Annex 3.8 Project website and website links

1. FMSP

Final Technical Reports Image Final Technical Reports Climate Change and Fisheries: Promoting New Knowledge of climate fish, fisheries and fisher-folk in developing countries (R8475) epoints Climate change affects the world's 36 million fisher folk either directly, through sea I through affects 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. The aim of this project is to promote awareness of climate change impacts on fisheries. It follows on from previous research into effects	
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the sustainability of capture and enhancement fisheries important to the poor (FMSP P A workshop was held on 12th September 2005 at DFID to review existing knowle future research. The workshop will produce a briefing on current knowledge and rese efforts to mitigate climate change impacts on fisheries, particularly on the most vulnera will be published through the a 'New Directions in Fisheries' series produced by the Livelihoods Programme (FAO/DFID), and other channels.	Project R4778J). edge and directio: earch needs to su rable communities
Download Documents	View PDF
Summary of Draft Technical Report - Effects of climate change on the sustainability o capture and enhancement fisheries important to the poor: analysis of the vulnerability and adaptability of fisherfolk living in poverty.	Sec. 1997 1997 1997
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.	
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Flyer - June 2005.	D 1 1
	Download

2. DFID



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.



courtesy of Eddie Allison

Image courtesy of Eddie Allison While general conclusions can be drawn, it is notoriously difficult to predict with any certainly 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 pand

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.

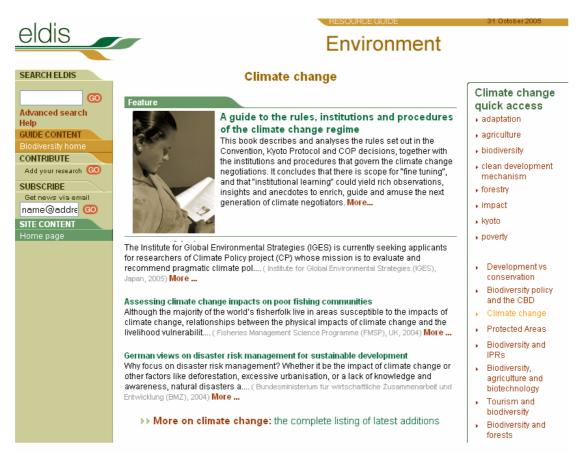
A group of institutions and individuals met on 12th September at DFID to review existing knowledge and directions for future research. The institutions included:

- the FAO/DFID Sustainable Fisheries Livelihoods Programme
- Centre for Environment Fisheries and Aquaculture Sciences (CEFAS)
- Marine Resources Assessment Group (MRAG)
- Tyndall Climate Centre
- Duriversity 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



3. STREAM



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 Wold | 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

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

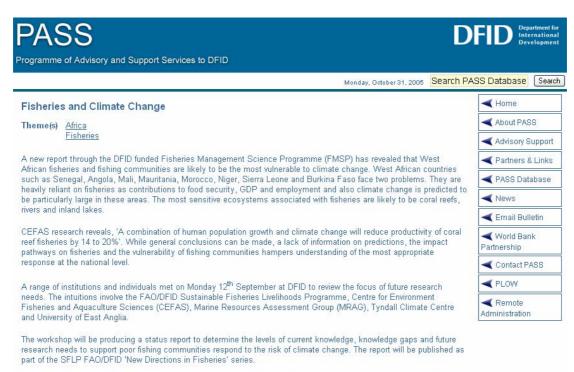
Please submit information on upcoming events related to disaster reduction to isdrwebmaster@un.org, indicating the meeting or conference title, date, location, contact person, email address and website (if available).

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 ∀I (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@mrag.co.uk www.fmsp.org.uk

5. PASS Website



For enquiries about Fisheries and Climate Change: <u>click here</u> To commission similar work : click here

6. New Agriculturalist



Reporting Agriculture for the 21st Century



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 <u>DFID-funded report</u>. 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.

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,



credit: Dave Midgley

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 <u>Abuja</u> 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 <u>www.sflp.org</u>)

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