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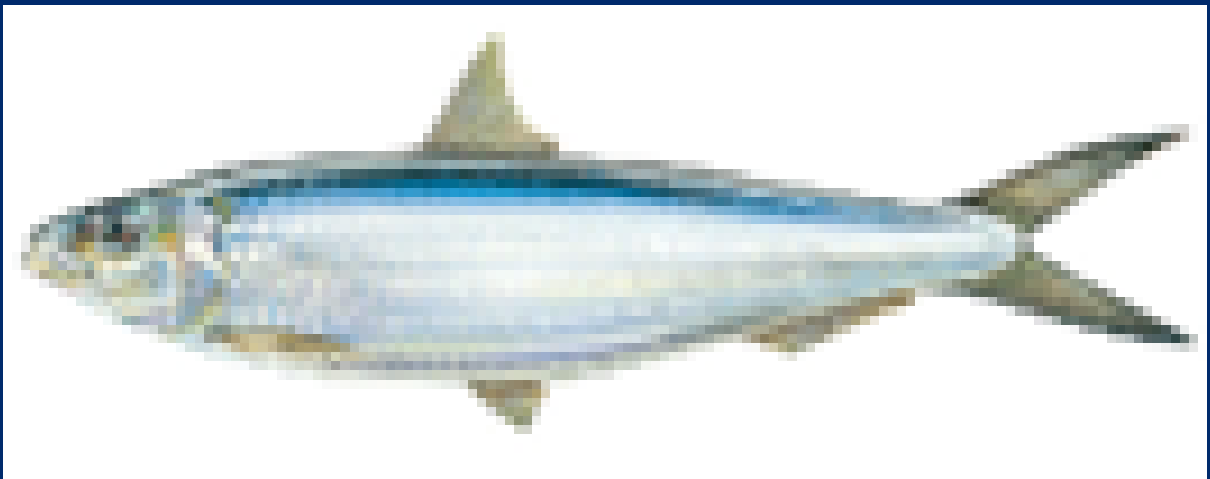
SUSTAINABLE FISHERIES MANAGEMENT PROJECT (SFMP)

Closed Season Brief



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ACRONYMS

CBFMC	Community Based Fisheries Management Committee
CEWEFIA	Central and Western Region Fishmongers Improvement Association
DAA	Development Action Association
DDT	Dichlorodiphenyl trichloroethane
DoF	Department of Fisheries
FoN	Friends of the Nation
CRC	Coastal Resource Center
URI	University of Rhode Island
CEWEFIA	Central and Western Region Fishmongers Improvement Association
DAA	Development Action Association
SNV	Netherlands Development Organization

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1.1 WHAT IS IT AND WHY?

The vast majority of fish breed by the female fish releasing their eggs into the water and then having the male fish fertilize them. A female fish can put out up to several hundred thousand eggs or even sometimes million eggs depending on the species and the size of fish. For example, our sardinella in Ghana, often referred to as 'the people's fish', can release tens of thousands of eggs at one time during the breeding season. There are two breeding seasons in Ghana with the major breeding season occurring around August every year. Eggs from older female fish are bigger and much more likely to be fertilized and produce baby fish than those of small and younger fish. Eggs and tiny baby fish are subject to the natural conditions of the sea around them. These conditions include how many get eaten by other organisms, the temperature of the ocean, unusual currents that take them in the wrong direction, lack of food, and so on. Scientists estimate that out of an average of one million eggs produced, only a few make it to become juvenile fish and fewer still make it to be adults and breed themselves. This low survival rate to adulthood is one of the reasons female fish release so many eggs.

The following table shows some biological facts of the sardinella (Eban). According to the fisheries laws and regulations of Ghana, Sardinella (Eban) less than 18 cm is illegal to catch and sell.

Table 1: Some biological facts of the sardinella (Eban).

Age of fish (months)	Fork Length of individual fish (cm)	Weight of individual fish (grams)	Number of eggs produced per fish	
1	5	10	-	Juveniles
6	15	40	-	
11	18	60	-	
15	20	80	12,000	Adults
32	25	150	40,000	
42	30	230	80,000	

1.2 Why

Reproduction, or spawning, for most species occurs in the open ocean and then, once hatched, the baby fish drift into the coastal zones and estuaries. This is one of the reasons that Ghana's estuaries and many coastal zones are known as 'nurseries' where baby fish can find shelter and food until they grow to a point where their chance of survival to adult size is greater. Once they grow older and bigger, they return to the open ocean to the fishing grounds where they can spawn themselves or be caught by fishermen. A problem arises when the pressure of fishing is so high that few fish grow to adulthood and never live to reproduce and replenish the stock. This is called overfishing. Overfishing is similar to constantly withdrawing more money than you deposit into your account. Eventually, the account runs dry. When we talk about the people's fish in Ghana, mainly sardinella (known in Fante as eban) the seas are now running dry of them. It is estimated that without urgent action, Ghana's sardinella stocks could became so low that by 2020 fishermen will no longer have them to catch and sustain themselves unless the government fully supports them. Overfishing can occur in the open seas and inside nursery areas where small juvenile fish are caught before they get a chance to grow and spawn at least once in their life time. In Ghana, the use of nets with mesh sizes that are smaller than allowed by the fisheries regulation is common and results in catching juveniles before they are old enough to breed.

Essentially, it is already not financially viable for most fishermen to stay in business. Today, many Ghanaian canoe fishers would find it financially difficult to continue to fish without subsidized fuel, called Premix. Receiving government subsidized Premix fuel means that they never have to really absorb the full cost of going fishing. In essence, they already can't catch enough fish to meet the real costs of fishing. And the stock has gotten so thin in traditional nearshore fishing grounds that they must travel farther and farther to sea in search of fish. Still, they often return with their boats nearly empty. The people's fish is collapsing putting in danger the livelihoods, food and nutritional security and future economic development of 2.7 million Ghanaians who are directly or indirectly depending on the canoe fishing industry, not to mention the many millions more who depend on these fish for their daily protein. If this fishery is lost, the most vulnerable will be the poor, and pregnant mothers as well as young children who need sufficient protein for their brain and bodily development.

1.3 Closed Season – "A Biological Rest Period": Is this the Best Way to Preserve Resources?

Every year in Ghana fish move to special areas where the water conditions are good for them to lay their eggs. They aggregate and move in large schools close to shore or in estuaries at this time of spawning. They become easy to catch by canoe nets and even "trawlers". Over the years, canoe and trawler fishers know where these areas are and they take large quantities of spawning fish over a short amount of time. Fish processors acknowledge this. But they complain that they have to squeeze out the eggs from fish before processing to prevent them from being so only after smoking and then having to sell them for a lower price. In Ghana, the peak spawning period for fish such as sardinella, anchovies and mackerel is in August.

This period is known as the period of the “bumper” harvest where more than 40% of the annual catch is realized throughout the coastal areas of Ghana. In fact, the highest catches were recorded in the late 1990s and since then the ‘bumper’ season has been decreasing. In 2017, Ghana recorded the lowest annual catch in the history of its fishery due to falling stocks.

The term "closed season”, or “biological rest period", refers to the stopping of fishing during the spawning period of the fish. It is a way of reducing fishing pressure on stocks when they are most productive in terms of allowing the fish a chance to lay their eggs to replace the lost population due to fishing and other natural causes. Provided that a sufficient number of fish remain to breed, the "closed season" can, by "protecting the pregnant fish", increase the stock available for fishing in just a few years. A "closed season " will be most successful when other types of fishing pressure are also controlled such as use of illegal small mesh size nets, light fishing, use of poisons and toxic chemicals, and dynamite or other explosives.

1.4 Better Prices for Fish

Proper application of closed seasons also prevents the kind of high supply – low price situation that happens every August in Ghana. There are so many fish landed that the value of fish is reduced. Fishermen get lower prices and so do fish processors. There are so many fish that some fish remain unsold. Also, during this time, the caught pregnant fish are very oily because they have so many eggs. With so many eggs, fish break open during processing and produce low quality fish for food.

1.5 "Closed Season": Only One of the Tools of Sustainable Exploitation of Resources.

The management of fishery resources is based on a simple basic principle: fishing must not exceed the natural ability of fish to renew themselves. This calls for such things as closed seasons to help fish resources regenerate and renew themselves. It also means that fishing pressure must be controlled. In Ghana, this means that the number of trawlers and eventually the number of canoes must be limited. In Ghana, all these strategies are contained in the National Fisheries Management Plan 2015-2019. This was adopted by the previous government.

1.6 To Be Effective, the "Closed Season" Must Be Part of a Larger Plan

The National Fisheries Management Plan outlines a number of actions that must be taken to sustain the people’s fish in Ghana that includes the reduction of fishing pressure through a number of combined actions. The currently planned closed season is only one measure in the National Fisheries Management Plan and all the other measures must be implemented to ensure fish remain a part of Ghana’s future economy, and importantly the livelihoods, health, nutrition and food security of those estimated 2.7 million people who directly and indirectly depend on this industry around the people’s fish. Once the closed season becomes a regular annual rest period to allow pregnant fish to spawn, and illegal means of fishing are controlled or eliminated, the landing of the people’s fish can be expected to increase from the current 20,000 metric tons to over 90,000 metric tons within 10 years. Every year that we delay the

closed season is another year that Ghana's economic development, and food and nutritional security, is delayed. Surely, this kind of effort is worth supporting.