

# Tuna fisheries in the Pacific

**A recent report has documented the potential economic consequences of climate change for the tuna fishing industry in the Fiji Islands and Kiribati.**

There are relatively strong indications that tuna is adaptable to changes in climate, following their ideal temperature and moving from place to place.

Asbjørn Aaheim and Linda Sygna of the Norwegian Center for International Climate and Environmental Research, CICERO, draw on the past impact of El Niño as an analogue for longer-term climate effects and conclude that climate change may result in a decline in the total tuna stock and a migration westwards.

These changes will lead to various impacts on the catch in the different countries. The results of the study suggest that the total catch for Fiji may decrease under climate change

because there is a weak tendency towards smaller catches under El Niño.

For Kiribati, the opposite seems to be the case. The catch of yellowfin and skipjack seem to respond positively to El Niño. Kiribati may, therefore, gain slightly from long-term climate change if the spatial distribution of tuna is considered in isolation.

Any decline in the upwelling in the central and eastern equatorial Pacific may, however, lead to a general reduction in the total abundance of tuna. Hence, Fiji may actually be affected negatively by climate change, while Kiribati remains more or less unaffected, if the total catch is measured.

The price of the fish in the export market may change as a result. An upward trend in both demand and catches has been accompanied by a decline in real prices. Any future reduction in catch may result in an increase in prices, or at least a stabilization of real prices.

Experience from other regions suggests that international fisheries adapt very slowly to new situations. Perhaps the greatest danger will be associated with any trend towards increased environmental variability as the need to compensate for a drop in catch in one period leads to overfishing in the next. This may lead to a rapid extinction of the stocks.

Based on a simple macroeconomic model, the resulting effects for the national economy in general may diverge substantially from the expected. This applies, in particular, if national economies are inflexible with the population reliant on subsistence production, as is the case for many developing countries.

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**Further information:** *The report "Economic Impacts of Climate Change on Tuna Fisheries in Fiji Islands and Kiribati" (Report 2000:4) can be obtained from CICERO at the address on the previous page.*