



Annex 3.8 Project website and website links

1. FMSP



Fisheries Management Science Programme




Final Technical Reports

Climate Change and Fisheries: Promoting New Knowledge of climate change impacts on fish, fisheries and fisher-folk in developing countries (R8475)

Climate change affects the world's 36 million fisher folk either directly, through sea level rise, or indirectly through effects on fish stocks.

Climate change can adversely affect fisheries in a variety of ways. In the short term impacts on fisheries will be due to increased climatic variation affecting up-welling or wind driven fisheries. In short and medium term further impacts are likely through increased extreme events damaging infrastructure and fishing gears. In the longer term additional impacts are probably through shifts in fish distributions, changes to river deltas and the degradation of sensitive ecosystems such as coral reefs and coastal wetlands.



© Eddie Allison

The aim of this project is to promote awareness of climate change impacts on fisheries. It follows on from previous research into effects of climate change on the sustainability of capture and enhancement fisheries important to the poor (FMSP Project R4778J).

A workshop was held on 12th September 2005 at DFID to review existing knowledge and directions for future research. The workshop will produce a briefing on current knowledge and research needs to support efforts to mitigate climate change impacts on fisheries, particularly on the most vulnerable communities. This will be published through the a 'New Directions in Fisheries' series produced by the Sustainable Fisheries Livelihoods Programme (FAO/DFID), and other channels.

| Download Documents | View PDF |
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| Summary of Draft Technical Report - Effects of climate change on the sustainability of capture and enhancement fisheries important to the poor: analysis of the vulnerability and adaptability of fisherfolk living in poverty. | Download |
| Final Technical Report - Effects of climate change on the sustainability of capture and enhancement fisheries important to the poor: analysis of the vulnerability and adaptability of fisherfolk living in poverty. | Coming Soon |
| Flyer - June 2005. | Download |
| Workshop Report - 12th September 2005. | Download |
| Policy Brief - October 2005. | Forthcoming |

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2. DFID

DFID Department for International Development

leading the British government's fight against world poverty

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NEWS

Fisheries, poverty and climate change

Image courtesy of Eddie Allison

A recent report commissioned by DFID's Fisheries Management Science Programme reveals that African fisheries and fishing communities are amongst the most vulnerable in the world to climate change. Not only are most of these countries heavily reliant on fisheries as contributions to national economies, food security and employment (over 90% of fish in Africa comes from capture fisheries), but also climate change is predicted to be particularly significant in this region.

Read the report - [Effects of climate change on the sustainability of capture and enhancement fisheries important to the poor: analysis of the vulnerability and adaptability of fisherfolk living in poverty.](#) (417 kb)

Fisheries around the globe are directly threatened by climate change. The main threats in the marine sector include changes to up welling patterns and associated distribution of fish stocks as a result of rising water temperature, sea-level rise and increased storminess. Inland fisheries will be affected by changes to water levels and productivity of lake fisheries and changes to water flows affecting river fisheries. There is a concern that adaptations to cope with climate change impacts in other sectors such as agriculture (e.g. increased irrigation) will have negative knock-on impacts to river fisheries. This may be a particular threat to Asian fisheries which make up 64% of inland fish catches, and is characterised by large numbers of small-scale producers.

Image courtesy of Eddie Allison

While general conclusions can be drawn, it is notoriously difficult to predict with any certainty how climate change will impact on fisheries. There is a lack of climate predictions on a scale relevant to fisheries management (e.g. ocean areas, coastal belts, lakes or river systems) and a lack of rainfall or circulation predictions that may be more relevant to fisheries than average changes in temperature. Moreover, the general lack of knowledge of vulnerability and adaptive capacity of fishing communities hampers our understanding of how best we might respond.

What is clear however, is that **climate change represents yet another threat** to the already overstretched fisheries in many parts of the developing world. Policy responses should therefore focus on building institutions that are able to respond to this threat along with other pressures such as overfishing, pollution and changing hydrology - i.e to **manage the resource**, ensuring maximum benefits are still able to contribute effectively to national economies and livelihoods. Adaptation planning has to take an 'ecosystem approach' whereby the impacts and consequences of adaptation are understood across natural resource sectors. There is also a need to **enhance resilience** of fishing communities to deal with the threat of climate change along side other threats that result in high levels of poverty e.g. HIV/AIDS, political marginalisation, inequity and poor governance.

A group of institutions and individuals met on 12th September at DFID to review existing knowledge and directions for future research. The institutions included:

- the [FAO/DFID Sustainable Fisheries Livelihoods Programme](#)
- [Centre for Environment Fisheries and Aquaculture Sciences \(CEFAS\)](#)
- [Marine Resources Assessment Group \(MRAG\)](#)
- [Tyndall Climate Centre](#)
- [University of East Anglia](#)

The workshop will produce a briefing on current knowledge and research needs to support efforts to mitigate climate change impacts on fisheries, particularly on the most vulnerable communities. This will be published through the a 'New Directions in Fisheries' series produced by the Sustainable Fisheries Livelihoods Programme (FAO/DFID).



3. Eldis Website

eldis

RESOURCE GUIDE 31 October 2005

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Climate change

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Feature



A guide to the rules, institutions and procedures of the climate change regime
This book describes and analyses the rules set out in the Convention, Kyoto Protocol and COP decisions, together with the institutions and procedures that govern the climate change negotiations. It concludes that there is scope for "fine tuning", and that "institutional learning" could yield rich observations, insights and anecdotes to enrich, guide and amuse the next generation of climate negotiators. [More...](#)

The Institute for Global Environmental Strategies (IGES) is currently seeking applicants for researchers of Climate Policy project (CP) whose mission is to evaluate and recommend pragmatic climate pol... (Institute for Global Environmental Strategies (IGES), Japan, 2005) [More ...](#)

Assessing climate change impacts on poor fishing communities
Although the majority of the world's fisherfolk live in areas susceptible to the impacts of climate change, relationships between the physical impacts of climate change and the livelihood vulnerabilit... (Fisheries Management Science Programme (FMSP), UK, 2004) [More ...](#)


German views on disaster risk management for sustainable development
Why focus on disaster risk management? Whether it be the impact of climate change or other factors like deforestation, excessive urbanisation, or a lack of knowledge and awareness, natural disasters a... (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ), 2004) [More ...](#)

[» More on climate change: the complete listing of latest additions](#)

Climate change quick access

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3. STREAM



Support to Regional Aquatic Resources Management


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Other Organizations

[MRC, Mekong River Commission Research](#) | [R8292 "Uptake of Adaptive Learning for Fisheries Enhancement"](#) | [Fisheries Management and Science Programme FMSP](#) | [Institute of Aquaculture, The University of Stirling](#) | [The Rough Guide to a Better World](#) | [Marine Resources Assessment Group, Imperial College London](#) | [PAPUSSA \(Production in Aquatic Peri-Urban Systems in Southeast Asia\)](#) | [AIT Aqua Outreach Theme Papers](#) | [AFGRP, Aquaculture Fisheries and Genetics Research Programme](#) | [FAO](#) | [LARReC](#) | [Multimedia](#) | [Virtual Library](#)

Fisheries Management and Science Programme FMSP



 [161 KB]
Climate Change and Fisheries

The aim of this project is to promote awareness of climate change impacts on fisheries. It follows on from a previous DFID research project which looked at the effects of climate change on the sustainability of capture and enhancement fisheries important to the poor.

4. UN ISDR



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International Meetings & Conferences on Disaster Reduction

Please submit information on upcoming events related to disaster reduction to isdwebmaster@un.org, indicating the meeting or conference title, date, location, contact person, email address and website (if available).

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|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|--|
| 2004 | 2005 | 2006 | | | | | | | | | | |
| January | February | March | April | May | June | July | August | September | October | November | December | |

September 2005

| Date | Location | Meeting or Conference |
|------|----------------------|--|
| 3-14 | Philippines | Interregional, Local and Community-Based Disaster Risk Management (CBDRM) – a practical course in community-based vulnerability reduction and disaster preparedness |
| 5-8 | San José, Costa Rica | 2nd International Expert Meeting on a 10-Year Framework of Programmes for Sustainable Consumption and Production Contact details: alvarez-rivero@un.org |
| 4-9 | Bali, Indonesia | 1st Follow-up Conference On UNWCDR "Hyogo Framework for Action 2005-15" " Developing Indicators, Goals & Time Bound Action Plan on Disaster Resilience for Asian and Pacific Nations" organized by Third World Development Centre(NGO) Contact details: www.thirdworldcenter.org Tel: 00 91 11 27273860 |
| 5-6 | Suva, Fiji | A Regional Planning Workshop Enhancing an Early Warning System for Pacific Island Countries Contact details: www.sopac.org |
| 7-15 | Heidelberg, Germany | 14th Session of the Regional Association VI (Europe) of WMO Contact details: www.wmo.int |
| 13 | London | Workshop on Climate change impacts on fisheries important to the poor: Vulnerability and adaptability of fisher-folk Contact details: Nick Dulvy (Team Leader) : n.k.dulvy@cefas.co.uk Charlotte Howard (Communications): c.howard@mrug.co.uk www.frnsp.org.uk |

5. PASS Website

PASS

Programme of Advisory and Support Services to DFID

DFID Department for International Development

Monday, October 31, 2005

Fisheries and Climate Change

Theme(s) [Africa](#)
[Fisheries](#)

A new report through the DFID funded Fisheries Management Science Programme (FMSP) has revealed that West African fisheries and fishing communities are likely to be the most vulnerable to climate change. West African countries such as Senegal, Angola, Mali, Mauritania, Morocco, Niger, Sierra Leone and Burkina Faso face two problems. They are heavily reliant on fisheries as contributions to food security, GDP and employment and also climate change is predicted to be particularly large in these areas. The most sensitive ecosystems associated with fisheries are likely to be coral reefs, rivers and inland lakes.

CEFAS research reveals, 'A combination of human population growth and climate change will reduce productivity of coral reef fisheries by 14 to 20%'. While general conclusions can be made, a lack of information on predictions, the impact pathways on fisheries and the vulnerability of fishing communities hampers understanding of the most appropriate response at the national level.

A range of institutions and individuals met on Monday 12th September at DFID to review the focus of future research needs. The institutions involve the FAO/DFID Sustainable Fisheries Livelihoods Programme, Centre for Environment Fisheries and Aquaculture Sciences (CEFAS), Marine Resources Assessment Group (MRAG), Tyndall Climate Centre and University of East Anglia.

The workshop will be producing a status report to determine the levels of current knowledge, knowledge gaps and future research needs to support poor fishing communities respond to the risk of climate change. The report will be published as part of the SFLP FAO/DFID 'New Directions in Fisheries' series.

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6. New Agriculturalist



1. Like fish out of water: the impact of climate change on fisheries

Lake Tanganyika, situated within the western rift of the Great Rift Valley, is the world's longest and second deepest freshwater lake, holding almost 20 per cent of the world's liquid freshwater supply. A unique ecosystem rich in biodiversity, this vast body of water supports over 350 fish species. It also provides

a critical food source in East Africa, but in recent years fish productivity has diminished, and catches have shrunk. Subject to year-round high temperatures, the lake is not an obvious candidate to suffer from climate change, but scientists have discovered that rising temperatures in recent years have affected the vital mixing of the lake's nutrients, and believe this is causing its fish population to decline.



From 25 to 40 per cent of the animal protein consumed in the region has traditionally been fish, although only a few fish species, including the giant and small Nile perch, are eaten by the people of the four countries that border the lake - Burundi, Tanzania, Zambia and the Democratic Republic of Congo. But over the last three decades fish yields have plummeted, and the impact on the local economy has been severe. Large-scale commercial fishing began in the mid-1950s but industrial fisheries, which boomed in the 1980s, have subsequently collapsed. Currently there are around 45,000 people directly involved in the fisheries operating from almost 800 sites, with around one million people dependent on the fishery sub-sector. With fish populations in decline, these livelihoods are in jeopardy.

An essential mix

Deep freshwater lakes are dependent on the circulation of nutrients from the colder, denser water in the depths to the warmer, less dense layers near the surface. These vital nutrients support the lake's food chain by sustaining algae populations on which the fish feed. A study published in *Nature* in 2003, however, reported that warmer air temperatures (up by 0.6°C) above the lake's surface and less windy weather in the region were reducing the mixing of nutrients and contributing to the collapse of Tanganyika's fish stocks. While overexploitation is known to be a problem in some localised areas around the lake, the changes in fish population are too great to be attributed solely to increases in fishing. The Lake Tanganyika fisheries currently yield around 200,000 tonnes of fish per year but another study, also published in *Nature* in

2003, provides further evidence of climate change by revealing that the lake's productivity, measured by the amount of photosynthesis in aquatic plants, had decreased by 20 per cent. This could easily account for the 30 per cent decrease in fish yields.

Large freshwater lakes are unlikely to be the only fishery systems to be affected by climate change, states a recent [DFID-funded report](#). Inland fisheries will also be affected by changing water levels and flooding, while coastal ecosystems will be affected by severe weather events, rising sea temperatures and bleaching of coral reefs.



credit: Dave Midgley

In comparison to South and Southeast Asia, fisherfolk in Africa are fewer in number, but the low per capita GDP of the region means that a greater proportion of fisherfolk live in poverty. In Africa small-scale fisheries and related activities, including trade and processing, provide income to rural communities where alternative employment opportunities are often scarce or non-existent. It is anticipated that the semi-arid regions, including Angola and Mauritania, that are reliant on coastal or inland fisheries, will be the most vulnerable to the impacts of climate change. These, like most African countries, have low adaptive capacity for climate change. And, although coastal fisheries communities often have access to alternative income sources, they are more likely to be squeezed out in the trends of increasing demographic pressures, such as urbanisation.

Urgent action required

Climate change is clearly another threat to the already overstretched fisheries and associated vulnerable communities in many parts of the world. Policies need to be developed for better management of resources, but also to enhance the resilience of fishing communities to deal with the threat of climate change, alongside other threats such as HIV/AIDS, political marginalisation, inequity and poor governance. At the end of August 2005, African governments unanimously adopted the [Abuja Declaration on Sustainable Fisheries and Aquaculture in Africa](#), a strategy that focuses on capture fisheries, developing aquaculture, improving fish market chains, increasing benefits from fish trade, and supporting decision makers with information. But if the fisheries sector in Africa is to provide the economic and social benefits that are required in the next 10-20 years and beyond, the potential impacts of climate change need to be taken into account by policymakers and included in national action plans.

Note: A recent DFID-funded workshop held in London in September 2005 will produce a briefing on current knowledge and research needs to support efforts to mitigate climate change impacts on fisheries, particularly on the most vulnerable communities. This will be published

through a *'New Directions in Fisheries'* series produced by the
FAO/DFID Sustainable Fisheries Livelihoods Programme (see
www.sflp.org)

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1st November 2005



Note: the wetlands and livelihoods group is no longer hosting details of our workshop on its website.

