

Adaptations to maintain the contributions of small-scale fisheries to food security in the Pacific Islands

Marine Policy 88 (2018) 303-214

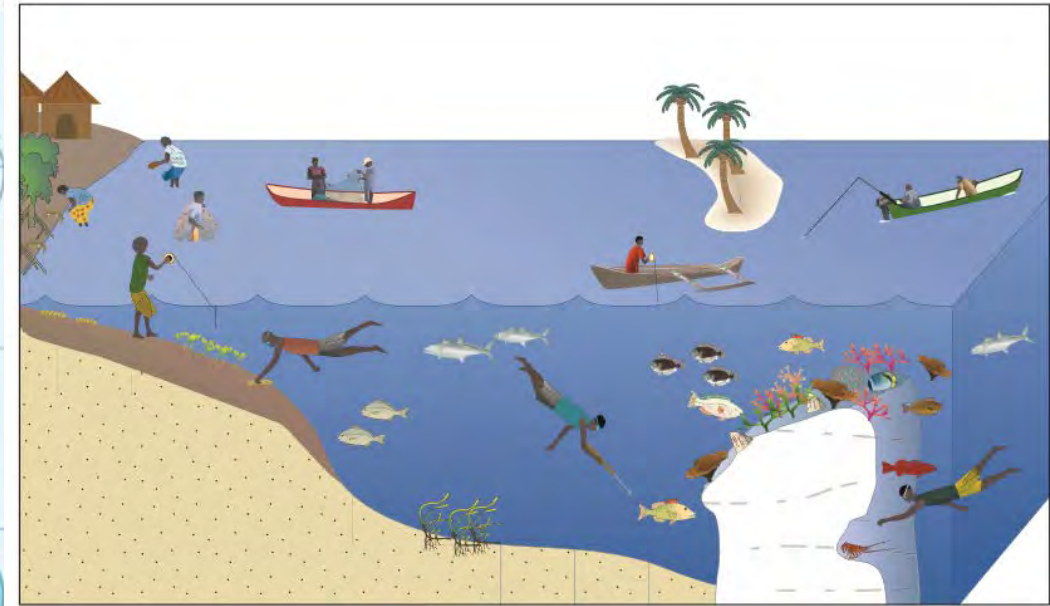
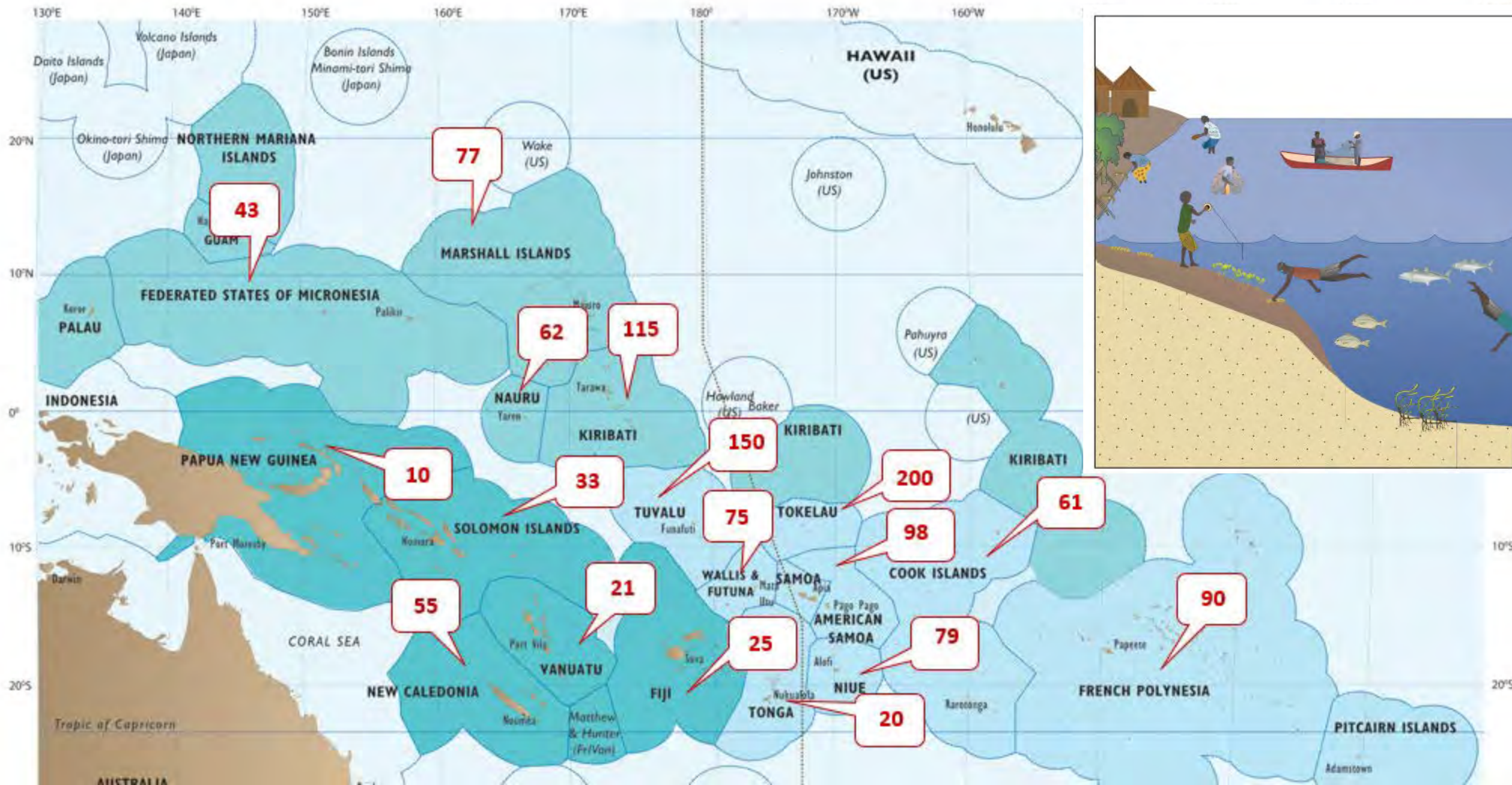
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Context

Importance of fish to food security (kg/person/year)



Regional plans to use fish for food security

POLICY BRIEF 1/2008
Secretariat of the Pacific Community

Fish and Food Security

What is food security?
Food security means that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life (World Food Summit 1996).

The right to food security is central to human development and many of the major human rights treaties¹. It is also implicit in Goal 1 of the Millennium Development Goals – eradicating extreme poverty and hunger.

Importance of fish
Fish's high protein and rich in essential fatty acids, vitamins and minerals, such as iodine. The importance of fish in Pacific diets, particularly for children, is widely recognized.

SPC's Public Health Programme advises that up to 50 per cent of the daily protein intake recommended by WHO for good nutrition will need to come from fish for people in the Pacific. This means that, on average, each person in the region should eat about 35 kilograms of fish per year.

Fish consumption in many PICTs already exceeds these recommendations (see Table 1). Fish provides 50–90 per cent of animal protein intake in rural areas, and 40–80 per cent in many urban centres. Most of the fish eaten by rural people comes from subsistence fishing and per capita consumption in rural areas often exceeds 50 kilograms of fish per year.

Fish security in the Pacific
Food security is under threat in the Pacific. Agricultural production is not keeping pace with population growth and two-thirds of Pacific Island countries and territories (PICTs) are now net importers of food. Regrettably, the low nutritional quality of many of these imports has increased the incidence of obesity, diabetes and heart disease.

TABLE 1. Percentage (mean annual protein derived from fish, percentage of food fish caught by subsistence fishing, and current annual per capita fish consumption in the Pacific. Information derived mainly from national household income and expenditure surveys between 2001 and 2006; other members of SPC – American Samoa, OMA, Guam, Marshall Islands, Micronesia, Tokelau – are not included because comparable data were not available.)

PICT	Annual protein (%)		Subsistence catch (%)		Per capita fish consumption (kg)	
	Rural	Urban	Rural	Urban	Rural	Urban
Melanesia						
FI			52	7	25	15
New Caledonia			91	42	55	11
Papua New Guinea			64	N/A	35	28
Solomon Islands	54	83	73	33	31	45
Vanuatu	67	43	50	17	21	19
Micronesia						
FSM	80	83	77	73	77	67
Wallis	80	80	79	46	58	67
Yap	71	71	68	86	56	56
Palau	59	47	65	25	83	28
Polynesia						
Cook Islands	51	27	76	37	41	29
French Polynesia	71	57	76	40	80	52
Nauru*			56	56	76	79
Samoa			47	21	48	46
Tonga*			37	37	20	20
Tuvalu	77	81	86	56	147	49
Wallis & Futuna*			86	86	78	78

* Values are national averages (data not available for urban and rural areas)



- Provide 35 kg of fish per person per year
- Maintain traditional fish consumption where it is >35 kg

FUTURE OF FISHERIES
A REGIONAL ROADMAP FOR SUSTAINABLE PACIFIC FISHERIES

SPC Secretariat of the Pacific Community

A new song for coastal fisheries – pathways to change: The Noumea strategy

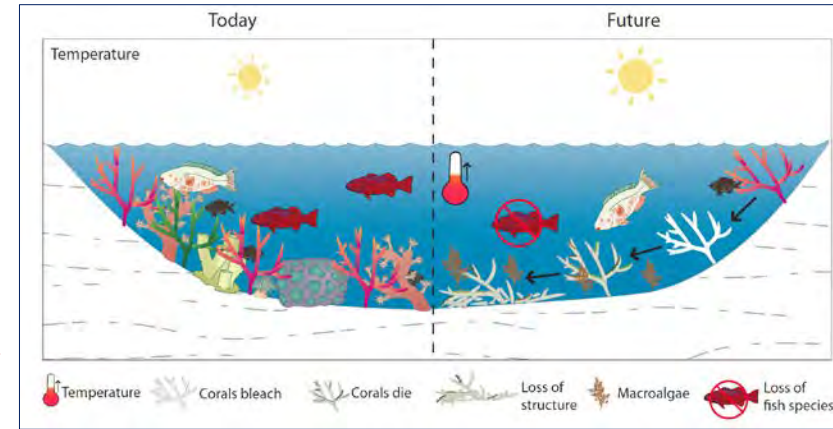
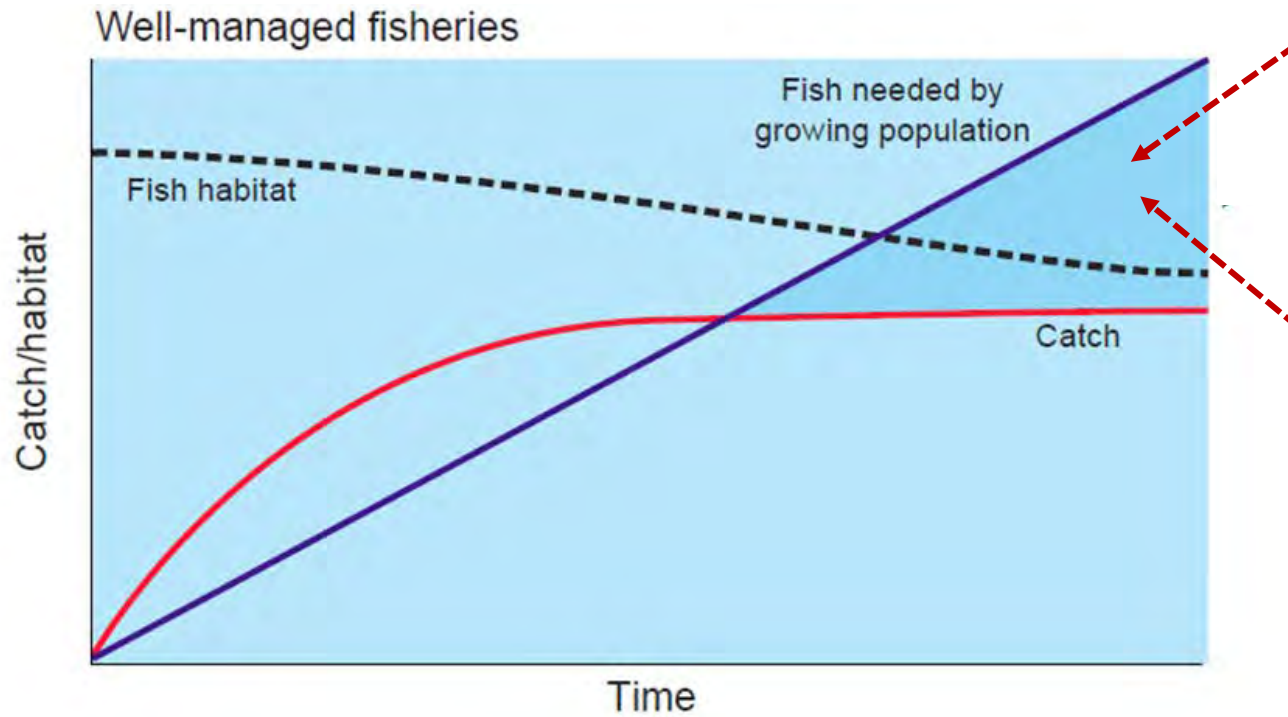
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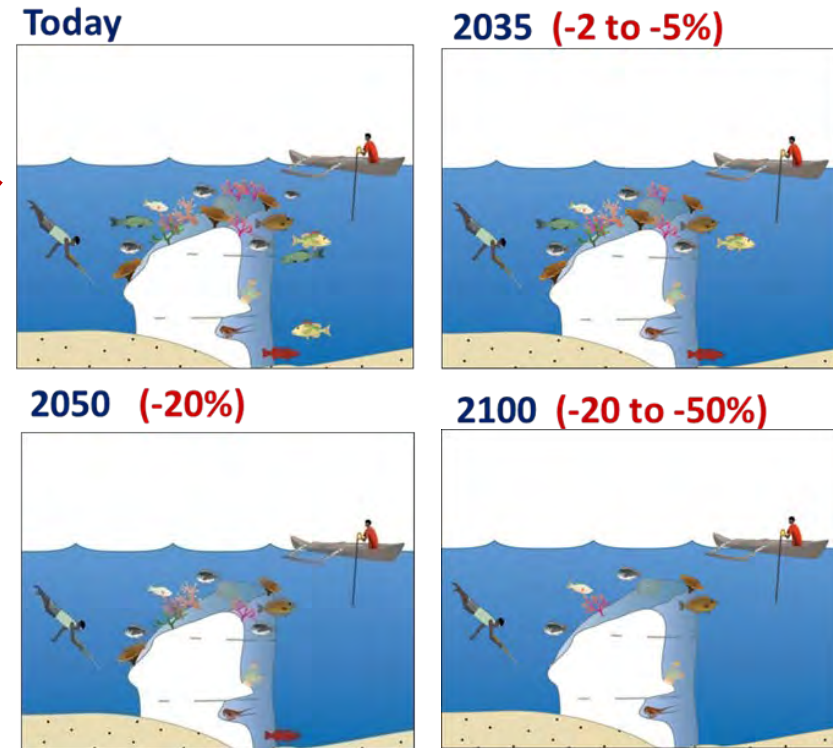
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The problem

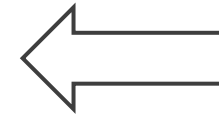
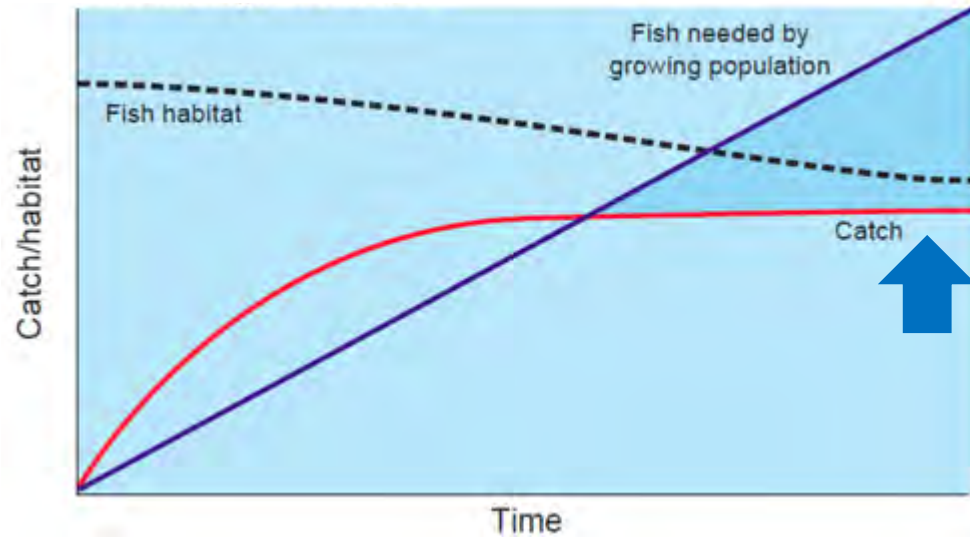


Increased coral bleaching

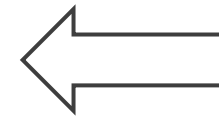
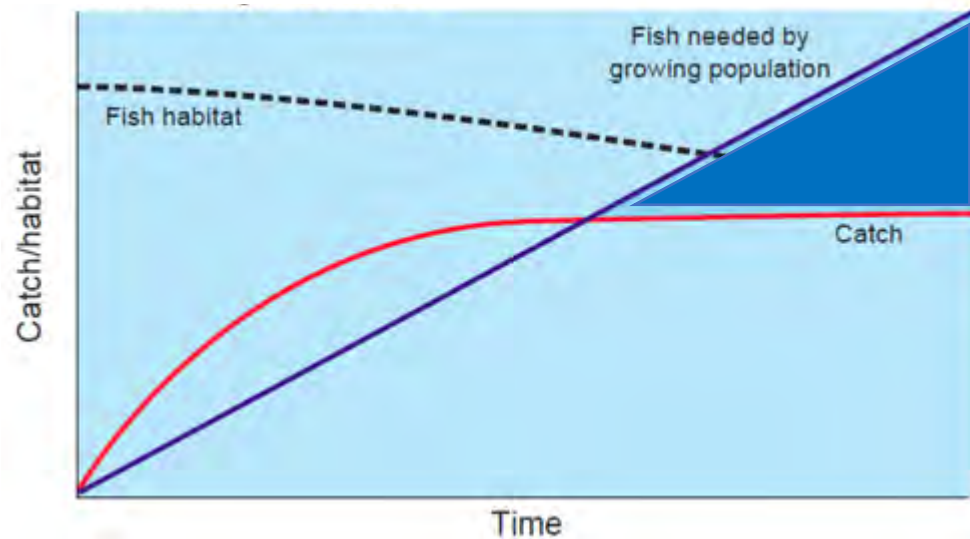


Reduced reef fish production

Adaptations

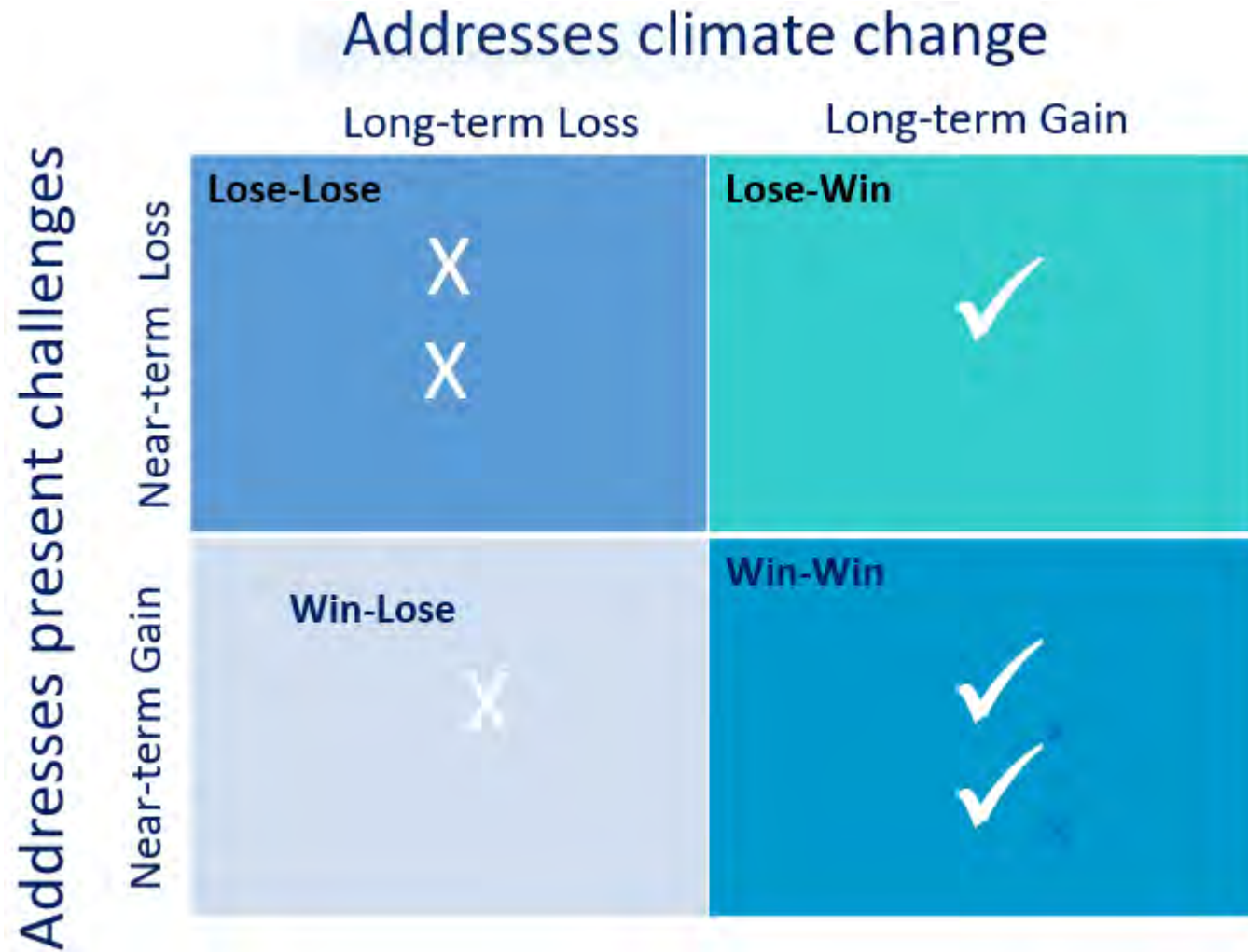


Minimize the gap



Fill the gap

An adaptation framework



Adaptations to minimize the gap



Manage and restore vegetation in catchments

Reverse degradation of habitats

Improves resilience of coral reef, mangrove and seagrass habitats

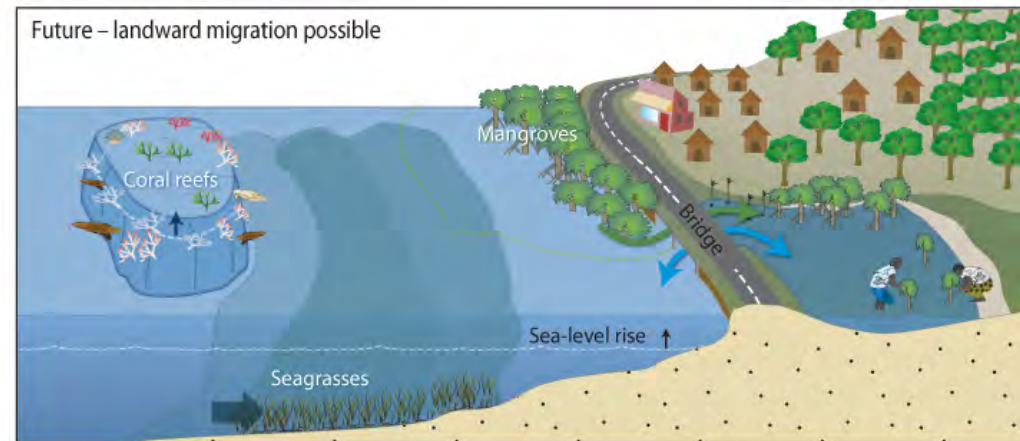
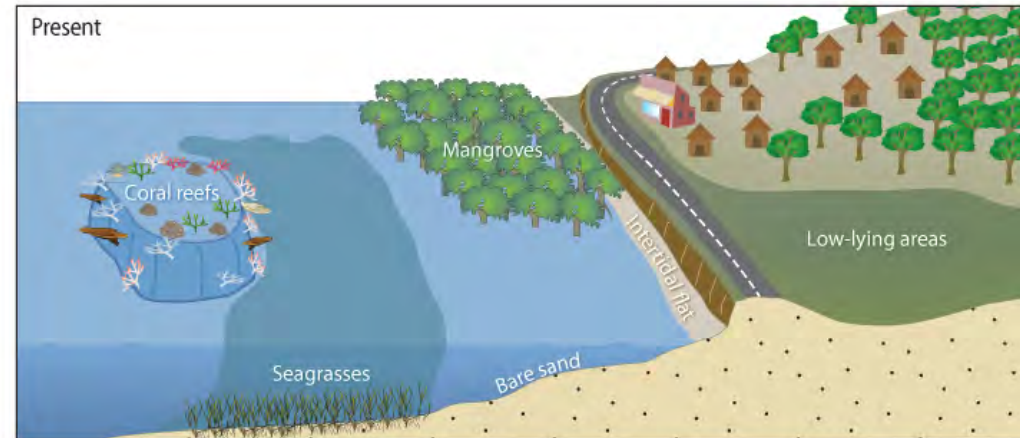


- Maintain water quality
- Conserve structural complexity of reefs
- Prohibit physical damage to seagrass
- Manage timber collection in mangroves

Adaptations to minimize the gap



Provide for landward migration of fish habitats



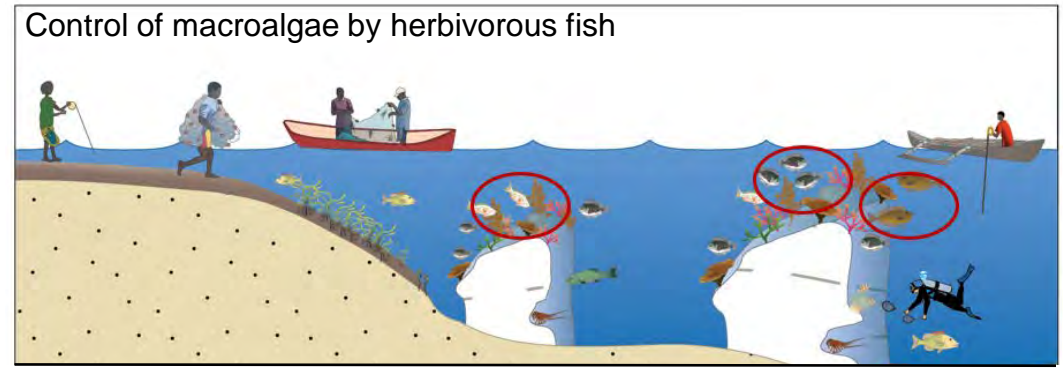
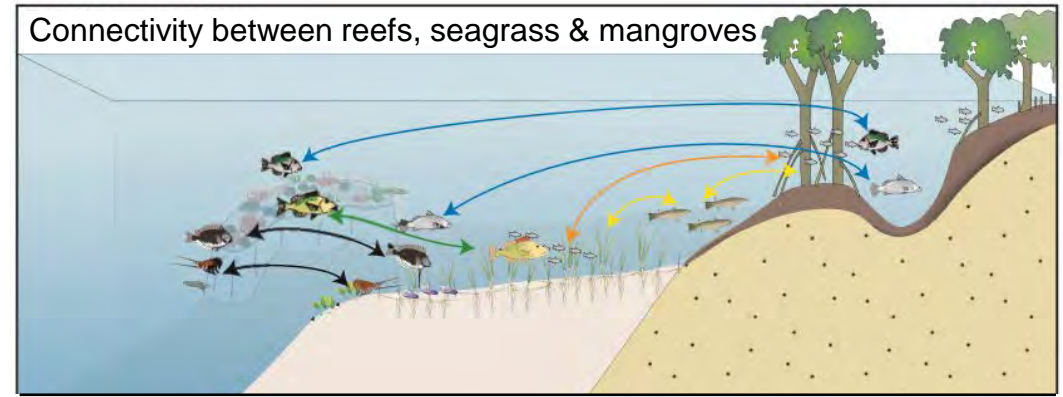
Adaptations to minimize the gap



Sustain production of fish stocks



Maintain habitat mosaics and herbivorous fish species



Maintaining spawning adults needed for regular replenishment will help build resilience of stocks

Supporting policies

Foster effective co-management based on:

- A climate-informed, community-based, ecosystem approach to fisheries management (CBEAFM) to maintain fish habitats and fish stocks
- Integrated development plans for agriculture, forestry, infrastructure and fisheries to avoid maladaptation
- 'Primary fisheries management' regulations to underpin CBEAFM



Communities



Governments

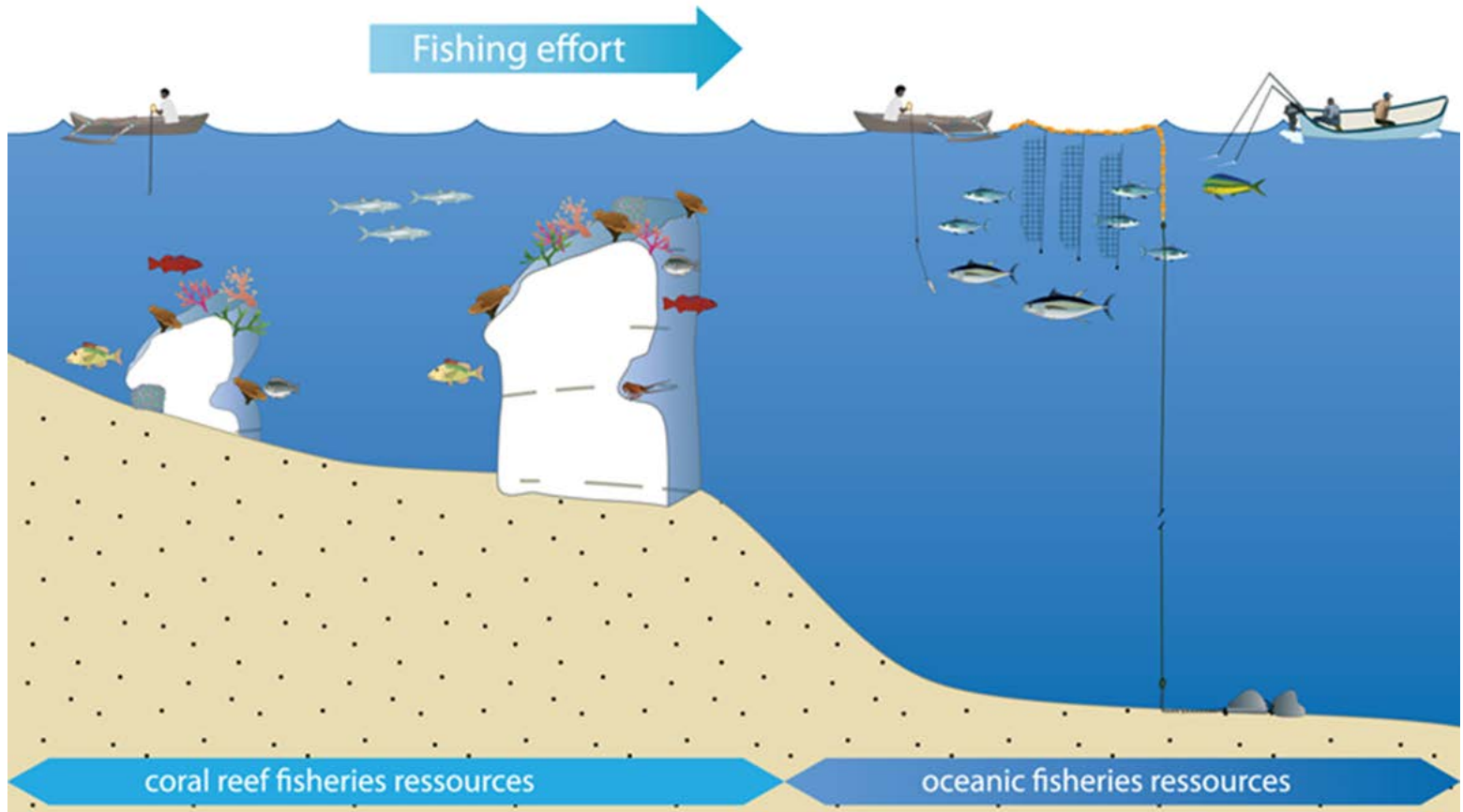
Adaptations to fill the gap

L-L	L-W
W-L	W-W



Assist communities to catch tuna by expanding use of nearshore fish aggregating devices (FADs)

Provide training in safe and effective FAD-fishing methods



Skipjack tuna > 1 million Mt p.a.



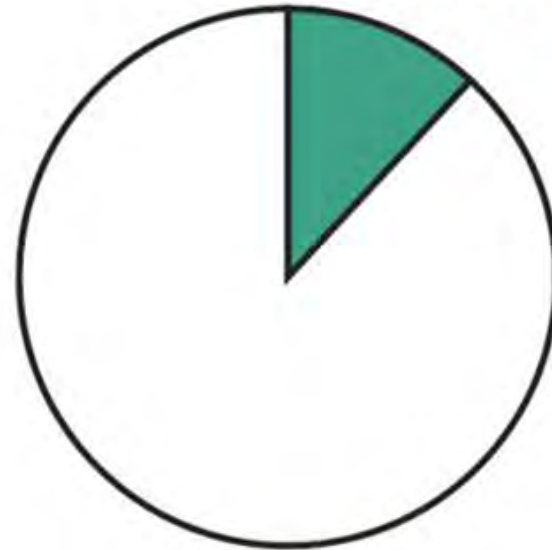
Yellowfin tuna > 300,000 Mt p.a.

Adaptations to fill the gap



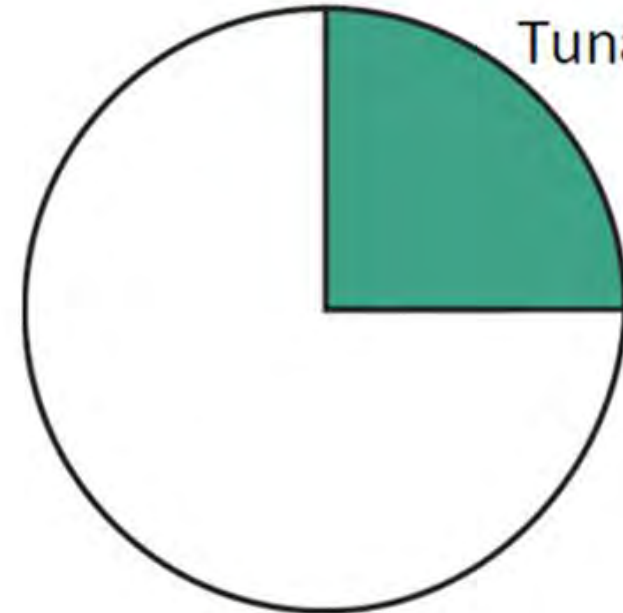
2020

Tuna 12%



2035

Tuna 25%



Total fish needed (Mt)

268,000

345,000

Tuna needed (Mt)

32,000

87,500

% regional tuna catch

~2%

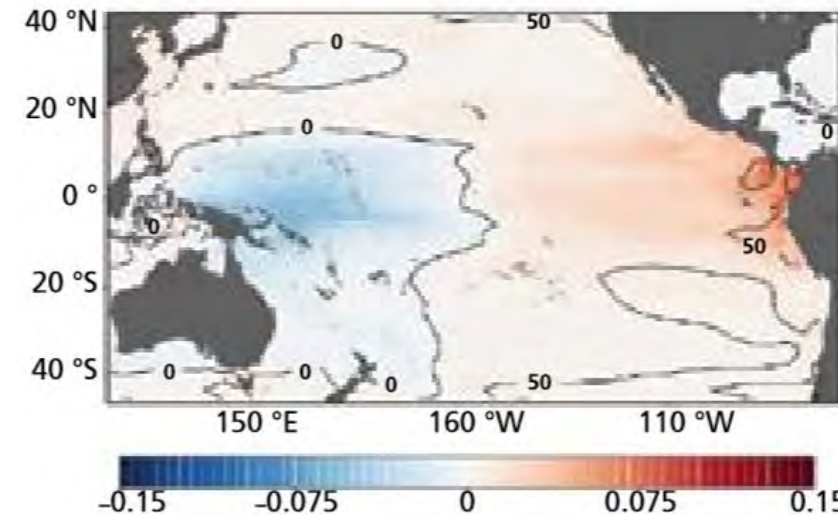
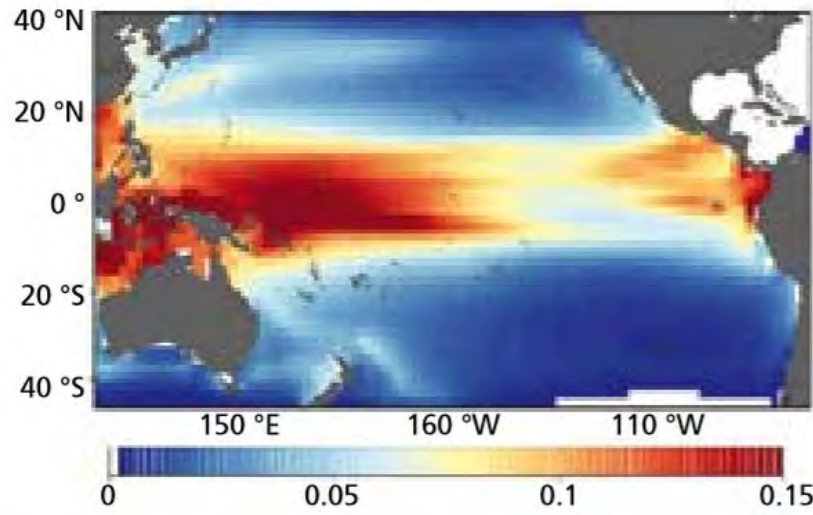
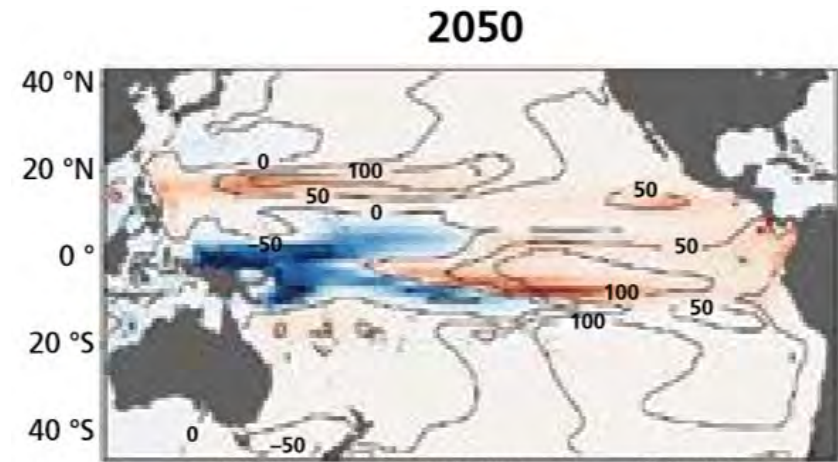
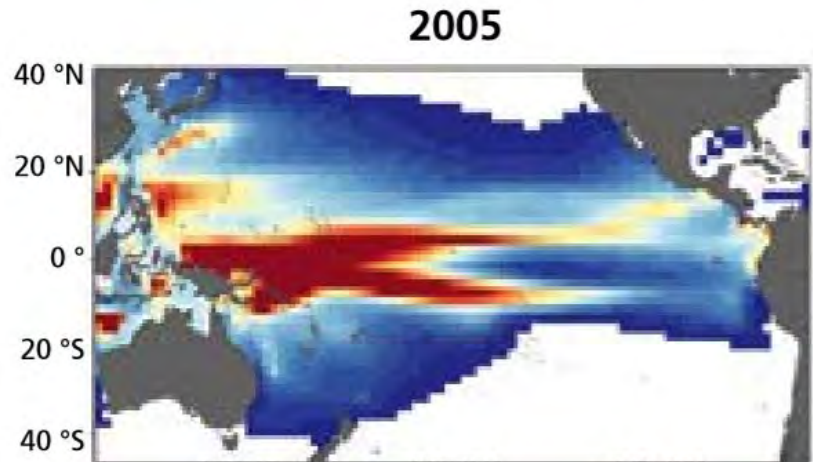
~6%

Effects of climate change on tuna?

The image is a banner for a project titled "PACIFIC ISLANDS OCEANIC FISHERIES MANAGEMENT". It features several logos and icons:

- GEF** (Global Environment Facility) logo on the left.
- FAO** (Food and Agriculture Organization) logo above the **UNDP** (United Nations Development Programme) logo.
- The text **PACIFIC ISLANDS** in large, bold, black letters.
- Four square icons in a row: a fish hook, wavy lines representing water, a sailboat, and a fish.
- The text **OCEANIC FISHERIES MANAGEMENT** in large, bold, black letters below the icons.
- Pacific Community / Communauté du Pacifique** logo on the right.
- FFA** (Forum for Fisheries Agencies) logo at the bottom right.

Effects of climate change on tuna?



(Mt/km²)

(Mt/km²)

Supporting policies

- Include nearshore FADs as part of the national infrastructure for food security
- Transfer some access rights and revenues from industrial tuna fisheries to small-scale fisheries
- Evaluate whether industrial fishing exclusion zones provide adequate access to tuna for small-scale fishers
- Couple fishing licences to small boat operator certificates
- Develop forecasting tools for small-scale fishers
- Store spare FAD materials in cyclone-proof containers



Governments

Thank you



Photo: Anders Ryman/Corbis