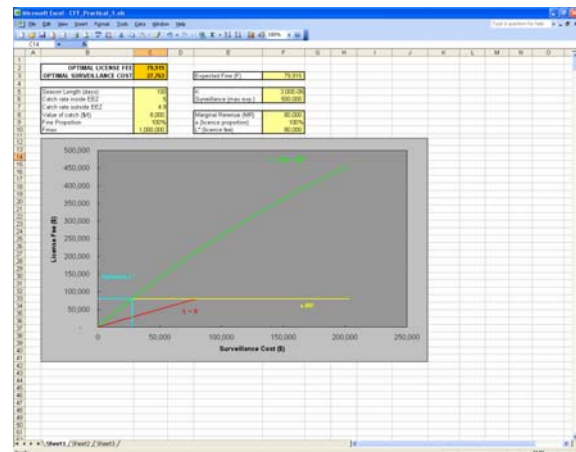
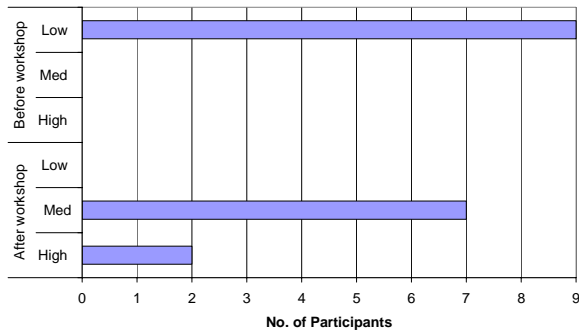


Promotion of models generating national economic benefits through the control of foreign fisheries



Final Technical Report

January 2006

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TITLE OF PROJECT

Promotion of models generating national economic benefits through the control of foreign fisheries

PROGRAMME MANAGER / INSTITUTION

Prof. John Beddington

REPORTING PERIOD

FROM

1st March 2005

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1 Contents

1	Contents	1
2	Executive Summary:.....	3
2.1	Purpose	3
2.2	Research activities	3
2.3	Project outputs	5
2.4	Contribution towards DFID's development goals	6
3	Background:	7
4	Project Purpose:	8
5	Outputs:	8
5.1	Output 1: Improve local capacity within national institutions for developing MCS strategies for CFF within Kenya and Tanzania	8
5.2	Output 2: Increase national, regional and international awareness of CFF methodology and lessons learned through synthesised product developed from CFF case studies	11
5.2.1	National-level.....	11
5.2.2	Regional-level.....	12
5.2.3	International and research community	13
5.3	Output 3: Potential adoption of CFF methodology and lessons learned through existing and new products increased through communication plan	14
5.3.1	Stakeholder Analysis	15
5.3.2	Uptake Pathways: Process indicators	16
6	Research Activities:	19
6.1	Activity 1: Increase capacity building at national level.....	19
6.2	Activity 2: Increase national, regional and international awareness.....	20
6.3	Activity 3: Communications plan	22
7	Contribution of Outputs:.....	23
7.1	Contribution to FMSP's Purpose and Outputs	24
7.2	Impact of the project.....	24
7.3	Further work	26
8	Publications and other communications materials	26
8.1	Peer-reviewed publications (published);	26
8.2	Peer-reviewed publications (in press or submitted);	26
8.3	Non peer-reviewed publications and reports and communications materials;	26
8.4	Verbal presentations & project dissemination and other workshops;	26
8.5	Other types of project output (e.g. literature reviews, databases, software etc).....	27
9	References cited in FTR Sections 1-7	27
10	Project Logframe	28
11	Keywords.....	32
12	Annexes.....	32

Annex 1: Communications Plan for FMSP project 'Promotion of models generating national economic benefits through the control of foreign fisheries.

Annex 2: Regional workshop report

Annex 3: National dissemination: Kenya

Annex 4: National case study: Kenya

Annex 5: National dissemination: Tanzania

Annex 6: National case study: Tanzania

Annex 7: Evaluation of workshop questionnaire

Annex 8: CD-Rom of CFF spreadsheet model game

Annex 9: Policy Brief for Kenya

Annex 10: Policy Brief for Tanzania

Annex 11: Review of CFF methodology

Annex 12: Project Flyer

Annex 13: Letter of intent from Kenya

Annex 14: Letter of intent from Tanzania

2 Executive Summary:

A very brief summary of the purpose of the project, the research activities, the outputs of the project, and the contribution of the project towards DFID's development goals (i.e. attainment of FMSP Purpose).

2.1 Purpose

This study concerns uptake and promotion, which has utilized existing products from two previous DFID-funded research projects, R.4775 and R.5049CB. The purpose of this project was to improve local capacity within national fisheries agencies and increase national, regional and international awareness of economic models to maximize the benefits of foreign fishing from the sale of licences and developing monitoring, control and surveillance strategies within East Africa. Two new case studies have also been developed for the coastal states of Kenya and Tanzania based on the control of foreign fishing (CFF) methodology. These should lead to maximum government revenues and sustainable exploitation of offshore marine resources.

In addition, through the development of a Communications Plan, a series of policy briefs have targeted key national stakeholders to highlight what action is considered necessary to develop equitable policies to ensure the financial benefits derived from the results are also made available to the poor.

2.2 Research activities

Three main outputs were developed to coordinate the research activities that would lead to achieving the project purpose:

- (i) Increase capacity building at a national level
- (ii) Increase national, regional and international awareness
- (iii) Develop a Communication Plan

2.2.1 Increase capacity building at a national level

A range of activities were conducted to help increase local capacity within national institutions within Kenya and Tanzania to use economic models to maximise the benefits derived from foreign fishing activities.

A CFF spreadsheet model game had to be re-written and converted from Quattro Pro into MS Excel format. Conversion of the spreadsheet model game has enabled several improvements to be incorporated into the new version and more user-friendly front end. The spreadsheet model game was used during the regional workshop held in Dar Es Salaam between 14th and 15th November 2005 to promote national and regional awareness and improve local capacity within national institutions for developing MCS strategies for CFF.

The timing of the regional workshop was changed from that originally proposed within the project Logframe to coincide with the inauguration of the World Bank-funded MACEMP programme within Tanzania. This new 5-year programme has an EEZ component which has potential funding to continue the marine surveillance operations initiated by the EU-funded SADC MCS programme, which otherwise will end mid-2006. The participation of key stakeholders from both the SADC MCS programme and the MACEMP programme was seen as a considerable benefit to this project that might lead to increased uptake and promotion of the CFF methodology.

The spreadsheet model game was used at the regional workshop to demonstrate key CFF concepts. In addition to the revised CFF model game, an additional Excel worksheet was written and designed specifically as a teaching aid for the regional workshop. The aim of this additional worksheet was to introduce the basic CFF equations in a transparent manner with numerical examples. These equations were a "black-box" hidden within the CFF model game, and might otherwise constrain learning, uptake and promotion of the model.

2.2.2 Increase national, regional and international awareness

A range of planned activities were conducted to increase the level of awareness of the CFF methodology at national, regional and international levels.

A literature review was conducted on the development and application of theoretical and empirical economic models to control foreign fisheries. The review identified and described a range of key parameters considered necessary to evaluate alternative CFF strategies, and how these are linked within an MCS framework. The review was written as a technical manuscript for scholars within the international scientific and research community. A draft version of the document is available on the FMSP website, and will be submitted to a peer-review journal to further increase uptake and promotion of the CFF approach.

Prior to the development of new CFF case studies for Kenya and Tanzania, a series of national-level meetings were held with key stakeholders to discuss, amongst other things, data availability and collection to help parameterise and inform the CFF model. A period of data collection was then conducted from both Kenyan and Tanzanian Fisheries Departments. This task obtained a wide range of data from different sources and formats, including hard-copies from photocopied reports which required much data processing, to accessing data in electronic form. The range of data required to help parameterise the model varied considerably in quality and quantity. The data was then analysed to help develop new CFF case study models to inform MCS strategies and identify additional key information gaps for Kenya and Tanzania. Finally, national-level meetings were held with the Department of Fisheries in both Kenya and Tanzania to disseminate the results of the CFF case studies.

To promote the uptake of lessons learned from previous case studies, a review conducted of FMSP material developed from cluster project R.5049CB. Output from the review was presented at the regional workshop and synthesised with other lessons learned from the practical sessions and discussions within the workshop report. The specific and general lessons learned from the CFF case studies, and messages concerning equity and efficiency were encapsulated within national policy briefs written for key stakeholders in Kenya and Tanzania.

A workshop was conducted during November 2005 to increase regional awareness of economic models to maximise the benefits through the CFF. In addition, the workshop was developed to increase national capacity and highlight a range of CFF strategies. The workshop undertook the following activities:

- (i) Provide an overview of the CFF model
- (ii) Share and discuss national and regional perspectives of MCS for CFF
- (iii) Practical sessions using CFF spreadsheet model game to develop hypothetical MCS strategies
- (iv) Field visit to the Tanzanian MCS Operations centre, Mbegani

In total, 12 participants identified from the stakeholder analysis (see Communications Plan) attended the meeting from the region, which included Kenya, Tanzania, Mozambique, Somalia, Seychelles and Namibia.

2.2.3 Communications plan

A Communications Plan was written and designed to ensure the key messages and products derived from this study were disseminated in a cost-effective manner that would also help to maximise uptake. A range of activities were planned to obtain specific information necessary to develop the Plan and associated Communications Matrix.

At the start of the project, a stakeholder analysis was conducted within the fisheries sector for both Kenya and Tanzania. This was used to help identify key personnel likely to have relevant information for this CFF project and/or may be interested in receiving further information to increase uptake and promotion of the key messages and others products. A range of target groups were identified which aim to address issues of equity and efficiency within the fisheries sector, and the potential communication pathways and uptake opportunities at both national and regional levels.

A range of appropriate media and activities were identified for promoting both new and existing products relating to CFF at both national and regional levels (e.g. project flyer, Policy Brief etc). A

range of criteria were designed to monitor and evaluate the uptake of both new and existing products relating to economic models of CFF. This included development of the regional workshop questionnaire, for example. To ensure the continued promotion of the research products, an exit strategy was discussed with national agencies and detailed in Further Work.

2.3 Project outputs and products

The project developed a number of outputs and products that were actively promoted to at national, regional and international levels. These are briefly described below:

- **Communications Plan.** A Communication Plan has been developed in conjunction with a Communications Matrix to ensure the remaining outputs and products from the project are disseminated to key stakeholders using appropriate pathways.
- **Workshop report.** This report provides an overview of a regional workshop on the Control of Foreign Fisheries (CFF), held at the White Sands Hotel, Dar Es Salaam, Tanzania between Monday 14th November and Tuesday 15th November 2005. The report includes a brief outline of the CFF methodology and practical exercises conducted during the workshop. In addition to the teaching material, the report also includes a copy of all slide presentations made by regional participants concerning foreign fishing activities within their country. The report has been distributed to each participant and is available to download from the FMSP website.
- **National-level meetings.** A number of national-level meetings were held with key stakeholders to disseminate the results of the case studies (see below) and provide a forum for discussion and feedback on the CFF methodology, thus further increasing local capacity building.
- **National case studies.** Confidential national case studies have been written for Kenya and Tanzania. Unlike previous studies, data availability limited a complete analysis of the foreign fisheries sector. The reports include the synthesis of lessons learned from previous case studies in addition to specific recommendations for each country.
- **Evaluation of workshop questionnaire.** A questionnaire was written and analysed to evaluate the capacity building and level of regional awareness of participants following the workshop. Outputs from the analyses have been included in this report.
- **CD-Rom of CFF spreadsheet model game.** A CD-Rom has been developed to include a copy of the CFF spreadsheet models and practical exercises carried out at the regional workshop. At present these have been designed specifically as a teaching aid, and do not have a user-manual or online help guide. As such, without additional support, these products are not freely available from the FMSP website.
- **Policy briefs.** Key messages developed from the confidential national case studies have been included within a policy brief to target key stakeholders responsible for managing and overseeing foreign fishing activities. These also include general lessons learned taken from previous case studies.
- **Review of CFF methodology.** A literature review was conducted on the development and application of theoretical and empirical economic models to control foreign fisheries. The review identified and described a range of key parameters considered necessary to evaluate alternative CFF strategies, and how these are linked within an MCS framework. Finally, the importance of the interaction between different parameters was discussed in developing a plausible model.

The review was written as a technical manuscript for scholars within the international scientific and research community. A draft version of the document is available on the FMSP website, and will be submitted to a peer-review journal to further increase uptake and promotion of the CFF approach

- **Project flyer.** A project flyer was written and posted on the FMSP website to inform stakeholders of the current status of the project. The flyer was also emailed to key stakeholders identified from the Communications Plan.

2.4 Contribution towards DFID's development goals

This project has contributed to a range of DFID's development goals. The following sections illustrate specifically how outputs from the project will contribute towards DFID's Purpose and Output OVs

DFID Purpose OVs

This project has helped to contribute towards Purpose OVI 2 within the DFID Logframe: Improved fisheries employment (numbers, income, quality).

- Outputs from this project will help target communities (institutions supplying services to the poor and policy makers) from two target countries in coastal developing states in East Africa (Kenya and Tanzania) to maximise the economic benefits derived from foreign fishing activities within their area of jurisdiction.
- The economic benefits derived from the sale of fishing licenses might be used within the fisheries sector to develop more equitable and pro-poor policies within the domestic fisheries sub-sector. Furthermore, maximising the potential of foreign fishing may lead to a range of additional benefits such as providing goods and services in port, which in turn might lead to increases in national fisheries employment and income.
- Additional economic benefits derived from foreign fishing might be used to finance alternative livelihoods outside the sector, thus diversifying the workforce and reducing pressure on the fisheries sector.

DFID Output OVs

This project has helped to contribute towards Output OVI5 within the DFID Logframe: Pro-poor capture fisheries management strategies actively promoted into at least four target institutions (including the DFID bilateral country programmes) in two target countries and widely promoted (nationally and internationally) by 31 March 2006.

- This project has actively promoted the CFF methodology and key lessons learned to develop MCS management strategies through national-level meetings in at least two target institutions (Department of Fisheries and SADC MCS programme) and in two target countries (Kenya and Tanzania). A regional workshop has also promoted the CFF methodology to increase awareness and uptake within six countries (Kenya, Tanzania, Somalia, Seychelles, Mozambique and Namibia). In addition, a review paper of the CFF methodology has been made available to the wider international scientific community.

3 Background:

Information should include a description of the importance of the goal or researchable constraint(s) that the project sought to address and a summary of any significant research previously carried out. Also, some reference to how the demand for the project was identified.

In 2000, reported global capture fisheries, excluding China, has returned to the level of the early 1990s, reaching about 78 million tonnes (FAO, 2002a). As demand for fish increases on a global scale, from nations whose populations are still increasing and/or those who have already outstripped their own domestic supply, distant water fishing fleets are under increasing pressure to exploit new resources.

Such is the demand for fish that large numbers of vessels undertake illegal, unreported and unregulated fishing (IUU) not only on the high seas but also within exclusive economic zones (EEZ) that are not effectively regulated. Quantifying the extent of IUU fishing is complex, but rather than ignoring such issues, estimates of total fish removed have been attempted by using adjustment factors on the level discards and illegal catches (Pitcher et al., 2002) or based the number of illegal vessels sighted (Agnew and Kirkwood 2002; MRAG, 2005), for example. To combat these activities which undermine the sustainable exploitation of the resource, coastal states must undertake effective monitoring, control and surveillance (MCS). The FAO has recently developed and begun to implement the International Plan of Action (IPOA) where all states and regional fisheries organizations are introducing effective and transparent actions to prevent, deter and eliminate IUU fishing and related activities (FAO 2002b).

The economic incentives of fishing illegally are well known, and the incentives of fishers to maximize their utility subject to budget constraints have become known as deterrence models (see Sutinen and Kuperan 1999; Charles et al. 1999). A greater understanding of the costs and benefits, both socially and monetarily from a fisher's perspective associated with IUU fishing is gaining importance in designing appropriate management measures (Tyler, 1990; Sutinen and Kuperan 1999; Sumaila et al. 2004).

Developing countries that have access to valuable finfish resources can help fund MCS activities via licensing foreign vessels. However, they must decide to what extent they should develop their own fishing industry or how much they can benefit from licensing foreign fleets. The optimum terms and conditions that developing countries can expect from licensing foreign fishing can be determined. This ensures that financial benefits derived from the sector are maximized and can be transferred to ensure (i) food security via MCS, and (ii) initiating new development projects, which in turn can improve the livelihoods of poor people.

Two DFID-funded projects have previously looked at the control of foreign fisheries. The first, R4775 (MRAG 1993), developed a methodology for evaluating the net benefits from licensing of foreign fishing vessels operating in national jurisdictions in order to inform policy and legislation on issues such as licensing (and fees) and surveillance. The second, R5049CB (MRAG 1995), tested the methodology and results to assess the extent to which they can be applied in practice by governments of developing countries in forming policies for controlling foreign fishing. The methodology has been applied to six case studies in addition to promoting the uptake during a workshop held in Mauritius in 1996.

The control of foreign fishing methodology developed in the two previous DFID-funded projects has now been extended to include Kenya and Tanzania in East Africa. Both national fisheries agencies have expressed a demand for the proposed research and uptake promotion through a FMSP Programme Development Visit conducted in 2002 (MRAG 2002) and more recently through correspondence and preparation of a letter of intent that also describes the perceived high level of IUU fishing within their EEZ (see Annexes 13 and 14). Further to this, a recent FAO regional workshop in Southern and East Africa reported on the elaboration of national plans of action (NPOA) to prevent, deter and eliminate illegal, unreported and unregulated fishing (Kariba, Zimbabwe, 24-28th November 2003). This stressed the importance of national and regional capacity building and institutional strengthening to combat IUU fishing.

4 Project Purpose:

The purpose of the project and how it addressed the identified development opportunity or identified constraint to development – what changes did the project aim to achieve

To improve local capacity within national agencies and increase national, regional and international awareness for increasing foreign fishing license fees and developing monitoring, control and surveillance strategies for the control of foreign fisheries within East Africa. This should lead to increased government revenues and sustainable exploitation of offshore marine resources. Through the development of a communications plan, a series of policy briefs will also target key stakeholders to highlight what action is considered necessary to develop equitable policies to ensure the financial benefits derived from the results are also made available to the poor.

5 Outputs:

The research results and findings achieved by the project against each output. Were all the anticipated outputs achieved and if not, what were the reasons?

Research results should be presented as tables, graphs or sketches rather than lengthy writing, and provided in as quantitative a form as far as possible.

Summarise the research products / communications media produced. Report how and with whom these were promoted (quantify where possible). Describe the identified promotion pathways to target institutions and beneficiaries. The project communications matrix should be inserted, and reported against.

5.1 Output 1: Improve local capacity within national institutions for developing MCS strategies for CFF within Kenya and Tanzania

Improving local capacity within national institutions was conducted by several means (see also Table 5.1). Throughout the project, national technical staff from the Department of Fisheries has been consulted in both Kenya and Tanzania. Following a series of national meetings to introduce the project and increase awareness of CFF issues (see also Section 5.2), local capacity building within national institutions was also conducted through a demonstration of the model at a regional workshop, and undertaking a series of practical numerical examples (see Annex 2).

A previous version of the CFF spreadsheet model game had been developed and written in Quattro-Pro for Windows. However, before the CFF model could be used it first had to be converted into MS Excel, which is available to the majority of potential end-users. It was quickly discovered, however, that some of the macro-code embedded within the Quattro-Pro spreadsheet was missing and required recoding in Visual Basic for Applications. The additional time spent redeveloping the model caused a slight delay in production of the new spreadsheet model game.

Developing new code provided an opportunity to improve the model by making it more user-friendly and to introduce a more realistic surveillance module. The resultant spreadsheet model has not been designed to include a help menu or a comprehensive user manual. Instead, the revised CFF model is a teaching aid only, and can be used to develop MCS strategies for CFF. A working version of this has been included on CD-Rom within Annex 8 (Practical_2.xls). A screen-shot of the opening page is given in Figure 5.1 below.

In addition to the re-developed CFF model game, an additional spreadsheet model was written and designed specifically for the regional workshop (see Activity 1.2, Section 6.2). The aim of this worksheet was to introduce the basic CFF equations in a transparent way with numerical examples (see Practical_1.xls and Practical_1.doc; Annex 8). These equations were otherwise a “black-box” hidden within the CFF model game, and might constrain learning, uptake and promotion of the model. A screen-shot of the additional spreadsheet is given in Figure 5.2 below.



Figure 5.1 Screen-shot of the CFF spreadsheet model game re-developed from Quattro Pro into MS Excel.

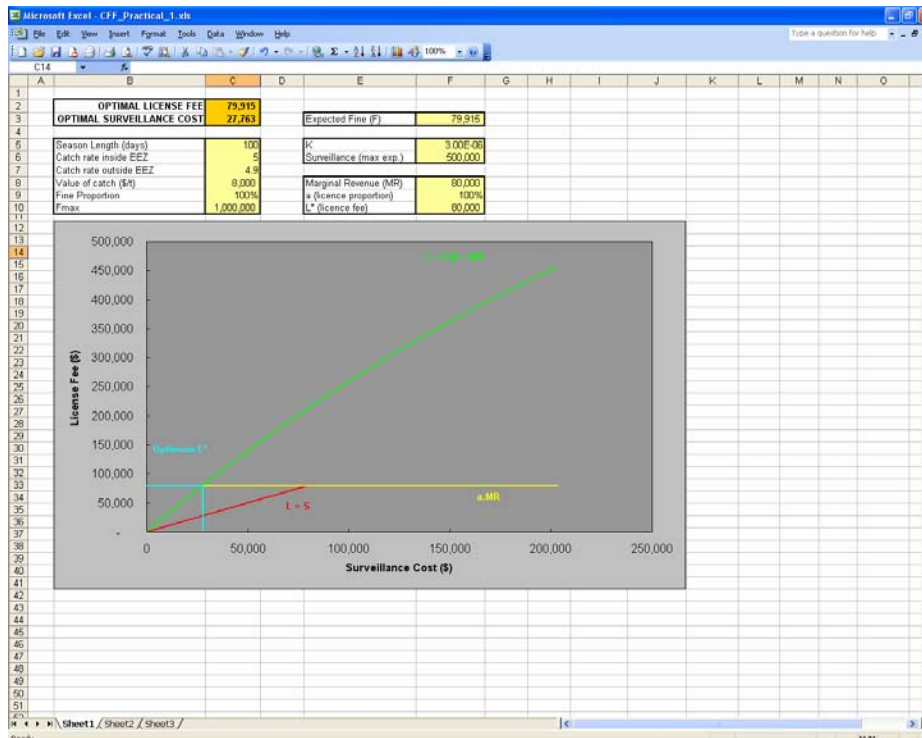


Figure 5.2 Illustration of basic CFF spreadsheet model, showing graphical representation of changing different parameters values.

Within the Logframe (see Section 10), the objectively verifiable indicators suggest that at least 4 individuals from 2 national agencies should be able to demonstrate an ability to develop MCS strategies. This first requires a basic understanding of the CFF model, which was first described at national-level meetings and presented to participants at the regional workshop (cf. Annex 2).

Results obtained from the workshop questionnaire were used to show the percentage of participants who had increased their knowledge in a range of CFF topics (Figure 5.3). The highest increase in knowledge was for topics covering setting fine levels for maximum benefits; the role of licences; the importance of CFF strategies and setting licences in relation to net benefits of fishing within the EEZ.

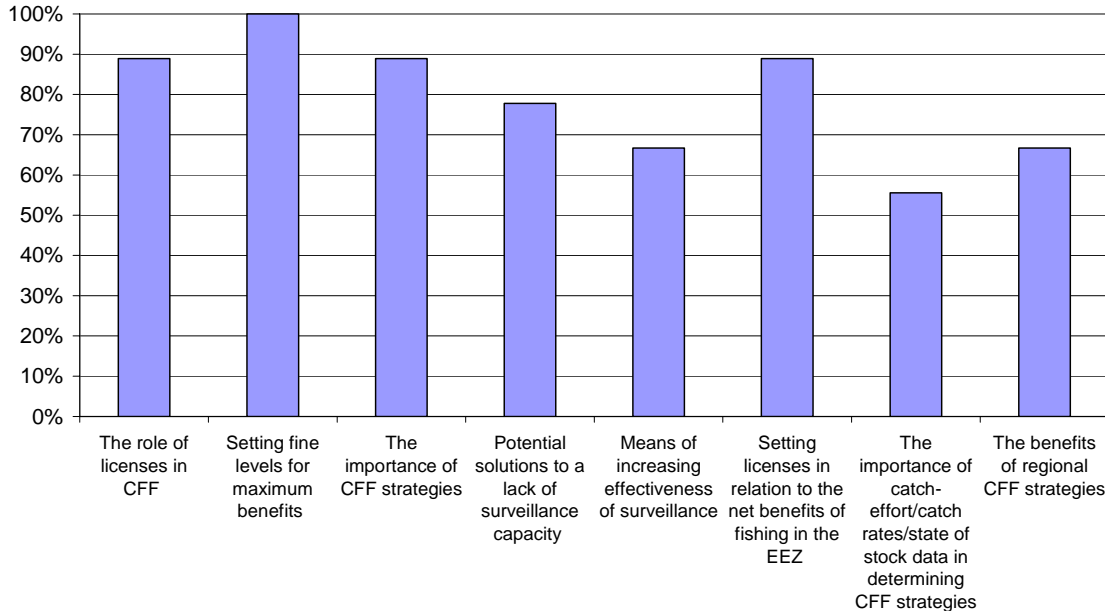


Figure 5.3 Percentage of workshop participants with increased knowledge on a range of CFF related topics.

The majority of participants also thought that they had gained a relatively good understanding of different aspects of the CFF model. For example, at least 4 out of 9 participants thought they gained a high level of understanding of the issues surrounding the effect of reducing the maximum fine and establishing optimal surveillance costs and licence fees by changing the maximum fine (Figure 5.4). In addition, 6 workshop participants felt they had gained a medium level of understanding of the likely impact to surveillance cost and licence fees, given an increase in level of surveillance efficiency. In contrast, relatively few participants felt they had gained little or no understanding of the model.

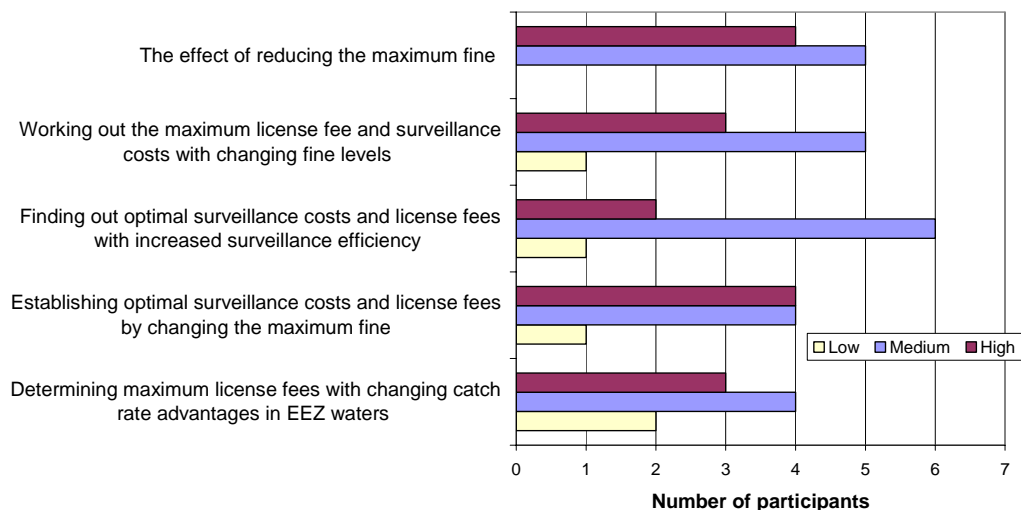


Figure 5.4 Participants understanding of different aspects of the model.

In addition to relying on the perceptions of participants, a series of questions were also provided in order to test this level of understanding. In two of the questions concerning the importance of setting maximum fines and how to increase the chance of surveillance detection, over 80% of the participants gave the correct answer (Figure 5.5).

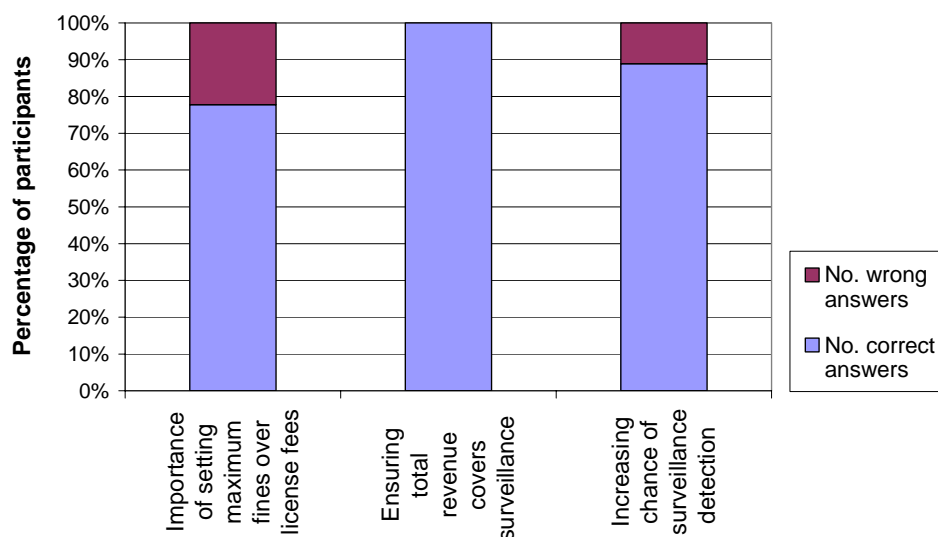


Figure 5.5 Responses to questions to test participant understanding of model concepts.

5.2 Output 2: Increase national, regional and international awareness of CFF methodology and lessons learned through synthesised product developed from CFF case studies

5.2.1 National-level

Increasing national awareness of the CFF methodology was conducted by several means. At a national level, communication stakeholders included technical staff from the Department of Fisheries in Kenya and Tanzania. This group was targeted to present the results of new case studies which have been developed to inform national MCS strategies and identify key information requirements.

The communications channels and media selected to promote the outputs from the case studies were national-level meetings, confidential reports, and the regional workshop (refer to Communications Matrix, Table 5.2). In addition to technical staff, national policy makers from the Department of Finance and Legal Affairs in Kenya and Tanzania had been selected as key communication stakeholders to disseminate specific lessons learned and key issues derived from the national case studies highlighting the importance of distributing the benefits from the project in an equitable manner.

Following the regional workshop, national-level meetings were held with technical staff within the Department of Fisheries in Kenya and Tanzania. This activity was designed to present the results of the national case studies, which had been developed with assistance of each Fisheries Department (cf. Activity 2.7, Section 10), and provide an opportunity for comments and feedback on the CFF approach (see Table 5.3, Communications Matrix). Data limitations had constrained the scope of the results presented but encouraged a full discussion of the potential range of options available.

Tanzania Fisheries Department

The national-level meeting, originally planned for Wednesday 16th November with key stakeholders from Tanzania, had to be unexpectedly postponed due a national security alert. Apologising, the Director of Fisheries was unable to re-organise the meeting at such short notice due to the lack of communication channels within the new offices (e.g. telephone, fax or email) had been. As such, the meeting was held on Thursday 17th November to disseminate the results of the Tanzanian case study to the Director of Fisheries in Dar Es Salaam (Activity 2.7, Section 10). A copy of the presentation is given in Annex 5. The presentation and feedback lasted approximately 45 minutes.

Kenya Fisheries Department

On Friday 18th November, a national-level meeting was held with key stakeholders at the Department of Fisheries, Nairobi, Kenya. A list of participants is given in Table 5.1 below.

Table 5.1 List of participants at national-level dissemination meeting, Kenya.

	Name	Position
1	Nancy Gitonga	Director of Fisheries, Nairobi
2	Mathias W. Wafula	Deputy Director of Fisheries, Nairobi
3	Mrs Martha Mukura	Research/MCS, Mombasa
4	Raphael M Muriruri	Capture Fisheries, Headquarters, Nairobi
5	Mr Kennedy A. Shikami	Research/MCS, Mombasa
6	J. M. Anampin	Quality Control, Nairobi Province
7	Peter Nyongesta	Statistics Section
8	W.M. Gichuri	Aquaculture sections
9	Beatrice Akunga	Research Section
10	Jane Kibwage	Training Section
11	Mbutua H. Mwangi	Aquaculture division
12	Olive W. Thenri	Nairobi Province
13	Johnson Kariuki	Assistant Director of Fisheries, Hqtrs, Nairobi
14	Dr Stephen Mbithi Mwikya	Executive Officer, Kenya Fish Processors and Exporters Association

It can be seen that a wide range of stakeholders attended the meeting in Nairobi, including the Director and Deputy Directors of Fisheries, Head of Licensing (Johnson Kariuki), and the Kenyan Fish Producers and Exporters Association. A copy of the presentation is given in Annex 3. In total, the presentation comments and feedback lasted approximately 1 hr 30 minutes.

5.2.2 Regional-level

The regional workshop provided an overview to the CFF model and explanations on the key principals used within the model. To maximise regional awareness of the key principals, the quality and quantity of the workshop materials are very important. From the workshop questionnaire, participants scored the clarity of the descriptions and illustrations (Figure 5.6). The results illustrate that all major CFF principals were scored either medium or high. There was relatively a higher clarity of principals such as surveillance costs, probability of detection and maximum revenue compared to principals such as optimal licence fee and optimal fine level.

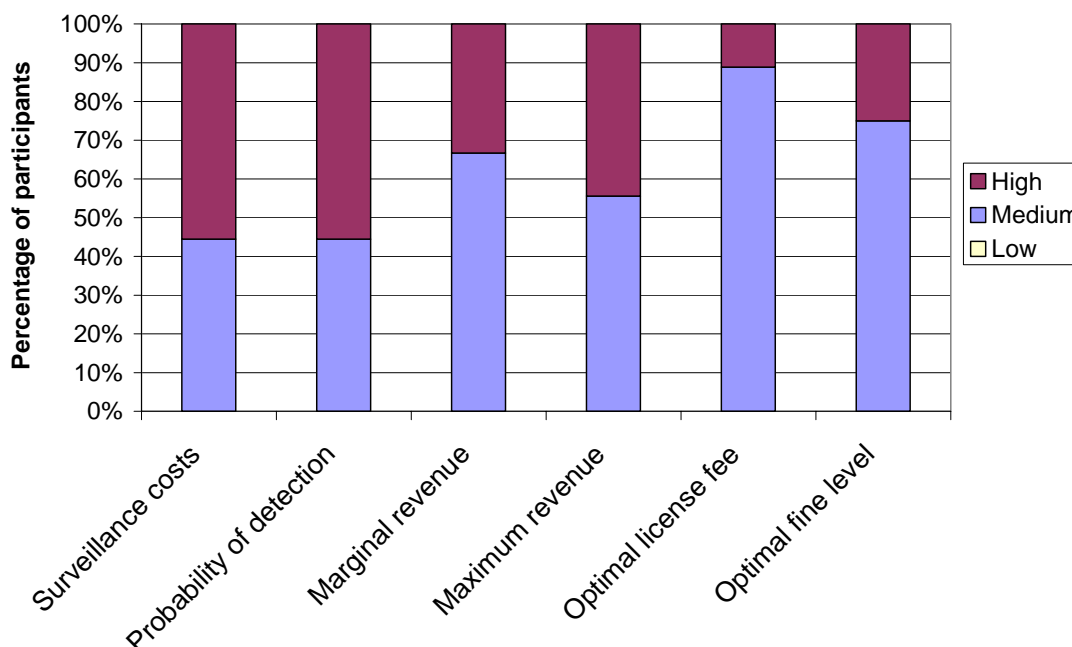


Figure 5.6 Clarity of descriptions and illustrations of CFF principals within the workshop.

Participants were also asked to score their level of awareness of the CFF model before and after the workshop. Figure 5.7 shows that all participants initially had a low understanding of CFF model before the workshop, but this substantially increased with 7 reporting a medium and 2 a high increase in understanding. In total, 75% of participants reported an increased awareness of the potential outcomes of national and regional CFF strategies through use of the model.

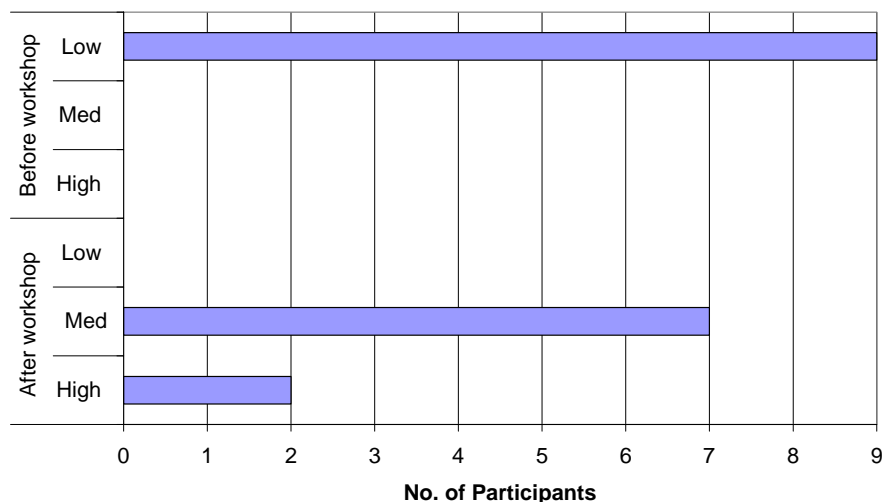


Figure 5.7 Increased awareness of the CFF model before and after the workshop.

Some of the other comments and feedback obtained from the workshop are given in Box 1 below.

Box 1. Comments on the workshop from regional participants

‘An excellent attempt at addressing the issues in the Control of Foreign Fishing at a regional level. Much more needs to be done to establish MCS in all countries and to put in practice what has been learned’

‘The workshop was well organised and presented. The mathematical model was greatly simplified for comprehension by the participants. It would have been good to present the results of the case studies where real data was used in the model.’

‘An eye opener’

‘The workshop materials are important information for setting bilateral agreements for sustainable fishery rent and control of foreign fishing.’

‘A good primer to the subject’

In addition to the participants at the workshop (see Appendix B within Annex 2), the workshop report was disseminated to a number of other regional stakeholders. This included the World Bank and the Marine and Coastal Environment Management Project (MACEMP), and Indian Ocean MCS Programme and FAO.

5.2.3 International and research community

The international scientific and research community were selected as key communication stakeholders to disseminate the generic lessons learned and key issues derived from a synthesis of case studies and previous research highlighting the importance of distributing the benefits from the project in an equitable manner. A review paper of the CFF methodology has been drafted, which describes the essential components of the CFF model and how they fit into an existing national MCS programme (Figure 5.8, Annex 11).

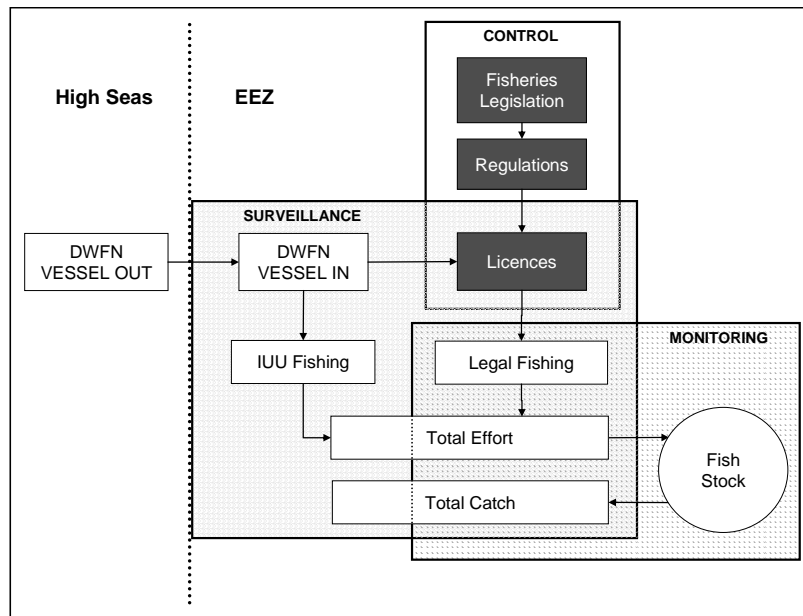


Figure 5.8 Framework for monitoring, control and surveillance of foreign fishing activities within the EEZ of a coastal state. DWNF vessels may fish legally by applying for and receiving a licence issued through the control system, in accordance with the coastal state's legislation. In this case the fishing activity and ensuing catch can be monitored. Note that monitoring can be considered to cover not just the fishing activity, but directly on the stock itself, for example through fishery independent surveys. If the vessel fishes illegally (i.e. without a licence), the fishing effort and catch will fall outside the scope of regular monitoring and may use illegal fishing methods (unreported and unregulated). Detection of this illegal activity and estimation of the fishing effort and resulting catch (target and non-target) falls within the arena of surveillance activities. Total fishing effort is a combination of legal, monitored fishing activity and IUU activity that may be detected through surveillance, or other means, such as market information. Various approaches have been developed for estimating the level of IUU fishing based on surveillance records (e.g. see Agnew and Kirkwood (2005) and a review of the impacts of IUU fishing on developing countries by MRAG Ltd¹).

The draft paper will be submitted to a peer-review journal and is available to download from the FMSP website. Future requests for manuscript reprints and the FMSP web-counter can be used to help track uptake of the key messages.

5.3 Output 3: Potential adoption of CFF methodology and lessons learned through existing and new products increased through communication plan

The Communications Plan (CP) aimed to distil key messages from the research products of this project and identify communication channels (pathways) that can be used to target specific communication stakeholders, such as national technical staff and policy makers, that will increase the likelihood of project uptake (see Annex 1).

The CP has helped to address issues related to increasing local capacity within national institutions, in addition to increasing awareness of the project at national, regional and international levels. It identified and engaged key local stakeholders at the start of the project to optimise the transfer of skills and knowledge between each group. The development of policy briefs has also highlighted the importance of distributing the benefits from the project in an equitable manner. A number of broad categories for communication stakeholders have been identified to which the messages and products have been addressed. Having identified the range of potential stakeholders, a number of indicators

¹ Funded by the UK Department for International Development, the output of this study is available at <http://www.dfid.gov.uk/news/files/illegal-fishing.asp>

have been used to assess whether the research products or messages from the project had been effectively communicated.

5.3.1 Stakeholder Analysis

A stakeholder analysis was conducted at the start of the project (Activity 3.1, Section 10) to identify specific national and regional personnel relevant to the outputs of the project (Table 5.2). Each was scored according to their knowledge, attitude, practice and influence of CFF related issues within each agency.

Table 5.2 National and regional stakeholders who have been consulted, with a preliminary analysis of their Knowledge, Attitude, Practice and Influence

Agency	Name	Position	Knowledge	Attitude	Practice	Influence
Kenya						
Fisheries Dept.	Mrs Nancy Gitonga	Director	Medium	Good	Medium	Good
Fisheries Dept.	Mr Godfrey Monor	Assistant Director	Good	Good	Good	Good
Fisheries Dept.	Kennedy Shikami	Fisheries research/MCS	Medium	Good	Good	Medium
Fisheries Dept.	Martha Mukira	Fisheries research/MCS	Medium	Good	Good	Medium
Min. of Finance	Mr. Joseph Kinyua	Permanent Secretary	Poor	Medium	Medium	Medium
Mombassa Shipping Agent	Kim Jong Kyu	Managing Director	Poor	Medium	Poor	Poor
Tanzania						
Fisheries Dept.	Mr Geoffrey Nanyaro	Director	Medium	Good	Good	Good
Fisheries Dept.	Mrs Janet Uronu	Acting AD, Surveillance & Control	Good	Good	Good	Good
Fisheries Dept.	Mr Robert Sululu	Surveillance & Control	Good	Good	Good	Good
Fisheries Dept.	Mr Robert Sululu	MACEMP Tanzania	-	-	-	-
Fisheries Dept.	Mr Sheha Hamdan	MACEMP Zanzibar	Medium	Medium	Medium	Medium
Fisheries Dept.	Dr Magnus Ngoile	Team Leader, MACEMP	Good	Good	Good	Good
Min. of Finance	Mr Robin Achoki	Principal Economist	Poor	Medium	Medium	Medium
SADC MCS	Cdr Ian Shear	MCS Operations Specialist	Good	Good	Medium	Medium
SADC MCS	Richard Auckland	Information Systems Specialist	Good	Good	Medium	Poor
Regional						
SADC MCS	Carlos Palin	Programme Manager	Good	Good	Medium	Medium
SADC MCS	James Wilson	MCS Economist	Good	Good	Good	Medium
World Bank	Ms Indumathie Hewawasau	Task Leader, MACEMP	Good	Good	Good	Medium
World Bank	Ms Nina Doetinchem	MACEMP Consultant Tanzania	Medium	Good	Medium	Medium
EU	Mr Razi Latif	Programme Manager	Medium	Good	Poor	Poor

5.3.2 Uptake Pathways: Process indicators

The following indicators were used in the communications plan to help assess whether research products or messages from the project have been successfully communicated.

Project flyers

The communications plan specified that at least 10 project flyers, outlining the objectives of the project in a manner appropriate to the target audience, should be distributed to at least 4 national agencies and 2 regional agencies. The results in the following table show this objective has been met. In addition to those identified below, the project flyer has also been posted on the FMSP website, and could, potentially, have reached a far greater target audience than that reported here.

	Name	Agency
1	Nancy Gitonga	Fisheries Department, Kenya
2	Godfrey Monor	Fisheries Department, Kenya
3	Geoffrey Nanyaro	Fisheries Department, Tanzania
4	Janet Uronu	Fisheries Department, Tanzania
5	Robert Sululu	Fisheries Department/MACEMP, Tanzania
6	James Wilson	SADC MCS Programme
7	Cdr Ian Shear	SADC MCS Programme
8	Richard Aukland	SADC MCS Programme
9	Ms Indumathie Hewawasau	World Bank, MACEMP
10	Ms Nina Doetinchem	World Bank, MACEMP
11	David Ardill	Indian Ocean MCS Programme
12	Neil Ansell	Indian Ocean MCS Programme

Workshop attendance

The communications plan specified that at least 6 personnel from 3 regional agencies attend the workshop held in Dar Es Salaam, during November 2005. The results given in the following table show that 12 participants attended the workshop from a comparatively wide geographic area, including Kenya, Tanzania, Mozambique, Somalia, Seychelles and Namibia. This objective has been met.

	Name	Agency
1	Kennedy Shikami	Fisheries Department, Kenya
2	Martha Mukira	Fisheries Department, Kenya
3	Magnus Ngoile	Fisheries Department/MACEMP, Tanzania
4	Robert Sululu	Fisheries Department/MACEMP, Tanzania
5	Noa Senete	Fisheries Department, Mozambique
6	Manuel Castiano	Fisheries Department, Mozambique
7	Rashid Aman	c/o Somalia Ministry of Fisheries
8	Michel Marguerite	Seychelles Fishing Authority, Seychelles
9	James Wilson	SADC MCS Programme, Namibia
10	Razack Lokina	SADC MCS Programme, Tanzania
11	Cdr Ian Shear	SADC MCS Programme, Tanzania
12	Richard Aukland	SADC MCS Programme, Tanzania

Confidential national case study reports

The communications plan specified that at least 2 confidential reports should present the results of the national case studies in a manner appropriate to the target audience, and distributed to at least 2 national agencies. The findings of the study have been developed into two national reports for both Kenya and Tanzania (Annexes 4 and 6). In addition to these written reports, national-level presentations were made to a group of key stakeholders in both countries to provide feedback and discussion (cf. Section 5.1). The table below shows that the Director of Fisheries in both Kenya and Tanzania were presented the case study reports and also attended national-level meetings. This objective has been met.

	Name	Agency
1	Nancy Gitonga	Director, Fisheries Department, Kenya
2	Geofrey Nanyaro	Director, Fisheries Department, Kenya

Policy Briefs

The communications plan specified that at least 2 policy briefs outlining key recommendations in a manner appropriate to the target audience should be distributed to 2 national agencies. The stakeholder analysis (cf. Section 5.3.1) indicated that the Department of Fisheries and Ministry of Finance should receive policy briefs. However, following the final national-level meetings (Activity 2.7, Section 10), it was strongly recommended that national policy briefs should be directed first the Directors of Fisheries, who would then forward them to appropriate stakeholders. Without prior knowledge of the subject or the CFF methodology, it was indicated that fisheries-related policy briefs are sent back to the Director of Fisheries. The Fisheries Department would then liaise with Ministers on the key messages and recommendations. In addition, the Department of Fisheries in Kenya suggested that the brief may also have to be translated before it was finally submitted. The Department has offered to help in this process, but it will now occur outside this project (see Further Work, Section 7.3).

The table below indicates that a policy brief has been sent to the Director of Fisheries in both Kenya and Tanzania. A copy of the brief can be found in Annexes 9 and 10.

	Name	Agency
1	Nancy Gitonga	Director, Fisheries Department, Kenya
2	Geofrey Nanyaro	Director, Fisheries Department, Kenya

Table 5.3 Communications Matrix developed as part of the Communication Plan (Output 3 within Logframe).

Communication stakeholders	Research product / message to be communicated	Current knowledge, attitude, practice of stakeholders	Communication objectives: Desired outcome of communication / promotion	Communication channels and media in which research product will be communicated	Approach to monitor and evaluate implementation of communications plan
National technical staff from Department of Fisheries in Kenya and Tanzania.	Spreadsheet model game of CFF.	MCS and IUU issues very relevant in the current literature on fisheries management.	Capacity building on the costs and benefits of CFF.	<ul style="list-style-type: none"> • Demonstration and training through regional workshop. • CD containing game. 	<ul style="list-style-type: none"> • Participation at workshop • Counter on FMSP website • Distribution of flyer • Email requests for further information
National technical staff from Department of Fisheries in Kenya and Tanzania	New case study models of CFF developed to inform national MCS strategies and identify key information requirements highlighting the importance of distributing the benefits from the project in an equitable manner.	MCS and IUU issues very relevant in the current literature on fisheries management.	Increased awareness of issues in CFF and recommendations based on case studies.	<ul style="list-style-type: none"> • Confidential reports. • Workshop report. • National meetings. 	<ul style="list-style-type: none"> • Record promotional activities through correspondence • Participation at national meetings.
National policy makers from Department of Finance and Legal Affairs in Kenya and Tanzania	Specific lessons learnt and key issues derived from national case studies highlighting the importance of distributing the benefits from the project in an equitable manner.	MCS and IUU issues very relevant in the current literature on fisheries management.	Adoption of specific recommendations developed from CFF methodology and national case studies, previous research and outcome from regional workshop.	<ul style="list-style-type: none"> • Policy briefs. • Project flyer. • National meetings wherever possible. 	<ul style="list-style-type: none"> • Record promotional activities through correspondence. • Distribution of policy brief.
Regional technical staff from agencies in East Africa other than Kenya and Tanzania (including DFID, SADC, LVFO, WIOMSA, MACEMP, FAO, OECD, DEFRA, Indian Ocean MSC).	Generic lessons learnt and key issues derived from synthesis of case studies and previous research highlighting the importance of distributing the benefits from the project in an equitable manner.	<p>MCS and IUU issues very relevant in the current literature on fisheries management.</p> <p>Regional projects currently funding and actively promoting CFF related issues (e.g. MCS & IUU)</p>	Increased awareness of issues in CFF and generic recommendations based on case studies and previous research, and explore opportunities for regional co-operation.	<ul style="list-style-type: none"> • Demonstration and training through regional workshop. • Workshop report • CD containing game. 	<ul style="list-style-type: none"> • Participation at workshop. • Counter on FMSP website. • Distribution of flyer. • Email requests for further information.
International scientific and research community	Generic lessons learnt and key issues derived from synthesis of case studies and previous research highlighting the importance of distributing the benefits from the project in an equitable manner.	MCS and IUU issues very relevant in the current literature on fisheries management.	Increased awareness of issues in CFF and generic recommendations based on case studies and previous research.	<ul style="list-style-type: none"> • Scientific paper. • FMSP website. • Project flyer. 	<ul style="list-style-type: none"> • Peer-review paper accepted for publication • Request for re-prints • Counter on FMSP website • Distribution of flyer

6 Research Activities:

This section should include descriptions of all the research and communication activities (research studies, surveys, experiments, communications pathways, product testing etc.) conducted to achieve the outputs of the project. Information on any facilities, expertise and special resources used to implement the project should also be included.

Indicate any modification to the proposed research activities, and whether planned inputs were achieved.

6.1 Activity 1: Increase capacity building at national level

Research Activity 1.1

The CFF spreadsheet model game has been re-written and converted from Quattro Pro into MS Excel format (see Annex 8). Conversion of the spreadsheet model game has enabled several improvements to be incorporated into the new version, including a revised probability of detection (surveillance module) and more user-friendly front end. The spreadsheet model game was used during the regional workshop held in Dar Es Salaam between 14th and 15th November 2005 (see Activity 1.2, Section 10) to promote national and regional awareness and improve local capacity within national institutions for developing MCS strategies for CFF.

Research Activity 1.2

A regional workshop was planned and carried out with the assistance of the Tanzanian Fisheries Department at the White Sands Hotel, Dar Es Salaam between 14th and 15th November 2005. A copy of the workshop report can be seen in Annex 2.

The timing of the regional workshop has been changed from that originally proposed within the project Logframe to coincide with the inauguration of the World Bank-funded MACEMP programme within Tanzania. This new 5-year programme has an EEZ component which has potential funding to continue the marine surveillance operations initiated by the EU-funded SADC MCS programme, which otherwise will end mid-2006. The participation of key stakeholders from both the SADC MCS programme and the MACEMP programme was seen as a considerable benefit to this project that might lead to increased uptake and promotion of the CFF methodology.

During the latter stages of organising of the workshop, the Fisheries Department in Tanzania relocated offices to new premises, which had no form of communication (telephone, fax or email), with exception to mobile phone, for approximately 2 months. An additional amount of time to that planned within the Logframe was necessary to ensure quality control and that the workshop was a success.

Research Activity 1.3

The spreadsheet model game, developed and re-written in Activity 1.1, was used at the regional workshop to demonstrate key CFF concepts. In addition to the revised model game (Practical_2.xls; Annex 8), an additional Excel worksheet was written and designed specifically as a teaching aid for the regional workshop. The aim of this additional worksheet was to introduce the basic CFF equations in a transparent manner with numerical examples (see Practical_1.xls and Practical_1.doc; Annex 8). These equations were a “black-box” hidden within the CFF model game, and might otherwise constrain learning, uptake and promotion of the model.

6.2 Activity 2: Increase national, regional and international awareness

Research Activity 2.1

A literature review was conducted on the development and application of theoretical and empirical economic models to control foreign fisheries (see Annex 11). The review identified and described a range of key parameters considered necessary to evaluate alternative CFF strategies, and how these are linked within an MCS framework. Finally, the importance of the interaction between different parameters was discussed in developing a plausible model.

The review was written as a technical manuscript for scholars within the international scientific and research community. A draft version of the document is available on the FMSP website, and will be submitted to a peer-review journal to further increase uptake and promotion of the CFF approach.

Research Activity 2.2

A series of national-level meetings were held with key stakeholders identified in Kenya and Tanzania to discuss, amongst other things, data availability and collection to help parameterise and inform the CFF model.

Research Activity 2.3

Following national-level meetings (Activity 2.2), a period of data collection was conducted from both Kenyan and Tanzanian Fisheries Departments. This task obtained a wide range of data from different sources and formats, including hard-copies from photocopied reports which required much data processing, to accessing data in electronic form. The range of data required to help parameterise the model varied considerably in quality and quantity.

Research Activity 2.4

Data collected in Activity 2.3 was analysed to help develop new CFF case study models to inform MCS strategies and identify additional key information gaps for Kenya and Tanzania. The analysis for Kenya required considerable data entry and manipulation, whereas the majority of data for Tanzania was already available in electronic form. It was quickly realised, however, that the electronic data for Tanzania had a number of issues concerning data quality. This might be due to a wide range of issues, including lack of strict data reporting protocols and data entry errors, for example.

Research Activity 2.5

A review was conducted of previous FMSP material developed from cluster project R.5049CB to identify additional CFF lessons learned from these case studies. Output from the review was presented at the regional workshop and synthesised with other lessons learned from the practical sessions and discussions within the workshop report (see Annex 2).

Research Activity 2.6

National Policy Briefs were written for key stakeholders in Kenya and Tanzania based on specific and general lessons learned from the CFF case studies, and messages concerning equity and efficiency. Following the stakeholder analysis (Activity 3.1) and discussions held at national-level dissemination meetings (Activity 2.7) it was decided that Policy Briefs should be directed first to the Fisheries Department, rather than the target Ministries. This was primarily due to the original pathway not being efficient at disseminating the key messages. Instead, the Policy Brief may have to undergo small revisions within the Fisheries Department, such as translation or adding additional background material for example, before it can be presented to the Ministry.

Research Activity 2.7

National-level meetings were arranged and held with the Department of Fisheries in both Kenya and Tanzania to disseminate the results of the CFF case studies. To minimise travel costs, these were held directly after the regional workshop in November 2005.

Research Activity 2.8

This planned activity was designed to synthesise key messages and lessons learned from new case studies (Activity 2.4) and previous FMSP projects (Activity 2.5) into a new product suitable for dissemination at the regional workshop. A synthesis of the results has been included in the workshop report (Annex 2).

Research Activity 2.9

This activity was designed to run the regional workshop planned in Activity 1.2. The main aim of the workshop was to increase regional awareness of economic models to maximise the benefits through the CFF. In addition, the workshop was developed to increase national capacity and highlight a range of CFF strategies. The workshop undertook the following activities:

- (v) Provide an overview of the CFF model
- (vi) Share and discuss national and regional perspectives of MCS for CFF
- (vii) Practical sessions using CFF spreadsheet model game to develop hypothetical MCS strategies
- (viii) Field visit to the Tanzanian MCS Operations centre, Mbegani

In total, 12 participants identified from the stakeholder analysis (Activity 3.1) attended the meeting from the region (8 funded by this project), which included Kenya, Tanzania, Mozambique, Somalia, Seychelles and Namibia. Further details of participants can be obtained from the workshop report (Annex 2).

Although the main focus of the workshop was based around practical exercises from the CFF model, participants from several coastal states presented a short summary of their fisheries sector, including the role and status of foreign fishing activities. In addition to these national perspectives, an overview of the SADC MCS Programme was given, highlighting the main MCS issues within Angola, Mozambique, Namibia, South Africa and Tanzania.

An introduction to the CFF model was given by means of two short practical sessions (see Annex 8). The theoretical basis and assumptions behind the model were described by means of a slide presentation (see Section 3 within workshop report; Annex 2).

Finally, a field visit was conducted on Tuesday 15th November to the Tanzanian MCS Operations Centre at Mbegani, north of Dar Es Salaam. This provided an opportunity for participants to observe first-hand the scale and success of the national MCS operations.

6.3 Activity 3: Communications plan

Activities 3.1 to 3.5 were designed to obtain specific information necessary to develop the Communications Plan (Annex 1) and associated Communications Matrix (cf. Table 5.2)

Research Activity 3.1

At the start of the project, a stakeholder analysis was conducted within the fisheries sector for both Kenya and Tanzania. This was used to help identify key personnel likely to have relevant information for this CFF project and/or may be interested in receiving further information to increase uptake and promotion of the key messages and others products.

Research Activity 3.2

A range of target groups were identified which aim to address issues of equity and efficiency within the fisheries sector, and the potential communication pathways and uptake opportunities at both national and regional levels.

Research Activity 3.3

Appropriate media and activities were identified for promoting both new and existing products relating to CFF at both national and regional levels (e.g. project flyer, Policy Brief etc).

Research Activity 3.4

The activities identified within Activity 3.3 were implemented and an exit strategy was developed to ensure the continued promotion of the research products. The latter includes working with the Department of Fisheries in Kenya and Tanzania to further develop the Policy Brief and submission of the CFF review document to a peer review journal.

Research Activity 3.5

Criteria were designed to monitor and evaluate the uptake of both new and existing products relating to economic models of CFF. This included development of the regional workshop questionnaire, for example.

7 Contribution of Outputs:

7.1 Contribution to FMSP's Purpose and Outputs

Include how the outputs will contribute towards DFID's development goals i.e. Explain how the project outputs contribute to the Programme Purpose OVIs, and the Programme Output OVIs – use the outlines below, and delete any OVIs not applicable. Illustrate how the project has or might impact on peoples lives. Provide quantitative information where possible – how many men, women, which groups of poor people etc will benefit.

a. Purpose OVIs

Purpose: Benefits for poor people generated by application of new knowledge to fisheries management systems.

By 2005, evidence of application of FMSP research products to benefit target communities² in target countries² by achieving:

Capture Fisheries: For at least one EFZ, coastal or inland capture fishery, one or more of the following:

OVI2: Improved fisheries employment (numbers, income, quality)

b. Output OVIs

Output: Existing FMSP research outputs relating to: the contribution of capture and enhancement fisheries to the livelihoods of the poor; fisheries management tools and strategies that could benefit the poor; and, the means to realise improved management, further developed, disseminated and promoted to relevant stakeholders at all levels.

7.2 Impact of the project

Provide an assessment of the achievement of the projects Purpose level OVIs. Provide quantitative information as much as possible. Provide evidence of uptake of the research products, and other outcomes attributable to the project. i.e. in relation to the identified promotion pathways to target institutions and beneficiaries, what was the outcome of this promotion (e.g. policy change; behavioural change etc)?

7.3 Further work

What follow up action/research is necessary to further promote the findings of the work to achieve their developmental benefit? What follow up actions might be considered with respect to identified communication pathways?

² Target communities: At least two of:

- Poor people
- Institutions supplying services to the poor
- Employers of the poor
- Policy makers

2. Target countries: S Asia (Bangladesh & West Bengal) and SE Asia (Cambodia, Laos and Vietnam) for inland fisheries, and East Africa (Kenya and Tanzania), Indian Ocean SIDS and S. Asia (Orissa and Andhra Pradesh) for marine fisheries.

7.1 Contribution to FMSP's Purpose and Outputs

a. Towards Purpose OVIs

OVI 2: Improved fisheries employment (numbers, income, quality).

- Outputs from this project will help target communities (institutions supplying services to the poor and policy makers) from two target countries in coastal developing states in East Africa (Kenya and Tanzania) to maximise the economic benefits derived from foreign fishing activities within their area of jurisdiction.
- The economic benefits derived from the sale of fishing licenses might be used within the fisheries sector to develop more equitable and pro-poor policies within the domestic fisheries sub-sector. Furthermore, maximising the potential of foreign fishing may lead to a range of additional benefits such as providing goods and services in port, which in turn might lead to increases in national fisheries employment and income.
- Additional economic benefits derived from foreign fishing might be used to finance alternative livelihoods outside the sector, thus diversifying the workforce and reducing pressure on the fisheries sector.

b. Towards Output OVIs

OVI 5: Pro-poor capture fisheries management strategies actively promoted into at least four target institutions (including the DFID bilateral country programmes) in two target countries and widely promoted (nationally and internationally) by 31 March 2006.

- This project has actively promoted the CFF methodology and key lessons learned to develop MCS management strategies through national-level meetings in at least two target institutions (Department of Fisheries and SADC MCS programme) and in two target countries (Kenya and Tanzania). In addition, a review paper of the CFF methodology has been made available to the wider international scientific community. These outputs have been achieved by December 2005.

7.2 Impact of the project

7.2.1 Impact measured against Logframe Purpose OVIs

OVI 1: Improve local capacity of technical staff within at least 2 national agencies to use economic models for developing MCS strategies within Kenya and Tanzania by 30th November 2005.

- Development of the CFF national case studies in association with technical staff from the Departments of Fisheries in both Kenya and Tanzania (Activity 2.4) has substantially improved local capacity to use economic models for developing MCS strategies. The level of understanding of the CFF model was tested during the workshop by means of a series of specific questions within the workshop questionnaire. The results showed in two of the questions concerning the importance of setting maximum fines and how to increase the chance of surveillance detection, over 80% of the participants gave the correct answer (see Section 5.1).

OVI 2: Technical staff and policy makers from at least 2 national agencies made aware of economic models for developing MCS strategies within Kenya and Tanzania by 30th November 2005.

- Development of the CFF national case studies in association with technical staff, and national-level dissemination meetings with the Departments of Fisheries in both Kenya and

Tanzania (Activity 2.7) has increased national awareness of the use economic models for developing MCS strategies.

- Workshop participants were asked to score their level of awareness of the CFF model before and after the workshop. The results showed that all participants initially had a low understanding of CFF model before the workshop, but this substantially increased with 7 reporting a medium and 2 a high increase in understanding. In total, 75% of participants reported an increased awareness of the potential outcomes of national and regional CFF strategies through use of the model (see Section 5.2).
- Within Kenya, 14 stakeholders attended the national-level meeting to disseminate the findings of the CFF case study.

OVI 3: Technical staff from at least 3 regional agencies made aware of economic models for developing MCS strategies within East Africa by 30th November 2005.

- Participants from seven regional agencies attended the workshop on using economic models for developing MCS strategies:
 - Department of Fisheries, Kenya
 - Department of Fisheries, Tanzania
 - Department of Fisheries, Mozambique
 - Seychelles Fishing Authority, Seychelles
 - Ministry of Fisheries, Somalia
 - MACEMP, World Bank
 - SADC MCS Programme, Tanzania
- Regional awareness, similar to national awareness (OVI 2 above), was monitored using the workshop questionnaire. The combined results showed that all participants (national and regional) initially had a low understanding of CFF model before the workshop, but this substantially increased with 7 reporting a medium and 2 a high increase in understanding. In total, 75% of participants reported an increased awareness of the potential outcomes of national and regional CFF strategies through use of the model (see Section 5.2).

7.2.2 Impact measured against Logframe outputs and products

Dissemination of the confidential national CFF case studies has been eagerly awaited by the Departments of Fisheries in both Kenya and Tanzania. The information and recommendations contained within these documents should help inform both institutions of the steps required to maximise the economic benefits from foreign fishing activities within their EEZ. In turn, it has been indicated that the results may also help with future fisheries licensing negotiations.

The spreadsheet model game, disseminated at the workshop, has been shown to increase regional awareness of the participants of some of the main CFF issues (cf. workshop questionnaire, Annex 7). Furthermore, outputs from the revised surveillance module have recently been included in a new presentation for a workshop on fisheries surveillance, conducted by the SADC MCS Programme (Cmdr Ian Shea, personal communication). The additional benefits from this value-added uptake and promotion have yet to be quantified.

7.3 Further work

7.3.1 Follow-up work

Policy briefs

It has been indicated that the Policy Briefs written for both Kenya and Tanzania may first require additional work prior to submission to the line Ministries (e.g. translations and additional background material). This work will be assisted to ensure the key messages are eventually passed forward to the intended target stakeholder.

7.3.2 Future work

Additional data collection and analysis relevant to the CFF methodology should be conducted in both Kenya and Tanzania to develop more realistic and pertinent case studies. There is a potential source of funding in Tanzania within a 5-year World Bank-funded MACEMP project, which includes an EEZ component, relevant to the CFF methodology.

Within Tanzania, the electronic data already collected needs to be checked thoroughly before the results can be used to produce reliable results.

8 Publications and other communications materials

List the publications and other reports, communications materials and other outputs, according to the following categorization:

- (a) Peer-reviewed publications (published);
- (b) Peer-reviewed publications (in press or submitted);
- (c) Non peer-reviewed publications and reports and communications materials;
- (d) Verbal presentations & project dissemination and other workshops;
- (e) Other types of project output (e.g. literature reviews, databases, software etc).

8.1 Peer-reviewed publications (published);

None

8.2 Peer-reviewed publications (in press or submitted);

None

8.3 Non peer-reviewed publications and reports and communications materials;

- (i) Communications plan
- (ii) CFF numerical examples practical session (Practical1.doc, CD-Rom Annex 8)
- (iii) CFF spreadsheet model game practical session (Practical2.doc, CD-Rom Annex 8)

8.4 Verbal presentations & project dissemination and other workshops;

- (i) Regional workshop report, Dar Es Salaam, November 2005 (Annex 2).
- (ii) National-level dissemination of Kenyan confidential CFF case study (Annex 3)
- (iii) National-level dissemination of Tanzanian confidential CFF case study (Annex 5)
- (iv) CFF Policy Brief for Kenya (Annex 9)

- (v) CFF Policy Brief for Tanzania (Annex 10)
- (vi) CFF project flyer posted on FMSP website (Annex 12)

8.5 Other types of project output (e.g. literature reviews, databases, software etc).

- (i) CFF numerical examples spreadsheet (Practical1.xls, CD-Rom Annex 8)
- (ii) CFF spreadsheet model game (Practical2.xls, CD-Rom Annex 8)
- (iii) Literature review of CFF methodology, to be developed into a peer-reviewed paper (Annex 11)

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10 Project Logframe

Narrative summary	Objectively verifiable indicators	Means of verification	Important assumptions
Goal			
<p>Existing FMSP research outputs relating to: the contribution of <u>capture</u> and <u>enhancement</u> fisheries to the livelihoods of the poor; fisheries management tools and strategies that could benefit the poor; and, the means to realise improved management, further developed, disseminated and promoted to relevant stakeholders at all levels</p>	<p>1. Pro-poor <u>capture</u> fisheries management strategies actively promoted into at least four target institutions (including the DFID bilateral country programmes) in two target countries and widely promoted (nationally and internationally) by 31 March 2006.</p>	<ul style="list-style-type: none"> • Programme Management review • Project FTRs • Programme highlights • Publications and other communications materials • Teaching materials • Fisheries management tools • Quarterly and annual reports • FMSP project database • FMSP Website • Requests for manuals and guidelines received • Uptake of research products by target institutions monitored and reported in Annual Report • National statistics and publications • International networks, databases and publications 	<p>Policy makers remain receptive to information on fisheries management</p> <p>Government policies continue to support pro-poor approaches</p> <p>Target beneficiaries remain receptive to management approaches proposed.</p> <p>Target beneficiaries adopt and use strategies</p>
Purpose			
<p>To promote the future uptake of results and recommendations generated from economic models within the fisheries sector for developing MCS strategies for the control of foreign fishing activities within EEZ's of at least two East African countries.</p>	<p>1. Improve local capacity of technical staff within at least 2 <u>national</u> agencies to use economic models for developing MCS strategies within Kenya and Tanzania by 31st Oct. 2005.</p> <p>2. Technical staff and policy makers from at least 2 <u>national</u> agencies made aware of economic models for developing MCS strategies within Kenya and Tanzania by 31st Oct. 2005.</p> <p>3. Technical staff from at least 3 <u>regional</u> agencies made aware of economic models for developing MCS strategies within East Africa by 31st Oct. 2005.</p>	<p>Target stakeholder policies, project logframes and activity reports.</p>	<p>Target stakeholders remain receptive to information on fisheries management.</p> <p>Government policies support development of foreign fishing activity.</p> <p>Regional institutional capacity is sufficient to undertake activities effectively.</p> <p>Offshore marine resources are managed on a sustainable basis.</p> <p>An appropriate policy environment exists</p>

Outputs	Objectively verifiable indicators	Means of verification	Important assumptions
<p>1. Improve local <u>capacity</u> within national institutions for developing MCS strategies for CFF within Kenya and Tanzania.</p>	<p>1.1 At least 4 individuals from 2 national agencies demonstrate an ability to develop MCS strategies by month 7 (31st Oct. 2005).</p>	<p>1.1 Quarterly project report.</p> <p>1.2 Meetings at national level from at least 2 agencies.</p> <p>1.3 Final technical report.</p>	<p>1.1 It is possible to identify national target stakeholders and they are willing to participate.</p> <p>1.2 Information is available from each participating institution, even if confidential.</p>
<p>2. Increase national, regional and international <u>awareness</u> of CFF methodology and lessons learned through synthesised product developed from CFF case studies.</p>	<p>2.1 Advocacy initiative developed for policy makers from at least 2 national agencies regarding the benefits of generic MCS strategies developed from economic models in CFF by month 7 (31st Oct. 2005).</p> <p>2.2 Individuals from at least 3 regional agencies trained in the use of economic models to develop MCS strategies by month 7 (31st Oct. 2005).</p> <p>2.3 International scientific and research community informed of the benefits derived through previous studies and developing generic MCS strategies from economic models in CFF by month 7 (31st Oct. 2005).</p>	<ul style="list-style-type: none"> • Quarterly project report. • Feedback from Policy briefs. • Counter on FMSP website. • Feedback from CD of spreadsheet model game. • National meetings held with agency staff. • Regional workshop report. • Scientific paper(s). • Feedback from Project flyer. • Final technical report. 	<p>2.1 Information is available from each participating institution, even if confidential.</p> <p>2.2 It is possible to identify regional target stakeholders are available and willing to participate.</p>
<p>3. Potential adoption of CFF methodology and lessons learned through existing and new products increased through communication strategy.</p>	<p>3.1 Individuals from at least 3 national and 3 regional agencies within East Africa, in addition to the international scientific and research community, targeted for promoting uptake by month 7 (31st Oct. 2005).</p>	<ul style="list-style-type: none"> • Participation on development of Communications plan. • Quarterly project report. • Final technical report. 	<p>3.1 It is possible to identify media suitable for national and regional promotion.</p> <p>3.2 It is possible to identify needs and pathways at national, regional and international levels.</p> <p>3.3 National, regional and international agencies are</p>

Activities	Budget and milestones	
OUTPUT 1 Capacity building at national level		
<p>1.1 Convert spreadsheet model game on CFF from Quattro Pro into MS Excel.</p> <p>1.2 Organise and run workshop to build capacity in the use of spreadsheet model to inform CFF.</p> <p>1.3 Demonstrate key generic concepts of CFF using spreadsheet model.</p>	<p>1.1 Convert spreadsheet model game into MS Excel format by month 4.</p> <p>1.2 National institutions participate in workshop by month 6 (see activity 2.9).</p> <p>1.3 Spreadsheet model used to demonstrate key generic concepts of CFF by month 6.</p>	<p>1.1 Model algorithms can be converted into MS Excel format.</p> <p>1.2 Target stakeholders are willing to participate.</p>
OUTPUT 2 National, regional and international awareness		
<p>2.1 Review literature on CFF</p> <p>2.2 Liaise with national collaborators at start of project to arrange national meetings for data collection with target stakeholders identified in 3.1.</p> <p>2.3 Collect information and data to parameterise models previously developed under FMSP cluster projects R4775 and R5049CB.</p> <p>2.4 Analyse information and raw data collected in 2.3 to help develop new case study models of CFF to inform MCS strategies and identify key information gaps.</p> <p>2.5 Review previous FMSP material from cluster project R5049CB to identify additional lessons relating to CFF.</p> <p>2.6 Develop policy briefs for national policy makers, which also include messages of equity and efficiency.</p> <p>2.7 Arrange national meetings for dissemination with target stakeholders identified in 3.1</p> <p>2.8 Synthesize material obtained from new case studies (2.4) and previous FMSP projects (2.5) into single product for dissemination at workshop.</p> <p>2.9 Organise and run regional workshop to disseminate product (2.8) with regional target stakeholders identified in 3.1 and 3.2 and demonstrate key generic concepts using spreadsheet model game (1.1)</p>	<p>2.1 Literature review undertaken by month 1 and scientific paper drafted by month 5.</p> <p>2.2 In-country meetings held with national target stakeholders by month 2.</p> <p>2.3 Relevant information and raw data necessary to develop and parameterise models for two case studies collected by month 5.</p> <p>2.4 Analysis and development of two new case study models of CFF by month 6.</p> <p>2.5 FMSP cluster project R5049CB reviewed for further lessons or supporting evidence by month 6.</p> <p>2.6 Policy briefs developed by month 6 for national policy makers.</p> <p>2.7 Dissemination and feedback from target stakeholders through meetings at national level by month 6.</p> <p>2.8 Product synthesising all lessons learned developed by month 6.</p> <p>2.9 Synthesised product disseminated through regional workshop on CFF and project flyers by month 6.</p>	<p>2.2 Target stakeholders are willing to participate.</p> <p>2.3 Sufficient information is available from 2.2.</p> <p>2.4 Information is available from each participating institution, even if confidential.</p> <p>2.6 Collaborators are willing or able to provide adequate information.</p> <p>2.7 Target stakeholders are willing to participate.</p> <p>2.8 Information is available from each participating institution, even if confidential.</p> <p>2.9 Target stakeholders are willing to participate.</p>

OUTPUT 3		
Communication Plan		
<p>3.1 Identify and analyse target stakeholders at both national and regional levels.</p> <p>3.2 Identify the target group (which will address issues of equity and efficiency), the potential communication pathways and uptake opportunities at both national and regional levels.</p> <p>3.3 Identify appropriate media and activities for promoting both the new and existing products relating to CFF at both national and regional levels.</p> <p>3.4 Implement activities identified within 3.3 and develop an exit strategy to ensure the continued promotion of the research products.</p> <p>3.5 Develop criteria to monitor and evaluate the uptake of both new and existing products relating to economic models of CFF.</p>	<p>3.1 Stakeholder analysis completed by month 2</p> <p>3.2 Identification/update of target groups and communication pathways by month 2.</p> <p>3.3 Identification/update of planned media and activities (e.g. workshop) for promoting new and existing products by month 2.</p> <p>3.4 Undertake activities in 3.3 by month 5 and develop an exit strategy by month 7 (i.e. develop and disseminate project flyer, questionnaire and updates on FMSP website).</p> <p>3.5 Evaluation and monitoring of communication plan developed by end of month 7. Monitoring of uptake through FMSP website ongoing.</p>	<p>3.1 Target stakeholders can be identified.</p> <p>3.2 It is possible to identify needs and pathways.</p> <p>3.3 It is possible to identify media and activities suitable for promotion of product.</p>

11 Keywords

Control of foreign fisheries, developing coastal states, licence fee, surveillance cost, level of fine, MCS strategies, offshore fisheries.

12 Annexes

(see content page for details)