

THE SOCIAL AND ECONOMIC EFFECT OF THE DEVELOPMENT OF TUNA FISHERIES ON THE GHANAIAN ECONOMY

Kwei, E.A.

SUMMARY

The major tuna resources are believed to be generally fully exploited, with the exception of skipjack tuna.

The tuna baitboat pole and line fishery is based on 30 vessels fishing mainly for skipjack in off-shore areas. The fishery is financially sound and capable of expanding given the presence of under-exploited skipjack resources in the Ghanaian EEZ, and the abundance of bait (*Engraulis anchoa*).

RÉSUMÉ

On considère que les principales ressources de thonidés sont généralement pleinement exploitées, à l'exception du listao.

La pêche au thon est réalisée par 30 bateaux qui visent principalement le listao, au large, à la canne et à l'hameçon. La pêcherie est financièrement bien portante et susceptible de se développer vu la présence de ressources sous-exploitées de listao dans la ZEE du Ghana et l'abondance d'appât (*Engraulis anchoa*).

RESUMEN

Se cree que en general los recursos atuneros están totalmente explotados, a excepción del listado.

La pesquería de cebo de caña-liña se basa en 30 embarcaciones que capturan principalmente listado en áreas de alta mar. La pesquería es sólida, en términos financieros, y capaz de ampliarse dada la presencia de recursos subexplotados de listado en la ZEE de Ghana, y la abundancia de cebo (*Engraulis anchoa*).

Tuna Fleet.

The tuna pole and line fishery was started in Ghana by Japanese vessels in the 1970s and subsequently attracted Ghanaian companies which today own about 30 vessels, either wholly Ghanaian or in a joint venture arrangement with Korea, catching about 30,000 tons per annum of which the majority is for export.

Tuna purse seining, although carried out to a limited extent by Tema-based vessels, does not generally appear to be promising to a Ghanaian fleet because of the heavy capital investment which makes financial break-even difficult. Operations of the bait boat fleet are to some extent limited by their need to return periodically to near shore waters to catch bait; but the availability of bait is not in itself a problem.

The entire fleet requires less than 500 t of bait annually mostly anchovy. The fishery is continuous rather than seasonal, is centred in Ghana's EEZ, and relies on a simple technology with no dolphin by catch.

(Video show 20 minutes.)

With new cannery investments in progress, the tuna industry is buoyant and looking both to replacement of the ageing bait-boat fleet, and expansion towards an annual catch of 60,000 tons. Skipjack stock could withstand this degree of expansion and further possibility to 75,000 t; but a potential problem exists with regard to the sizeable by catch of yellowfin (presently around 5,000 t or 15%).

Tuna fleet renovation and replacement

Ghana's tuna fishing fleet is the largest pole and line fleet operating in the East Atlantic Ocean.

In 1991, it accounted for 62% of total baitboat (pole and line) catches of skipjack tuna in the East Atlantic and 16% of catches by all types of gear (ie purse seine, pole and line and other surface gears) of 163,500 tons. For yellowfin tuna, Ghana accounted in 1991 for 54% of total baitboat landings, and 7% of catches by all types of gear of 131,200 tons.

For bigeye it accounted for 14% of total baitboat catches in the Atlantic (east and west) and 3% of catches by all types of gear of 69,500 tons (see table 3.6)

According to scientific opinion, the skipjack resource cannot, for practical purposes, be over exploited by pole and line vessels. Frequently mixed with skipjack shoals are however juvenile yellowfin and bigeye which are caught in a certain proportion with the skipjack. Yellowfin and albacore are heavily fished by purse-seiners and longliners in international waters, and removal of juveniles is believed to affect regeneration of these larger tuna stocks.

Although the skipjack resources are capable of sustaining a substantially greater pole and line effort in the Ghanaian EEZ, the possible negative effects on the albacore and yellowfin fishery in the Eastern Atlantic need to be considered.

Tuna expansion

A plausible extra quantity to be fished would be 20,000 tons, equivalent to US \$9 million gross and US\$7.5 million net value added.

In contrast to the skipjack central Atlantic yellowfin are considered fully exploited and are vulnerable? to over fishing of juveniles. A similar problem exist elsewhere with bigeye tuna. The by catch of bigeye in Ghana is on 0.2% however, and may therefore be discounted.

It is generally true that the yellowfin which form mixed schools with skipjack are small fish - schools tend to be grouped by swimming speed; thus only young yellowfin can remain associated with much smaller skipjack.

Other opportunities may exist within the tuna fisheries. Firstly, it may be feasible to sell access to a (potential) fishery for seasonal concentrations of large yellowfin which appear between May and September each year off Cape Three Points. Because of their high swimming speed, these fish are accessible only to large purse seiners such as the French and Spanish vessels working out of Abidjan. Such a move would not constitute an increase in the overall effort directed at yellowfin but would give increased operational flexibility to vessels which already fish the same stock.

Secondly opportunities may exist to increase the participation of the canoe fleet in the tuna fisheries. Currently around 3000t to 6000t of tunas, (mostly little tuna, *Euthynnus aletteratus*) and other large pelagic species (sailfish, swordfish, marlins) are caught in nifa-nifa drift nets and other artisanal gears. It is believed that economic investigation coupled with a technical development programme might lead to the evolution of a viable "off-season" fishery for the ringnet canoe. Action !!!

On the same grounds it may be possible for part of the inshore fleet to enter a tuna drift-net fishery, as a means of diversification and of overcoming of period of low returns which would be expected when certain regulations were implemented.

The discussion of the increase of production cannot be complete without a mention of FADs or Payolls.

For some time past attention was drawn to the likely effect of these devices on the harvesting of tuna stocks. Presently there are 3000 to 3500 Payolls in the Eastern Atlantic ocean. Already the effect of these devices have begun to show, with the landing of even smaller yellowfin tuna than had been feared for the bait boat fisheries.

It is hoped that ICCAT would investigate the situation and prescribe some solutions.

The tuna fishing industry was perhaps the only one in Ghana that withstood the shocks and vicissitudes of the county's economic downturn. This could be attributed to a "Financial Innovation". External accounts of the fishing companies were allowed to be kept in nominated external banks, for the purpose of the amortization of loans on the purchase of vessels, payment of insurance on vessels and crew, and purchase of spare parts. A small

percentage, of the proceeds was allowed to be repatriated to Ghana. This arrangement later served as a model for enterprises which exported up to 50% of their produce. This went a long way to liberalize their operations.

Fish Processing

Two companies in Ghana have been involved in industrial-scale fish processing namely Pioneer Food Cannery and Ghana Agro- Foods Company Ltd.

After years of vicissitudes, Pioneer Food Cannery in 1993 under took a major renovation and expansion on an existing site in Tema. The Company is now owned 100% by Star Kist. Processing capacity is presently between 150 - 165 tons of whole tuna per day (37500 per year). The plant started operating in the June of 1994.

The GAFCO plant processes between 6 to 10 tons of tuna and commenced in late 1995.

The implementation of installed capacity would require an input of 2,500 tons of whole tuna per year.

Markets for inputs

Development of Ghana's canning industry will provide a market for cans and cartons, both of which could be manufactured locally.

Presently Messrs Carnaux Metalbox have set up a plant at Tema for the production of cans.

Tuna is commonly packed in cans with vegetable oil-normally soya bean oil. Soya beans are neither grown nor made into oil in Ghana at present. However, it appears possible that soya beans can be cultivated successfully and there are vegetable oil refining facilities in Ghana. This is being investigated.

Fishing ports and support services

Tema, located on the coast about 30 km west to the Capital of Accra, is the only harbour in Ghana offering sheltered berthing and landing facilities for

fishing vessels of more than about 10 metres length. Tema is therefore the base for the entire commercial and deep sea fishing fleet.

The inner fishing harbour at Tema suffers from severe congestion and the outer harbour has been developed with concessional Japanese financial assistance. The new harbour include landing berths and lay by berths dedicated to the tuna fleet.

This project has considerably improved the efficiency of port facilities for the tuna fleet.

This project is expected to provide the following benefits.

1. Increase the number of berths at the outer fishing harbour from three to eight, and thereby making the harbour capable of accommodating between 25 and 35 tuna and high sea trawlers.
2. Increase in fish landing at the harbour with its resultant increase in fish protein for the Ghanaian population.
3. Increase in the supply of raw materials for the fish processing factories springing up in the harbour area.
4. Expansion in job opportunities for our unemployed youth.

Dry dock facilities

There is a State-Owned Tema Shipyard and Dry docks Corporation. The facility was designed to include a main drydock capable of taking vessels of up to about 125,000 DWT (dead weight tons).

Renovation of the dry docks and are being contemplated.

Cold Storage

Total Cold Storage capacity has increased considerably over 20,000 tons since the tuna industry picked up.

Repair and local manufacture of marine equipment

There are a number of foundries and mechanical and electrical workshops in Ghana which are capable of basic repair services for marine equipment and the manufacture of some of the simpler items of equipment, although more complex equipment has to be imported.

Fisheries Employment

The average number of fishermen on each of the pole and line tuna vessels is 42, normally including 2 expatriates (generally Koreans) and 40 Ghanaian crew members.

Direct employment of Ghanaian crew on the 24 vessels in this fleet in 1992 would therefore total about 1008. In addition there are some 400 shore-based staff employed by the operational tuna fishing companies.

Additionally there are others employed in the wrapping of round tuna for transportation into the hinterland, and uncreative jobs for transport owners and drivers.

The canneries employ altogether some 2,000 hands.

No estimates are available for estimates in the marketing of fish in Ghana.