

population growth and the impacts of climate change. SPC's Statistics for Development Division forecasts a population increase of 45% by 2035 (from 11 to 16 million) in the Pacific Islands region. The increase will be significant in each of the three subregions (Melanesia, Micronesia and Polynesia) but especially in Melanesia where both urban and rural populations are growing. The trend in Micronesia and Polynesia is different: in both areas, increasing urbanisation is causing the rural population to decline. The larger overall population will need more fish.

Climate change is expected to have negative effects on coastal fisheries, largely because higher sea surface temperatures, ocean acidification and increasingly powerful cyclones are likely to degrade the coral reef ecosystems that support much of the coastal fisheries production.

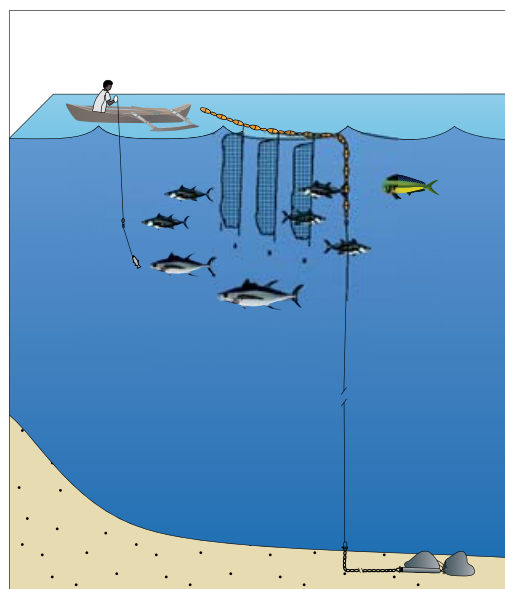
In order to provide the fish recommended for good nutrition (35 kg per person per year), or maintain the traditionally higher levels of fish consumption, an extra 115,000 tonnes of fish per year will be needed by 2030. However, increasing the production of fish from coastal habitats will not be possible for many of the countries in the region, either because they have limited areas of coral reef or because systems for transporting fish from rural to urban areas are non-existent or too expensive.

How then can the supply of fish and invertebrates for food security and livelihoods in the Pacific Islands be increased? First, existing coastal fisheries resources must be well managed. In contrast to agriculture, fisheries depend on finite resources that are often slow to regenerate after disturbances. If overfishing occurs, these resources shrink (or even disappear from some areas) and do not yield their full potential. Unfortunately, this has already occurred around the region in the case of some invertebrates (sea cucumbers, trochus). Coastal fishing effort must, therefore, be controlled to maintain the potential for stocks to be replenished regularly, and to minimise the gap between how much fish is needed for food and the harvests that can be sustained from reefs. SPC recommends participatory management systems in which communities themselves manage the resources they use, and assists member Pacific Island countries with implementing such systems. Where it is necessary to restrict coastal fishing effort, alternative ways of producing food and earning income must be offered to the communities concerned. Certain marine resources can provide some of these alternatives, but other sectors, such as ecotourism or agriculture, also offer opportunities.

One practical approach is to give urban communities easier access to seafood by arranging for some of the fish caught by industrial tuna fleets to be landed at urban centres. The transshipment of catches from purse-seine vessels to refrigerated cargo vessels ("reefers"), which takes place in several of the region's larger

ports, provides the opportunity to do this. Undersize tuna and bycatch — such as rainbow runner, mahi mahi and wahoo — which cannot be processed by the canneries, can be landed and sold in urban markets. These fish transshipment operations should be encouraged by governments and supervised to ensure that the quality of fish is maintained throughout the process. The interests of local small-scale fishers supplying fresh fish will also need to be considered so that their livelihoods are not adversely affected by the increased supply of fish stored in brine from industrial vessels.

Another solution is to assist coastal fishers to transfer more of their fishing effort from reef and lagoon species to tuna and the other large and small pelagic fish that are more resilient to fishing pressure. SPC promotes the use of nearshore, anchored fish aggregation devices (FADs), for this purpose.



FAD canoe fishing (illustration: Boris Colas).

These two main alternatives, combined with more efficient management of coastal fisheries resources, development of sustainable aquaculture, and new opportunities offered by the agriculture and tourism sectors, should help Pacific Island countries and territories to address the demographic, socioeconomic and climate change challenges in the 21st century.

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