort, allow fish stocks to increase and give fish a rest period to grow and reproduce.

HOW USAID/GHANA SFMP WILL HELP REBUILD THIS FISHERY

The goal of the USAID/ Ghana SFMP is to rebuild targeted marine fisheries stocks through adoption of sustainable fishing practices and reduced exploitation. SFMP is working with Ministry of Fisheries and Aquaculture Development, the Fisheries Commission, the University of Cape Coast, men and women in the sector and civil society organizations to come together to decide on a course of action, and to assist in implementation.



The four main phases in writing a fishery management plan. (Source credit: Marine Resources Assessment Group, Centre for Environment Education, Ahmedabad Scales Consulting Ltd., London, 2005)

Ghana already knows what the issues are, and all recognize that changes are needed. If the nation hopes to see a vision of a more healthy and profitable fishery supplying an abundant and sustainable source of fish food protein to all Ghanaians realized, then decisions need to be made quickly.

If the value of fish increases due to good practices being implemented, then the motivation for stakeholders to work together and care for the fishery will grow.

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The challenge is enormous, the stakes HIGH ...

... If the commitment of stakeholders is GREAT

■■■

Recovery is POSSIBLE

Top and right, scenes from the landing site in Tema; above, children in Jamestown, Ghana. (CRC photos)

YES, working together

WE CAN do it!