

Reform China's fisheries subsidies

Despite the moratorium on fishing in China's coastal waters ("China cracks down on coastal fisheries," D. Normile, *In Depth*, 12 May, p. 573), the nation's fisheries remain under threat by fuel subsidies. Because of the money saved on fuel, commercial fisherman can afford to use more ships and catch more fish than the local ecosystem can support. Fuel subsidies should be redirected toward development of sustainable aquaculture and artisanal and recreational fishing activities such as competitions, festivals, and tourism.

China currently manages its fisheries through seasonal closures, mesh size restrictions, and catch and effort caps (1). However, these measures are largely offset by harmful subsidies (2). Between 2011 and 2013, the central government provided RMB 38.13 billion in subsidies (2), which have become indispensable to China's fisheries companies. Inexpensive fuel has allowed these companies to build a bigger fleet than necessary, and the increased capacity has led to fish overexploitation. Between 2012 and 2014, Fujian's production increased by 63% (3). Yet, vessel capacity grew by 149%, indicating that many of those subsidized ships were not contributing to production. Subsidies are both harmful to ecosystems and an inefficient use of funds.

The United Nations Sustainable Development Goals call for prohibition of harmful subsidies (4). Instead of subsidizing fuel, China should use those funds to retrain commercial fisherman for environmentally friendly jobs in, for example, aquaculture and recreational fisheries, which use less fuel and allow ecosystems to flourish. The Fishermen Transfer and Fishery Transition Programme has been in place since 2003 with the goal of transitioning fishermen to more sustainable industries, but the number of professionals in commercial marine fisheries fell by only 7% between 2003 and 2014 (5). Diverting fuel subsidies to support employment and training in sustainable aquaculture would also help to reduce pollution and help safeguard natural fisheries (6). Income from China's recreational fisheries—including the manufacture and sales of fishing tackle, the design and building of recreational fishing boats, and the provision of fishing boats for charter and guided fishing trips—was just 3.2% of all fishery income in 2015 (7), lagging behind the United States' 33% (8).

Fish depletion is a global challenge and international collaboration through organizations such as the United Nations Food and Agriculture Organization (9) and the United Nations Environmental Programme (10) is increasingly vital. To avoid fishery collapses such as that which befell Canada's Newfoundland fishing ground (11), China's fishery subsidies need urgent reform and its fisheries policies should be refocused on training and redeployment.

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