



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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NATIONAL ASSEMBLY

(For written reply)

QUESTION NO. 34 {NW38E}

INTERNAL QUESTION PAPER NO. 1 of 2022

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Mr N Singh (IFP) to ask the Minister of Forestry, Fisheries and the Environment:

- (1) What has been the recorded benefits of the annual sardine run to the communities of the South Coast of KwaZulu-Natal's Ugu districts where the phenomenon usually takes place;
- (2) Whether her department has any future plans to capitalise on this; if not, why not; if so, what are the full, relevant details?

34. THE MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT REPLIES:

- (1) A collection of scientific papers exclusively about different aspects of the KwaZulu-Natal (KZN) sardine run was published in the *African Journal of Marine Science*, 32(2), in 2010 (van der Lingen et al., 2010), which provided a synthesis of what was known at the time about the causes and impacts of the KZN sardine run. Some papers in that suite provide information on the socio-economic value of the KZN sardine run, and are briefly described below.

Myeza et al. (2010) assessed the socio-economic implications of the KZN sardine run for local indigenous communities in the Ugu District, using questionnaires and personal interviews. The authors reported that approximately 17% of the respondents had benefitted financially from the run, primarily from catching fish, but also from selling their own products and working for fishing

net companies, among other activities. Despite this low level of participation, the financial benefit to the community was estimated at R17-18 million, and as much as R34-54 million if a multiplier effect of 2-3 is applied. Local people were willing to become more involved in and take opportunities from the KZN sardine run. As far as we are aware, no further investigations into the benefits accrued from the KZN sardine run to local communities have been conducted.

Dickens (2010) used on-site questionnaires to estimate the economic value of boat-based tourism operating in the Pondoland MPA (dive tours departing from Port St Johns and Mboyti), and derived a direct annual value of R5,5 million, but indicated that local indigenous communities receive little direct benefit.

Hutchings et al. (2010) estimated the economic value of the KZN sardine run across different sectors, including from (i) beach-seine catches and (ii) ecotourism. The authors used a range of values for sardine caught by beach-seining as price depends on fish availability and usually falls during the season, and estimated a mean annual value of R3,4 million (ranging R0,8-6 million). The authors assumed that 10%-50% of tourists specifically visited KZN to see the sardine run and estimated a mean annual value for this sector of R255 million (ranging R10-500 million). Tourism based on the sardine run, therefore, generates substantially more economic value than fishing, even though the beach-seine operations are part of the tourism drawcard.

- (2) The KZN beach-seine fishery that targets sardine during the KZN sardine run is effort limited, with no more than 35 right holders permitted, but at present, there are 25 right holders, of which only three to seven have been active in recent years (van der Lingen & Lamberth, 2013). Catches of sardine by the KZN beach-seine fishery are substantially smaller (<5%) than catches made by the purse-seine fishery that operates off the West and South coasts (van der Lingen et al., 2015).

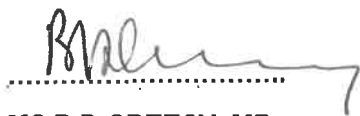
Exploitation rates for sardine engaged in the sardine run are difficult to calculate given the lack of annual quantitative estimates of the biomass of fish involved, but may be approximated using biomass estimates gained in three surveys of the KZN sardine run, each of which was around 30 000 tonnes (Coetzee et al., 2010), and assuming that this biomass level occurs every year. The maximum catch of 700 tonnes is around 2,3% of that biomass; hence, under the above assumptions, there is no evidence for the overexploitation of this stock by beach-seine fishing. The Department of Forestry, Fisheries and the Environment (DFFE) considers that sardine off KZN are harvested sustainably and it has no plans to increase the effort in this fishery.

The DFFE typically sets annual Total Allowable Catch (TAC) levels for sardine caught by the purse-seine fishery using an Operational Management Procedure (OMP). However, the OMP has neither been used for the past three years (2019-2021), nor for 2022 due to the depleted state of the sardine resource and the resultant declaration of exceptional circumstances in this fishery. Instead, TACs are based on annual updated assessments of the sardine resource and short-term projections under constant catch scenarios. Given the depleted status of the sardine resource, a conservative exploitation level has been used in recommending recent sardine TACs. Note that TACs are not set for sardine caught in the effort-limited beach-seine fishery in KZN.

The management of the purse-seine fishery for sardine takes the two-stock nature of South African sardine into account by (i) using separate assessments of western and southern sardine stocks in TAC calculations (De Moor & Butterworth, 2015; De Moor et al., 2017); and (ii) limiting catches of sardine off the West coast (and hence mostly of fish from the western stock) in order to reduce exploitation rates of that stock, which have historically been higher than those of the southern stock.

Additional management measures to protect sardine that participate in the KZN sardine run are not needed as these fish are not a distinct stock and are presently being harvested at sustainable levels.

Regards



**MS B D CREECY, MP
MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT**

DATE: 24/2/2022