

INTEGRATED CO-MANAGEMENT OF ZAMBEZI / CHOBE RIVER FISHERIES RESOURCES PROJECT

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Project proposal: Phase 2 January 2010 – December 2012



Preparing to fish through the night



Zambezi River and flooded plain, April 2009



Abundant small fish species on floodplain



Exploiting a valuable food resource during floods

by: Denis Tweddle and Clinton Hay

Field Document no. MFMR/NNF/WWF/Phase II/1





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INTEGRATED CO-MANAGEMENT OF THE ZAMBEZI/CHOBE FISHERIES RESOURCES

PHASE 2 – January 2010 – December 2012

PROJECT PROPOSAL

Project Name:	INTEGRATED CO-MANAGEMENT OF THE ZAMBEZI/CHOBE FISHERIES RESOURCES	
Project Location:	The shared Zambezi/Chobe River System between Namibia, Zambia, and Botswana	
Project Number:		
WWF contract Partner(s):	WWF In Namibia; Ministry of Fisheries and Marine Resources (MFMR) in Namibia; the Department of Fisheries in Zambia and Botswana; Namibia Nature Foundation.	
Contact Person(s):	L. Chris Weaver, WWF In Namibia +264-61-239945 Dr. E. Klingelhoefter. Ministry of Fisheries and Marine Resources, Namibia. +264 (0) 66 259 9931. Dr. Chris Brown, Namibia Nature Foundation +264-61-248345	
Start Date:	2010 – 01	Expected End Date: 2012 – 12



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INTEGRATED CO-MANAGEMENT OF THE ZAMBEZI/CHOBE FISHERIES RESOURCES






EXECUTIVE SUMMARY

The Project Purpose of the first phase of this project, **“to implement alternative community fishery management practices contributing to a fully integrated management system for subsistence, semi-commercial, and sport fisheries”** was an ambitious target for a project facing considerable challenges, most notably rapid commercialisation of the fishery as a result of greatly improved road communications. This facilitated marketing of the catch in urban areas and resulted in rapid and continued depletion of the fish resources.

In the context of the proposed second phase, Output 3 from the first phase is key to the entire success of the project, i.e. **“Support the emergence of local level community fishery groups that assume management responsibility for fisheries in their areas”**. Phase 1 made considerable progress. If it proves possible to continue with this progress in a second phase, this project has the potential to become a model for all Zambezi River fisheries. Because of progress made, the Evaluation Report recommended a second phase in which emphasis is to further develop the structures necessary to introduce effective community fishery management practices and facilitate the needed capacity building for co-management.

The project period is proposed for three years. The geographic focus is the Zambezi and Chobe River systems. The project will facilitate devolution of authority and management to community level.

Potential environmental and biodiversity benefits from the second phase include:

-  Removal of environmentally destructive fishing methods from the system
-  Improved recruitment of commercially valuable fish species
-  Restoration of aquatic ecosystem
-  Protection of threatened Caprivi killifish
-  Improved tourism potential

The goal, purpose and outputs of the second phase of the project are as follows:

Project Goal: To sustainably manage the shared Zambezi/Chobe River fisheries resources by promoting transboundary coordination and collaboration on the introduction of fully integrated fishery management systems.

Project Purpose: By end 2012, a fully integrated management system for livelihood and sport fisheries, that provides optimal benefits to all stakeholders reliant on this valuable resource, is in place in targeted pilot communities.

Project Outputs

Output 1: Cross-border collaboration achieved in management of the fisheries resources.

Output 2: Management plan for the fisheries developed during Project Phase 1 successfully implemented (in collaboration with neighbouring countries) for the benefit of the communities.

Output 3: Fish Protection Areas established and fully functional in targeted pilot communities.

Output 4: Tourist angling lodges operating in agreement with local fishing/conservancy committees.

Output 5: Capacity built in research and monitoring of fish resource.



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Output 6: Collaboration in next phase of NNF fish ranching project.

The Deputy Director from the Directorate Aquaculture, Ministry of Fisheries and Marine Resources in Namibia, will manage the Project through the Project Executant based in Katima Mulilo. MFMR staff at Katima Mulilo in Namibia and staff from the Department of Fisheries in Zambia (Sesheke office) will take part in the Project. NNF will provide the Project Executant and manage his/her activities, coordinate implementation activities, and prepare all sub-grant technical and financial reports for submission to WWF In Namibia. WWF In Namibia will assist in backstopping the NNF, with the creation of project linkages with complementary CBNRM activities in Caprivi and Zambia, facilitate project reviews, and liaise with WWF-Norway on all grant reporting requirements. WWF-Norway will report to NORAD, based on reports prepared by the Project Executant, MFMR, and WWF In Namibia. Project implementation arrangements will involve NNF, MFMR, IRDNC, and WWF In Namibia. The project will be guided by a technical advisory committee with representatives from the MFMR, Zambian authorities, IRDNC, NNF and WWF.

Year	Amount (N\$)	Amount (NOK)
1	1,185,822	912,171
2	1,238,826	952,943
3	1,273,749	979,807
TOTAL	3,698,397	2,844,921



WWF-Norway Project Proposal

Contents

Project Goal: To sustainably manage the shared Zambezi/Chobe River fisheries resources by promoting transboundary coordination and collaboration on the introduction of fully integrated fishery management systems.i

Project Purpose: By end 2012, a fully integrated management system for livelihood and sport fisheries, that provides optimal benefits to all stakeholders reliant on this valuable resource, is in place in targeted pilot communities.....i

Project Outputs.....i

1 INTRODUCTION AND BACKGROUND.....1

1.1 Outcomes of Phase I of this project 1

1.2 Evaluation of progress towards achieving other outputs.....3

2 THE NEXT PHASE OF THE PROJECT3

3 CONTEXT AND RATIONALE.....4

3.1 Project environment4

3.1.1 *Description of the project area*4

3.1.2 *Biodiversity targets*5

3.1.3 *Demography and socio-economic conditions in the project area*6

3.1.4 *National policy and legal context*6

3.1.5 *Proposal alignment with national/regional/sectoral and international strategies and plans*7

3.2 Problem analysis.....12

3.2.1 *Stakeholders and beneficiaries*.....15

3.2.2 *Stakeholders*15

3.2.3 *Beneficiaries*20

3.2.4 *Scale of benefits to the Caprivi communities depend on the fish resources*.....20

3.3 Adherence to WWF-Norway’s strategy and priorities21

3.3.1 *Strengthening the role of civil society*.....21

3.3.2 *Improving effectiveness and efficiency of policy, legal and institutional frameworks relating to sustainable natural resource management*21

3.3.3 *Improving the conservation status of biodiversity rich areas and key natural resources*.....21

3.3.4 *Contributing to low carbon development pathways and climate change adaptation*22

3.3.5 *Contributing to gender equality*.....22

4 THE PROJECT (GOAL, PURPOSE, OUTPUTS, ACTIVITIES).....22

4.1 Project Goal22

4.2 Project Purpose23

4.3 Project Outputs23

4.4 Project activities23

5 MONITORING AND EVALUATION (M&E).....25

5.1 Project Monitoring and Evaluation Plan25

5.2 Project reviews and evaluations25

6 PROJECT IMPLEMENTATION ARRANGEMENTS.....26

6.1 Human and other capacity requirements26



WWF-Norway Project Proposal

6.2	Project management and organisation	26
7	ASSUMPTIONS AND RISKS.....	28
7.1	Assumptions	28
7.2	Risks.....	28
8	BUDGET	29
9	SUSTAINABILITY AND EXIT STRATEGY	29
9.1	Sustainability criteria	29
9.2	Exit strategy	29
10	LIST OF REFERENCES	30
APPENDICES		32
APPENDIX 1: CONCEPTUAL MODEL.....		32
APPENDIX 2: LOGICAL FRAMEWORK.....		33
APPENDIX 3: ACTIVITY SCHEDULE		38
APPENDIX 4: MONITORING AND EVALUATION PLAN.....		41
APPENDIX 5: DETAILED BUDGET		42
APPENDIX 6: UPDATED FINDINGS FROM EVALUATION REPORT		43
A. SUMMARY OF PROGRESS TOWARDS OUTPUTS IN PHASE 1		43
B. RECOMMENDATIONS OF EVALUATION REPORT		44



WWF-Norway Project Proposal

Abbreviations

AWF	African Wildlife Foundation
CBNRM	Community Based Natural Resource Management
CCCD	Community Centred Conservation and Development project, Zambia
CPP	Country Pilot Partnership Programme for Integrated Sustainable Land Management
DoF	Department of Fisheries (Zambia)
CBO	Community Based Organisation
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COPASSA	
ESARPO	WWF East and Southern Africa Programme
EUS	Ulcerative Syndrome
FAO	Food and Agriculture Organisation of the United Nations
IFSTCU	Inland Fisheries Sector Technical Coordination Unit (SASDC)
IRDNC	Integrated Rural Development and Nature Conservation
IUCN	The World Conservation Union
KAZA	Kavango/Zambezi Transfrontier Conservation Area
MFMR	Ministry of Fisheries and Marine Resources (Namibia)
NGO	Non-Governmental Organisation
NNF	Namibia Nature Foundation
Norad	Norwegian Agency for International Development
SADC	Southern Africa Development Community
ToR	Terms of Reference
USAID	United States Agency for International Development
WWF	Worldwide Fund for Nature
WWF LIFE	WWF Living In A Finite Environment Project



WWF-Norway Project Proposal

1 INTRODUCTION AND BACKGROUND

1.1 Outcomes of Phase I of this project

The relationship between WWF In Namibia and the MFMR started in 2001 with the project “*Shared Resource Management on the Zambezi/Chobe Systems in Northeast Namibia – Current Practices and Future Opportunities*”. This working relationship continued and contributed to the establishment of the Inland Fisheries section of the Ministry in the Caprivi. It also played a major role in developing the Inland Fisheries Resources Act in 2003.

The current stage in this relationship, the first 3-year phase of the project “*Integrated Co-Management of the Zambezi/Chobe Fisheries Resources*” comes to an end in December 2009. The goal of this project is: “The shared Zambezi/Chobe River fisheries resources managed sustainably through transboundary coordination and collaboration after the introduction of fully integrated fishery management systems”. This is a long-term aim for the fisheries that needs continued support to achieve.

The Project Purpose stated that: “By mid 2009, alternative community fishery management practices have been piloted and tested and these contribute to a fully integrated management system for subsistence, semi-commercial, and sport fisheries that will provide optimal benefits to all stakeholders who are reliant on this valuable resource”.

This was an extremely ambitious target for a project facing considerable challenges, most notably the rapid commercialisation of the fishery in recent years, partly as a result of greatly improved road communications to the area. This facilitated marketing of the catch in distant urban areas and resulted in rapid and continued depletion of the fish resources.

The project had five planned outputs, discussed where relevant below. In the context of the proposed second phase, Output 3 is the most relevant and may be regarded as key to the entire success of the project:

Output 3: Support the emergence of local level community fishery groups that assume management responsibility for fisheries in their areas.

If this output has been achieved (or at least considerable progress made) during the first phase of the project, all other “goals” of fisheries management in the area, and not just this finite project, become attainable. The issue of management through community participation and agreements is key to success in achieving the project goal.

Progress towards Output 3 in first phase of project: The first phase of the project has made considerable progress in sensitising all stakeholders in Namibia to take ownership and become involved in co-managing the resource. Key conservancies in the fishing area have engaged with the project staff, and fisheries committees have been voluntarily set up outside conservancy areas. The committees are unanimous in wanting to stop damaging fishing methods and have proposed several areas to be Fish Protection Areas. They have also now indicated that they are also responsive to the idea of harmonising of closed season regulations with neighbouring countries.

This evidence of progress is extremely encouraging. One could go further and state that:-



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If, as seems highly probable, it proves possible to continue with progress in implementing Output 3, this project has the potential to become a model for all Zambezi river fisheries, including areas such as the Barotse Floodplain, the Zambezi Delta, Kafue Flats, etc.

As a result of the progress towards Output 3, and the expectations engendered in the fishing communities, a further phase to the project was recommended during the end of project evaluation (Tweddle, 2009). The Evaluation Report stated that:

- Because fish is vital for food security, local livelihoods, and tourism in the area –
- Because the fishery will experience an accelerating decline if management action is not taken now –
- Because the project, despite its shortcomings, has laid the groundwork for future success in fisheries management –
- Because Government capacity to manage the fisheries effectively (or to provide sound guidance to the communities) has not yet been achieved –
- Because an enabling legislative environment for devolution of management to communities has not yet been gazetted –
- Because devolution of management to communities needs continued support –

IT IS RECOMMENDED that the project continues into a further 3-year phase...

The recommendations from the Evaluation Report on conditions for the new project phase are in the box below.

Conditions for new project

The new phase should be a joint project primarily between Namibia and Zambia but with Botswana input also, operating with the full confidence and participation of senior officers in the Fisheries ministries/departments in the three countries. MFMR and the Zambian DoF must be active partners and there should be a more frequent project presence on the Zambian side of the river. Botswana should also be much more closely involved in the project as the Chobe floodplain is a shared resource and Botswana has a set of fishing regulations that needs to be harmonised with agreed regulations on the Namibian side of the Chobe River.

The project should be guided by a steering committee, meeting frequently, incorporating senior officers from the three countries. Commitment to the project goals by the countries is vital. MFMR has confirmed its commitment to the project. Zambia is also committed although formal notification is needed. Technical assistance should include a fish and fisheries specialist supporting a specialist in CBNRM. Extension messages must conform to current knowledge of fishery dynamics and not conflict with indigenous knowledge on the state of the fish stocks and how best to conserve them. The project emphasis must be on empowering the fishing communities/conservancies to manage the fisheries on a localised basis, including responsibility for licensing of fishermen and/or fishing gears. Regulations need to be reviewed to remove the excessive and biologically unnecessary restrictions contained therein. Agreement of local regulations should be decided on a localised basis dependent on the fishery priorities in the immediate area controlled by a committee or conservancy. The project's role should be to provide guidance to the communities based on sound scientific principles.



WWF-Norway Project Proposal

The current project has initiated close links with IRDNC a local NGO that guides conservancies in CBNRM. It has appointed two officers trained through the project to assist IRDNC in fisheries matters. The new phase of the project should continue to provide close support to IRDNC to develop CBNRM in the fisheries.

1.2 Evaluation of progress towards achieving other outputs

The Evaluation Report also suggested possible outputs to be reviewed and assessed by the three countries' fisheries ministries/departments. A summary of progress towards the outputs of the first phase, drawn from the Evaluation Report, is presented in Appendix 6 of this proposal. Appendix 6 also includes the recommendations of the Evaluation Report.

2 THE NEXT PHASE OF THE PROJECT

The emphasis of this project will be to further develop the structures necessary to introduce effective community fishery management practices and facilitate the needed capacity building for co-management.

The Ministry of Fisheries and Marine Resources (MFMR), Namibia Nature Foundation (NNF) and WWF in Namibia have prepared this project proposal with the aim of jointly enhancing community livelihoods while simultaneously introducing sustainable fishery management practices for the shared Zambezi River System between Botswana, Namibia, and Zambia. Management of these inland fisheries resources is particularly important for the Namibian Government, as freshwater fish serve as a source of protein for a large section of the Namibian people, especially the rural poor.

This project will link up with the community-based approaches in Namibia's wildlife sector, where devolution of benefit and management rights to local communities has proven to provide incentive for resident communities to promote sustainable use of their natural resources. In some instances (where feasible) the Fisheries Management Committees will be incorporated into established Conservancy Management Committees, thereby building on more than ten years of institutional support already provided to a resident community natural resource management institution.

The project will, through the fisheries management committees, establish sound management practices, including, but not limited to, Fish Protection Areas (where agreements with angling tourism operations may be arranged), agreements on local regulations to suit local aquatic habitats, agreements on closed seasons, and monitoring of activities and catches.

The project period is proposed for three years, covering the timeframe of January 1, 2010 through December 31, 2012. The geographic focus will cover the Zambezi and Chobe Rivers and the adjacent floodplains in Namibia and the neighbouring countries of Zambia and Botswana. In Namibia, the project will facilitate and pilot the process whereby powers are devolved down to community level, as well as the management process. It will further provide the flexibility that normal government systems, on their own, cannot offer. In the neighbouring countries, the project will liaise closely with the fisheries departments and seek other partners, e.g. NGOs involved with community activities, to further develop collaboration and to harmonise legislation.



WWF-Norway Project Proposal

3 CONTEXT AND RATIONALE

3.1 Project environment

3.1.1 *Description of the project area*

The Caprivi Region in Namibia borders on Botswana in the south, Angola and Zambia in the north, and Zimbabwe to the east (Figure 1). The Chobe River and the Kwando/Linyanti River System border on Botswana and the Zambezi River on Zambia. The Chobe National Park in Botswana borders a large section of the Chobe River, where no fishing is allowed on the Botswana side, but with a fishery operating on the Namibian side. The Zambezi River borders Namibia and Zambia for approximately 120 km between Katima Mulilo and Impalila Island, where it connects with the Chobe River. The Zambezi River consists of a deep, wide mainstream, with bends and deep pools. Small-vegetated islands, sandbanks, bays, backwaters and narrow side streams occur frequently. The only rapids are at Katima Mulilo and the Mombova Falls at Impalila Island. The water level of the Chobe River is influenced by the Zambezi River and changes direction depending on the flood level of the Zambezi. The largest sections of the floodplains fall within Namibia, with smaller sections in Zambia. Both the Chobe and the more westerly Kwando/Linyanti Rivers flow into Lake Liambezi, depending on the magnitude and duration of the annual flood. This lake played an important role in the subsistence fishery in the 1970s and early 1980s, but dried up in 1985. However, some inflow was recorded during the 2000 and 2003 floods, with a major inflow during 2009. The lake is now full and the fishery on the lake is on the increase. Three major tributaries enter the Zambezi River on the Zambian side, with several lagoons present between Sesheke and Mambova.

At 600-700 mm, East Caprivi has the highest average rainfall in Namibia. However, precipitation levels are inconsistent, and have varied between 262mm and 1473mm over the past fifty years. The rainfall in the upper Zambezi River catchment in Angola and Zambia is, however, much higher and is the main factor determining the flood level, timing and duration in the Caprivi. In comparison, the local rain in the Caprivi has very little impact on the flood cycle of the Caprivi floodplains. The floodplains cover large areas (> 300,000 hectares) of the eastern Caprivi and in times of a major flood, the Kwando/Linyanti System connects with the Chobe River. More than 30 per cent of the eastern Caprivi can then be flooded. Fishery and overgrazing of the floodplains in the eastern Caprivi are possibly the activities with the highest impact on the environment and the fish community. The absence of large-scale industries and cities in the region ensure very little pollution on the floodplains. The physical characteristics and water quality of each river system does not change drastically between the different regions. No dams or weirs are present or planned for the proposed project area because of the floodplains' flat topography.

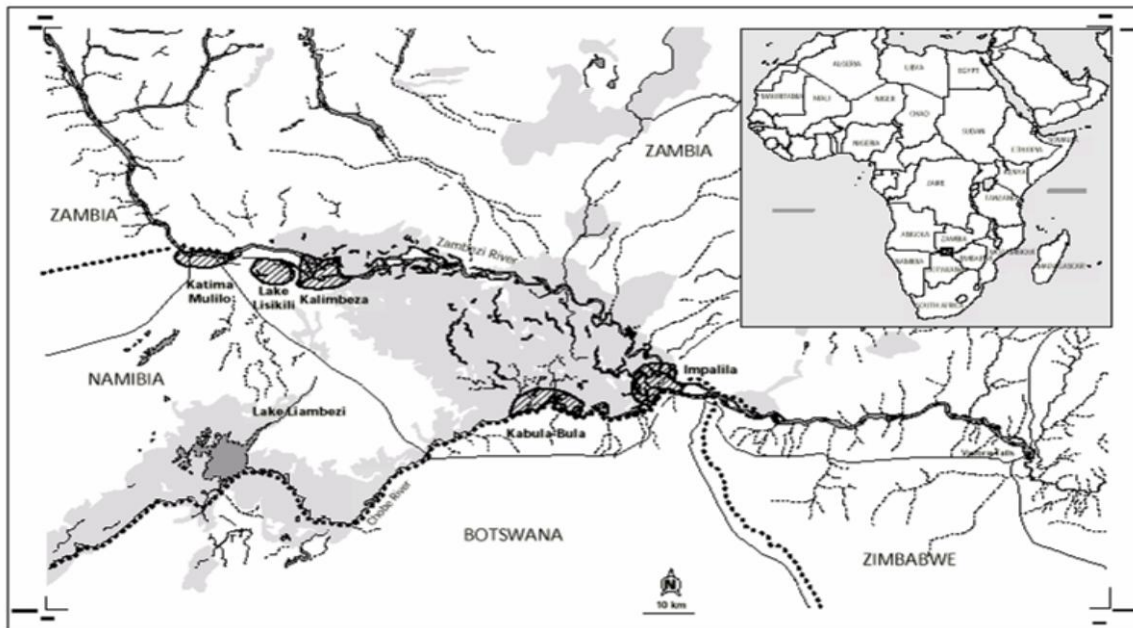


Figure 1: Map of the study area with the stations surveyed during the annual monitoring programmes of the Ministry of Fisheries and Marine Resources, Namibia (Hay *et al.*, 2002).

3.1.2 Biodiversity targets

The area is largely comprised of a rich system of floodplains and permanent backwaters to the Zambezi River. These floodplains are part of a wider ecosystem that has historically been part of a seasonal migration complex for a mix of charismatic large African megafauna (i.e., elephant, buffalo, plains zebra, waterbuck, etc.) that also includes the Kalahari Woodlands found on the southern side of the Chobe River. The Caprivi Region also forms part of the proposed KAZA Park (Kavango-Zambezi Transfrontier park), potentially the largest conservation area in the world with a total area of 278 132 km². This conservation area (once formed) will include biodiversity rich portions of Angola, Botswana, Namibia, Zambia and Zimbabwe.

A locally threatened fish species, the Caprivi Killifish (*Nothobranchius* sp.) (taxonomy under investigation but considered by B. Watters [pers. comm.] to be a colour form of *Nothobranchius kafuensis*), is found in a small number of rain pools in the Caprivi. It has a specialised life cycle where eggs are laid on the bottom and development is suspended when the pool dries out. During the next rainy season, these eggs hatch, the fish mature and breed before the pool dries up again. Any development projects, such as roads, may further threaten this species.

The Zambezi and Chobe Rivers are rich in fish species diversity with more than 80 species identified from the Caprivi. The entire Zambezi River has close to 160 species. Several species have been identified as having specialised life cycles and habitat niches. There are species that are not commonly sampled due to habitat preferences, but others are rare with no known reason for this. The annual flood cycle is the main stimulant for fish production and any changes to the hydrology will seriously influence the fish stocks. Similarly, any artificial changes to the habitats may negatively impact on the fish population. It was found that species diversity and species composition differ



WWF-Norway Project Proposal

between stations as well as during the different flood periods. This is probably linked to habitat differences, and breeding and migration behaviour of the different species.

The uniqueness of these waterways and associated floodplains and biodiversity are such that establishment of the eastern Caprivi floodplains as a RAMSAR Site warrants consideration.

3.1.3 Demography and socio-economic conditions in the project area.

The 2001 Population and Housing Census Report stated the total population of the Caprivi was 79 852 (inclusive of 40 684 females), or approximately 4.4% of the total population of Namibia. There was a slight decrease in the Caprivi population since 1991. The Kabbe constituency, forming the eastern floodplains, where the majority of the fishing is taking place, had a total population of 14 979 within 2 918 households.

During a frame survey done on the Zambezi River, it was found there are 25 times more households on the Zambian side than on the Namibian side of the River (Abbott et al. 2003). Although the number of fishers is much higher on the Zambian side, proportionally more Namibian households are dependent on fishing.

A study conducted on the Caprivi's eastern floodplains states that a third of the households depend primarily on the fishery for subsistence and income purposes and that there is a clear reliance on the fishery for survival (Stephanus *et al.*, 2002). The income generated by fisheries covers the basic needs of the people such as food, clothing and school fees. Fish are important in the diet, especially in years of drought and stress. These households on the floodplains usually have a subsistence livelihood, further emphasising the importance of the fishery. The fishermen in the Caprivi are mainly males, using modern gillnets. In contrast, the vendors at the markets are mainly females (frequently the head of a household) who rely on fish sales as the main source of income for their families.

Although the area has a relatively high level of literacy, a high rate of unemployment is present, stressing the importance of the fishery. The study further revealed that the households in the area earn on average N\$ 868 (US\$ 120) per month and experience difficult times during November/December to April/May when incomes are low.

3.1.4 National policy and legal context

The Namibia Inland Fisheries Resources Act (Act No. 1 of 2003) and Regulations came into operation on 6th June 2003. The aims of the Act are broadly similar throughout the country but with minor differences in regulations between rivers, dependent on the nature of these systems and the needs of the human communities. e.g. seasonal systems such as the Cuvelai System (seasonal river system in north central Namibia flowing from Angola) are managed differently from perennial systems such as the Zambezi River.

The subsistence nature of Caprivi's multi-species fishery, combined with the transboundary nature of the fishery resource and the extremely dynamic nature of a floodplain fishery, makes fishery management impossible through a quota system. Hence, the regulations are written in such a way as to restrict effort in the fishery, including restrictions on the permitted number of nets, mesh sizes, and net lengths. Furthermore, no dragging of nets is allowed in the Caprivi, but all traditional gear types such as traps, baskets, spears, etc. are allowed. The rationale is that no restrictions will be put



WWF-Norway Project Proposal

on the poor communities who can still use the traditional ways of fishing. The making of these gear types, in itself, is restricting the catch effort.

The Act also makes provision for an Inland Fisheries Council that will advise the Minister in relation to any matter on which the Minister is required to consult the Council. This council will include traditional leaders, thereby providing a means for inputs from the fishing communities. The council may also establish committees to investigate issues as determined by the council. Appointment of this Council, not achieved in the first phase, must have highest priority in the second phase.

According to the Act, closed seasons and Fish Protection Areas can be established with collaborating stakeholders with the aim to preserve the environment, protect the fish resource and habitats necessary for successful breeding, and to promote the regeneration of the fish stocks. It is noteworthy that the communities are receptive to the concept of closed seasons in the interests of harmonisation of relations with the neighbouring countries and a closed season is currently proposed by the communities for this year (2009). Fishery Inspectors are employed by the Ministry. At present there are only three inspectors for the Caprivi floodplain fishery, but the Ministry has indicated an intention to appoint nine more to increase the number to 12, and the Head of the enforcement section is moving from his base in Rundu to Katima Mulilo in December this year (2009). The Minister can also appoint persons nominated by the traditional authority as inspectors.

The Inland Fisheries Legislation has yet to be fully implemented, resulting in limited control over the illegal fishing taking place in the Zambezi River. Complaints from fishing lodges and tourists, as well as from the fishing communities, regarding the use of illegal fishing methods are frequent and warranted. In addition, increasing numbers of complaints are also being received concerning the use of very effective monofilament gillnets that are now locally available.

An encouraging sign is that the local traditional leadership has recognised current fishing practices are unsustainable and therefore actions need to be taken before the situation deteriorates further. The local communities believe the most effective way to manage the fisheries will be to devolve, from the Ministry to local level institutions, the authority to formulate regulations that are suitable for the area and for controlling the fishing activities. Licensing of fishing gear should contribute to the funding of these local management activities. This will need a change in the current regulations, whereby the Regional Council based in Katima Mulilo is given responsibility for licensing, a system that has proved to be unworkable.

Different policy and legislative frameworks exist between Namibia, Botswana and Zambia. The emphasis on subsistence fisheries in Namibia was formulated because research showed that the fish resource is limited and will not sustain commercial ventures. In Zambia, different regulations exist for the same resource utilised by Namibians and harmonisation of regulations is needed. Initial discussions have been held on this issue. Botswana has limited access to the fishery areas because most of the Chobe River frontage falls within protected areas, but nevertheless close cooperation is needed to overcome conflicts over the use of the resources.

3.1.5 Proposal alignment with national/regional/sectoral and international strategies and plans

3.1.5.1 Ministry of Fisheries and Marine Resources Strategic Plan 2004–2008



WWF-Norway Project Proposal

The objective of the MFMR's Strategic Plan is to provide the advice needed to sustainably manage and conserve living aquatic resources within acceptable criteria for ecosystem impacts. Among the strategies to achieve the objective are:

- Strategy 1: Resource utilisation – To promote the sustainable utilisation and conservation of living aquatic resources; and
- Strategy 4: Research cooperation – To promote the co-operation with neighbouring and other countries for research, management and development of shared resources.

The next phase of the Project will continue the activities from Phase 1, contributing directly to this plan through facilitating a system for sustainable fisheries management and collection of data that will serve as a basis for improved management. The project will seek to improve communications with the neighbouring countries in order to harmonise resource management.

3.1.5.2 Namibia Vision 2030

The Project will contribute towards the goals of the Namibia Vision 2030, including:

- Secure regional cooperation that enables access to and joint management of shared fisheries resources, including information exchange and joint research; harmonisation of policies and coordinated policy implementation; and
- Improving co-ordination and planning with neighbouring countries for shared natural resources.

3.1.5.3 National Development Plan 2

Namibia's National Development Plan 2 has the following objectives where the Project will make a contribution:

- To ensure the sustainable, optimal utilisation of the fresh water fish resources;
- To strive towards a holistic approach in the management of the fish, the rivers and the floodplain environments; and
- To ensure the co-ordination and co-operation between countries in the region, sharing inland water bodies and rivers with Namibia.

3.1.5.4 White Paper on the Responsible Management of the Inland Fisheries of Namibia

The objectives of the Inland Fisheries Policy include the following:

- To ensure the sustainable, optimal utilisation of the fresh water resources;
- To, in communal resources, favour utilisation by subsistence households and fishers rather than the commercialisation of the resource (although this does not preclude communities entering into commercial tourism ventures, as these are non-consumptive users of the resource);
- To ensure that the responsibility for the management of the communal fish resources is vested at community level, rather than with central Government through a "top down" system;



WWF-Norway Project Proposal

-
- To strive towards a holistic approach in the management of the fish, the rivers and floodplain environments; and
 - To ensure co-ordination and co-operation between countries in the region, sharing inland water bodies and rivers with Namibia.

3.1.5.5 Inland Fisheries Resources Act (2003)

Sections 2, 22, 23 and 29 of the Act are directly relevant to the present project proposal.

Section 2 states that the Minister determines policy based on relevant economic, social and environmental factors and on the basis of the best scientific information available. It further states that the Minister must consult with regional council and any other local authority councils or traditional authorities in that area.

Furthermore, the Minister must promote sustainable harvesting, management, conservation and protection arrangements for freshwater fish and their ecosystems in accordance with international law, international agreements and agreements to which Namibia is a party.

Section 22 deals with fisheries reserves. It states that the Minister, on his or her own initiative, or in response to an initiative of any regional council, local authority council or traditional authority, and in consultation with regional council, local authority council or traditional authority concerned, may by notice in the Gazette declare any area of inland waters as a fisheries reserve (now called Fish Protection Areas).

Section 23 gives the Minister authority to designate inspectors, both within Government and nominated by Traditional Authority.

Section 29 enables the Minister to provide for the establishment of inland fisheries committees for purposes of managing the fisheries in particular water bodies or in particular areas and define the functions, powers and duties of such committees. This section also covers the establishment of gear prohibition and restrictions.

In summary, the Minister has the authority to approve the establishment of Fish Protection Areas, the delegation of authority to inland fisheries committees, and the appointment of inspectors on the recommendation of a Traditional Authority. The Minister therefore has the authority, under the existing act, to facilitate all activities in this project proposal.

3.1.5.6 SADC Protocol on Fisheries

The Southern Africa Development Community (SADC) Protocol on Fisheries (2001) makes a number of statements regarding the co-management of fisheries resources, of which some will be addressed through the proposed project:

- State parties shall work towards the development, acquisition and dissemination of tested means and methods of providing education, empowerment and upliftment of artisanal and subsistence fisheries communities
- State parties shall facilitate broad-based and equitable participatory processes to involve artisanal and subsistence fishers in the control and management of their fisheries and related activities.



WWF-Norway Project Proposal

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- State parties shall work towards harmonising their national legislation as appropriate to traditional resource management systems, taking due account of indigenous knowledge and practices.
 - State parties shall, subject to Article 16 of this Protocol, adopt equitable arrangements whereby artisanal, subsistence and small-scale commercial fishers who are traditionally part of a transboundary fishery may continue to fish and trade in goods and services.

3.1.5.7 Regional co-operation

The first step towards improving cooperation in managing shared fish resources was undertaken in November 2000 when a co-management workshop, funded by WWF LIFE and the United Nations Food and Agriculture Organisation (FAO), was held between Namibia, Zambia, Zimbabwe, and Botswana to address this topic. A working group was established representing the four countries.

A common vision was agreed between Namibia, Zambia, Zimbabwe, and Botswana. It states the following: *“The aquatic resources of the Okavango and Zambezi River Systems continue to sustainably and significantly contribute towards the quality of life and food security of the inhabitants of the region, both present and future”*. In order to make a contribution towards the vision a common purpose was developed: *“All stakeholders (government, non-government, private and community based) in the Okavango and Zambezi River Systems are effectively co-managing the shared aquatic resources in a sustainable manner.”* To achieve the said vision and purpose, five objectives and goals have been agreed upon. They are as follows, that:

- The aquatic system is better understood and the knowledge shared amongst all stakeholders;
- A common policy and legal framework that is conducive to the co-management of aquatic resources is in place;
- Appropriate structures and mechanisms for the co-management of aquatic resources are established and maintained;
- Commitment and active participation of all stakeholders are secured and maintained; and
- The capacity of local communities to sustainably manage their aquatic resources is enhanced.

A second regional workshop was held in Swakopmund, Namibia, June 2001, with participants from Botswana, Namibia, South Africa, Zambia, Zimbabwe, and Malawi (SADC Inland Fisheries Sector Technical Coordination Unit (IFSTCU)). At this workshop it was agreed that the standing committee should also include members from Angola, Mozambique, and as observer, SADC IFSTCU (Malawi). The terms of reference for the standing committee were developed to primarily coordinate the activities among the trans-boundary states by directing and guiding the process.

The aim of this workshop was to focus on one of the main objectives from the Katima Mulilo workshop, (Katima Mulilo, 2000): *“The aquatic system is better understood and the knowledge shared amongst all stakeholders”*. In order to achieve this, three objectives were identified: 1) To review background information/existing research data; 2) to identify research gaps; and 3) to develop research projects/programmes to address these gaps.

The workshop outlined the direction that inland fisheries research in the Okavango and Zambezi River systems should take in the coming years. It was agreed that neighbouring countries should be involved in joint research activities as well as management decisions to guarantee the responsible



WWF-Norway Project Proposal

utilisation of their common resources. In order to achieve this goal two joint research projects were identified. These are:

1. Regional fisheries research surveys (Okavango and Upper Zambezi)
2. Regional fisheries off-take monitoring programme of the Okavango and Upper Zambezi

This initiative taken by the Inland Fisheries stakeholders in Botswana, Zimbabwe, Zambia and Namibia attracted the attention of the African Wildlife Foundation (AWF) who invited the working group to a workshop in Victoria Falls in January 2002 to discuss the possible funding of trans-boundary activities. The African Wildlife Foundation signed an agreement with the United States Agency for International Development Regional Centre for Southern Africa to implement a trans-boundary natural resources management activity in Botswana, Namibia, Zambia and Zimbabwe. This transboundary activity was intended to contribute to an increase in regional co-operation in the management of shared natural resources.

A project was designed to look into the standardisation of research methodologies. This included both biological as well as socio-economic aspects. Researchers from the four countries developed the methodologies and these were tested during two field surveys at Senanga in the Upper Zambezi River in Zambia. A draft report was submitted to AWF on the outcome of the surveys. The project was successful and the co-operation between the different countries was also excellent. The specific objective of the project was to formulate and test a standardised method of monitoring the fishery resource within the shared river systems between the four participating countries.

A preliminary joint fish survey between Botswana and Namibia was conducted in August 2001 in the Okavango Delta. The aim was to standardise the research methodology on the Okavango River and to discuss the possibility of having a monitoring programme that will be transboundary starting from the upper section in Namibia through to the lower delta. This initiative was funded by the two governments, and arose from these above mentioned co-management workshops. Three sampling sites were visited, including Guma lagoon, an area where annual natural fish kills are common and most conspicuous on arrival of new floodwaters.

Collaboration has continued, most notably in the responses in the countries to the outbreak of fish disease (EUS) in the area, resulting in combined activities to monitor the outbreak under the auspices of FAO, although the response to the disease was initiated during the first phase of the present project.

In the fisheries management sector there has been a hiatus in cooperation, a problem emphasised in the evaluation report for the first phase of the present project. There were a number of reasons for this, including loss of capacity in MFMR, which is now rectified, and relatively junior staff in Zambia, also now rectified with the appointment of a Fisheries Officer. Recent meetings with senior fisheries officers from both Zambia and Botswana confirm that collaboration is considered essential. The new phase of the project must build on the re-established communication channels as a matter of highest priority.

3.1.5.8 WWF's other projects and programmes in the country/region

The proposed activities of this project are in alignment with the WWF Global Programme Framework (GPF), as: 1) the project area is in the Miombo woodlands – one of WWF's 35 priority places; 2) the



WWF-Norway Project Proposal

activities proposed will reduce the fishery footprint, while concomitantly enhancing the biodiversity of freshwater ecosystems of the targeted area of the Zambezi River System.

WWF has been a strong supporter of CBNRM activities in Namibia and the Caprivi region since 1993, with most of its support coming, through the recently concluded (June, 2008) Living In A Finite Environment (LIFE) Project. In particular, emphasis has been placed on the creation of a national legal framework that provides incentive and authority for communities to manage their natural resources in a more effective and sustainable manner. Caprivi has been at the fore of Namibia's national conservancy movement, with ten conservancies now operating in East Caprivi alone and an additional five under formation. Conservancies are empowering local stakeholders to manage and directly benefit from their wildlife, and in the process, demonstrating the ability of local communities to be effective natural resource management stewards.

WWF In Namibia now operates through a Memorandum of Agreement with the Government of Namibia, with WWF In Namibia being part of the larger WWF East and Southern Africa Programme (ESARPO), which is administered from Kenya. ESARPO is supporting a wide range of natural resource management interventions in Mozambique, Malawi, Tanzania, Zambia, and Zimbabwe for wildlife, coastal zone, marine, forest and fresh water projects. As such, WWF In Namibia and ESARPO coordinate closely to share best practices and experiences in relevant areas of overlap and interest. In this regard, WWF In Namibia, through its USAID funded COPASSA Project coordinates closely with the WWF Norway funded Regional CBNRM Capacity Building Project to share CBNRM lessons, methodologies, and experiences with national and regional CBNRM fora. Similarly, WWF In Namibia began working closely with the Zambian Wildlife Authorities (ZAWA) and WWF-Zambia in the introduction of CBNRM activities in southwest Zambia through the Community Centred Conservation and Development (CCCD) Project. Consequently, WWF In Namibia is now better placed than ever to influence transboundary natural resource management activities between Namibia and Zambia.

Given the above, this fishery project will be in a position to learn from WWF projects and other initiatives in southern Africa and to share and disseminate relevant best practices from Namibia. As part of this process, WWF In Namibia will also coordinate with WWF-Zambia on the design and development of a WWF-NL funded project to facilitate enhanced management of the mid- and lower-Zambezi River basins through the coordination, introduction, and sharing of CBNRM practices with stakeholders on freshwater ecosystem management. Possible avenues of coordination between the projects will be explored.

3.2 Problem analysis

Pressure on the fisheries in the Zambezi and Chobe Rivers intensified significantly over the last few years with repeated complaints received from stakeholders (fishing lodges, fishing communities and tourists) in the region. New innovative ways of catching fish, but extremely damaging to the fish stocks, are now the order of the day. Fishing methods such as the use of monofilament gillnets (which are almost transparent in water and therefore difficult for fish to detect, resulting in much higher catches from already depleted stocks), drift netting, large dragnets and bashing are on the increase and are impacting on the resource. The impact is documented in the project's report "Analysis of Historic Fisheries Data for the Caprivi Region" (Hay & van der Waal, 2009a). Several lodge owners have even removed fishing from the list of activities due to low fish catches. The results of the fisheries data analysis further show there has been a definite decrease in large fish and fish biomass from the fished areas compared to protected areas. This was recorded for the Zambezi and Chobe Rivers as well as for the Kavango River (2009).



WWF-Norway Project Proposal

Commercial fishing on the Zambezi River has significantly increased over the last few years with truck loads of fish, seemingly mainly in Zambia, transported to inland markets. The problems of commercialisation are highlighted in the Inland Fisheries Policy, noting that the fish resources cannot sustain capital-driven harvesting. With a collectively owned resource, the current attitude is to remove as much fish as possible while it lasts. Old gillnets are not removed from the rivers, continuing to catch fish and other aquatic animals. Some of these gillnets were set during the flood and became exposed during the low water periods, resulting even in birds being caught. This situation came about due to the lack of implementing legislation, allowing a free-for-all to take without any consideration of the ramifications. This commercialisation and consequent depletion of stocks illustrates the vital importance of collaboration with Zambia in the next phase of the project and beyond.

A major problem area is the inability of MFMR to effectively implement the Inland Fisheries Resources Act. Only three fisheries inspectors are present in the Caprivi, and this is totally inadequate to effectively patrol the Zambezi and Chobe Rivers especially during the flooding season. The imminent transfer of the head of the enforcement division to Katima Mulilo is a welcome development, as is the proposal to increase the number of enforcement officers in the area to 12.

The issuing of licences for the recreational fishery and for gillnets is presently of great concern. Only the Regional Council in Katima Mulilo issues licences, which is impractical. The staff member from the Regional Council tasked to do the issuing is not always present, and at times, no licence books are available. This results in frustrated fishermen and tourists, sometimes arriving from neighbouring countries. The present legislation does not empower local communities to manage their own fisheries. Recently structured fishing committees are not yet recognised by MFMR and have no authority to manage their fisheries. The local communities also have no authority to issue licences in their areas, resulting in no financial incentives for these communities, which are necessary to support such institutional arrangements. These issues must be addressed as a matter of priority by MFMR and the Regional council in Katima Mulilo.

Approximately 100 years ago only 6,000 people lived in the region (Mendelsohn & Roberts 1997). Protection of the fish resource was not an issue then; but with an 18-fold increase in people in the area and the same fish resource available, it is imperative to develop management structures to control the exploitation of the fish stocks in these rivers.

A present lack of communication and collaboration between Namibia and Zambia further contributes to the present situation in the river system. Attempts were made in the past to facilitate collaboration between the two countries, but this never materialised into a permanent working relationship. Differences in the two countries' Inland Fisheries Acts need to be resolved to ensure a common vision for the fish resource of the Zambezi and Chobe River Systems.

The present state of the resource is of great concern to the communities. Meetings with the traditional authorities and local government highlighted the present desire of the people to get involved in the management process and their willingness to investigate new approaches of managing the resource to improve the current situation. It is noteworthy that with the flooding of Lake Liambezi and re-establishment of the fishery, the community in the area has set up a fisheries committee without input from the project. The lodge operators are also willing to meet with the communities and to collectively address the problem. Presently the stakeholders are ready to take



WWF-Norway Project Proposal

the next step. This includes suggestions from the conservancy and other fisheries committees to have a closed season to harmonise with that of Zambia.

The problems in the fisheries need to be addressed on a regional basis as Namibia, Zambia and Botswana all border the Zambezi/Chobe River System. The majority of the floodplains are on the Namibian side of the river, resulting in Zambians crossing over into Namibia to fish. Some of these fish are then exported to markets in Zambia, particularly with the recently improved road communications in the area. As this is the main driving force in the decline of the stocks, cooperation with Zambia, using Zambia's fishery laws, is vital for project success.

Conflict with Botswana arises because the Chobe National Park borders the Chobe River, disallowing any fishing on the Botswana side. Some conflict exists between Namibian fishermen and the Botswana Defence Force patrolling the national park. Some fish trade occurs at Kasane on the Chobe River between Namibian fishermen and Botswana vendors selling fish on the Kasane fish market.

Underlying causes of the problems in the fishery are

1. Lack of local rights and control over the fishery stock.
2. Lack of capacity to enforce fishery regulations.
3. Lack of will for enforcement officers to proactively enforce violations.
4. Lack of recognition by government for community fishery management institutions (i.e., conservancies, etc.) to set aside fish.
5. Lack of knowledge and skills in community institutions to manage fish stocks.
6. Inadequate devolution of regulatory controls (particularly fish licences only available at centralised location).
7. Over-exploitation of fish stocks by commercial harvesting and sale of fish.
8. Absence of coherent transboundary fishery legislation and regulations.
9. Weakness in transboundary communication and coordination on management of fish stocks;

Some of these problems are currently being addressed by MFMR as part of its renewed commitment to the project, while others will continue to be addressed in the next project phase, specifically:

1. Revision of the regulations under the Fisheries Act is agreed in principle and awaits gazetting.
2. Director of enforcement in MFMR transferred to Katima Mulilo. Proposed recruitment of nine more enforcement officers for MFMR. Project is promoting community fish guards appointed by local communities and proposed new regulations should empower them to uphold the regulations approved through the communities.
3. Increasing establishment to 12 will improve situation, as will appointment of community fish guards. Transfer of director to Katima Mulilo gives added authority. Project proposes change of regulations whereby possession of illegal gears will be an offence, thereby removing obligation to prove offender was caught in act of fishing.
4. Enactment of revisions to regulations addresses this issue.
5. Project working in conjunction with IRDNC addresses this issue.
6. Devolving regulatory controls to communities is of very high priority in next project phase.
7. Enforcement of existing regulations, which already outlaw most destructive fishing methods, and enactment of amendments to regulations to make possession of destructive gears an offence, will stop commercialised fishermen. Devolving management to communities (N.B. accompanied by awareness campaign) will empower them to stop commercialised illegal harvesting in their areas.



WWF-Norway Project Proposal

8. Harmonisation of regulations must be addressed (N.B. no need for countries' laws to be identical, just ensure laws target the same destructive fishing methods).
9. Steps already taken to enhance cross-border coordination. Next phase of project must give this highest priority.

3.2.1 *Stakeholders and beneficiaries*

3.2.2 *Stakeholders*

3.2.2.1 *Households dependent on subsistence use of the fishery resource*

In the Kabbe political constituency, which covers the Caprivi floodplains, about 30 per cent of the households (ca. 3,000 households in total in 2001) depend mainly on fishing for subsistence and income purposes. A large percentage of these households indicated that fishing is critical to the family for survival. The income generated from fishing goes to basic needs such as food, clothing and school fees. Commercial fishing on the Zambezi River is on the increase whereby people are recruiting fishermen to fish for them. The consequence of this is an increased fishing effort. On the floodplain, all members of households where fishing is a reported activity tend to be involved. Men fish using makoros (dugout canoes) in the major water bodies using nets and other fishing gear. During the floods, women and children are extremely active in fishing using a range of traditional gears such as baskets and fish fences, together with mosquito nets for the small, prolific, pioneering floodplain fishes. Marketing is primarily a woman's activity and women of many households are responsible for marketing catches surplus to subsistence needs (see vendors below).

3.2.2.2 *Vendors*

The majority of the vendors are women, with many heading their households. For some, it is the most important income activity to sustain the family.

3.2.2.3 *Potential local fishery management structures (i.e., fish associations, conservancies, etc.)*

The fisheries management system is only one component of the broader resource management system, based on the tribal council at various levels. The access system for different stakeholders is still relatively robust and is only sporadically enforced. Regulations on who can fish where and when are generally followed, although it may be sometimes difficult to enforce. A system of management is present on the Zambian side between the Government and the Traditional Authority, but also the enforcement can be problematic. The established fisheries management committees and the conservancy committees will receive training in the management of their fish resources in the developed Fish Protection Areas. These committee members will be involved in the development and implementation of management systems. The NGO IRDNC guides conservancies in management and the present project works closely with it.

3.2.2.4 *Traditional Authority*

The Traditional Authority is the facilitator in relation to the handling of conflicts or disputes. This system is transparent and it allows everybody to have a say in the discussion. There is also the right of appeal and the discussion can be taken to the next level in the Traditional Authority. The Traditional Authority will also be a key role player in future joint management of the fish resource



WWF-Norway Project Proposal

when considering the transboundary aspects and the Fish Protection Areas. Both ministerial and traditional legislative routes will be explored.

3.2.2.5 *Sport fisherman and tourism industry*

Tourism and recreational ventures are important activities, bringing new income opportunities and economic benefits to the rural communities. This is also the situation in the Caprivi where several lodges specialise in the recreational fishing industry. The Zambezi and the Chobe Rivers have several large excellent fish species for sport fishing, and tourists come from far to catch Tigerfish, Nembwe and Threespot Tilapia. Some of these species are overexploited by the fisheries, endangering the sports fishing industry in this region. The study of the economics of the fishing lodges indicates that it is of considerable importance to the local economy (Baker & Thaniseb, 2009).

Over 200 people from local communities are employed by lodges, thereby directly benefiting from the fish resources, while the lodges also assist the communities in other ways, such as provision of emergency transport, etc. Most angling is catch-and-release, thus it is a non-consumptive use of the fish resources. Taking into consideration angling tourists expenditure while in the area, each fish caught by an angler is several hundred times more valuable to the local economy than a fish removed for sale by a local fisherman (Baker & Thaniseb, 2009)

3.2.2.6 *Namibia Ministry of Fisheries and Marine Resources*

The Namibia Ministry of Fisheries and Marine Resources is the responsible Ministry for the freshwater fish resources in the country. The line functions of the Ministry are based on the Namibian Constitution (Article 95) that states “*The state shall actively promote and maintain the welfare of the people by adopting -- policies aimed at – maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future*”.

3.2.2.7 *Department of Fisheries, Zambia*

The Department of Fisheries in Zambia has its head office in Chilanga and falls under the Ministry of Agriculture, Food and Fisheries and has the responsibility to implement fisheries and aquaculture development programmes in the country. Linkages with MFMR are important for future collaboration on the sustainable use of the fish resource.

3.2.2.8 *WWF*

The WWF has a mandate to assist with the development of capacity in Namibian partner organisations to develop and implement innovative community-based natural resource management (CBNRM) and monitoring systems. As part of this process, WWF staff and partner organisations will assist the MFMR and relevant Caprivi and Zambian stakeholders (i.e., conservancy committees, traditional authorities, private sector partners, etc.) to develop, implement, and test pilot fishery management and monitoring systems as part of a broader approach to integrated resource management in Caprivi that also involves wildlife, forestry, and tourism resources. In addition, given the advent of CBNRM through the CCCD Project in southwest Zambia, WWF in Namibia is better placed to facilitate dialogue and involvement of Zambia fishery stakeholders in co-management of the Zambezi fishery.



WWF-Norway Project Proposal

3.2.2.9 *Lodge Operators and Guides In Botswana and Zambia*

Presently, the Zambezi/Chobe River system is routinely exploited by Botswanan and Zambian lodges and guides who ferry sport fishermen into the Namibian portions of the system to undertake sport fishing for tigerfish, bream, and barbel. This is a lucrative undertaking, which presently does not benefit the conservancies or fisherfolk of any country. The introduction of a fishery management plan for the Impalila and Kasika Conservancies will entail the establishment of a daily use fee for Botswana and Zambian lodge operators and guides who bring sport fisherman into Namibian waters.



WWF-Norway Project Proposal

Table 1: Stakeholders analysis

Stakeholder	Stake/Mandate	Potential role in project	Marginalised?	Importance
Subsistence fishermen	Closely linked to the state of the resource.	Key group in the project. Very knowledgeable about the resource and its users.	Yes. Commercialised fishing threatens their livelihoods.	High
Commercial fishermen in Namibia and Zambia	Harvest fish as their primary/secondary source of income	Largest single threat to introduction of sustainable fishery management practices	No. Cause of marginalisation of other stakeholders. Implementing bans on drag nets , drift nets and driving should eliminate them from the equation and restore rights to the communities.	High
Recreational fishermen and fishing lodges	Impact on fish resource is negligible, but they depend on the state of the resource.	Work closely with the fishing communities. Develop agreements on resource use.	No, but becoming so as a result of declining stocks.	High
Vendors (mainly women)	Their livelihoods depend on a healthy fish stock.	Key role players in markets (survey study results).	Potentially. Depletion of stocks due to commercialised fishing threatens their livelihoods.	High
MFMR/DoF	Responsible for all fishery related aspects.	Will take the leading role in the Project.	N/A	High
Nature Conservation (Government Departments in Namibia and in Zambia)	Responsible for all other plants and animals, aquatic as well as terrestrial.	Will be consulted during the project period.	N/A	Low
Conservancy committees	Responsible for the well being and management of the conservancies.	Key role players in the Project.	Potentially, if project fails in goals to transfer responsibility to communities.	High
WWF Namibia	Development of CBNRM and monitoring capacity in partner	Provide technical assistance and guidance to management and	N/A	Medium



WWF-Norway Project Proposal

	organisations.	monitoring systems.		
NGOs in the region	Several NGOs, in addition to those referred to in this document are doing work on the resources in the region.	NGOs will be consulted and, where relevant, cooperated with in achievement of project aims. Roles in neighbouring countries may be very important.	N/A	High
Namibia Nature Foundation (NNF)	NNF will do the administration and auditing of the project.	Responsible for the financial management of the project, also potential guidance in community involvement	N/A	High
IRDNC	Coordinates activities in conservancies in region.	Coordinates community activities for the project	N/A	High
Regional Council, Katima Mulilo	Overall interest in all activities in the region	Plays a role in legislation and will be kept informed on progress made.	No. Responsibility for licensing means the council currently plays a major role (unfortunately negatively). Devolution of responsibility to communities should marginalise the Council .	High (should be Low)
Traditional Authorities in Namibia and Zambia.	Play an important role in the management structures.	A major role player during the project period.	Yes. This MUST change during the project if it is to succeed.	High



WWF-Norway Project Proposal

3.2.3 *Beneficiaries*

- The fishing communities in the Caprivi region (both on the Namibian as well as on the Zambian sides) will benefit from sustainable community-based management of the aquatic resource and the accompanying empowerment and expected improvement in livelihood security. Entire households will benefit, especially those headed by women.
- Floodplain dwellers will continue to have access to aquatic resources.
- The communities who are already managing their resources using a CBNRM approach can now incorporate more fisheries components into their work.
- The co-operatives that are involved in aquaculture activities and fish ranching, marketing their products locally or regionally.
- Women in fishing families will maintain some degree of independence through maintaining their role in the transport and trading of fish.
- Tourist lodges and the members of the local communities employed by the lodges.
- Fishing communities, staff and Governments in neighbouring countries will gain experience from the implementation and sharing of information built into the project.
- The Fisheries Departments in Namibia and in Zambia and other co-operating governments and agencies will gain experience and improve their expertise in collaborating with partners and conducting multi-disciplinary work.
- The emerging Kavango/Zambezi Transfrontier Conservation Park, which will capitalise on the groundwork being laid by the formation of a cross-border fishery committee and its ability to improve management of a valuable shared fishery resource.

3.2.4 *Scale of benefits to the Caprivi communities depend on the fish resources*

The benefit to the communities listed above, if this project succeeds, is long-term sustainable access to relatively (see below) stable fish resources.

N.B. In a dynamic floodplain situation, the size of the resource may vary considerably from year to year, depending on scale of flooding and resultant breeding success. A major advantage in this project is that the large scale floods this year, 2009, have resulted in healthy recruitment. Floodplain fisheries are much more resilient than fisheries in more stable lake systems as the fish have evolved to take rapid advantage of favourable conditions for spawning and nursery areas. Thus, if the project is successful, recovery of the currently over-exploited fish stocks should be rapid and benefits apparent within two years.

Fishermen will benefit from this project in that they will not need to work so hard to catch enough fish for their livelihoods once the current destructive activities are halted (after a recovery period while stocks recover).

Consumers will benefit from improved quality of fish in the market

Lodges, and thus community members employed there, will benefit from the restored fish resources, resulting in improved attraction for tourists and thus higher occupancy rates. Lodges will also benefit from improved relations with the communities in which their businesses operate, particularly if the



WWF-Norway Project Proposal

Fish Protection Areas are successful. Local communities will then benefit from spin-offs such as fees for angling (catch-and-release) in the Fish Protection Areas.

Apart from improved lodge revenues if angling tourism increases, it is impossible to put a monetary value on the benefits. The current fishery, although stocks are in rapid decline, still yields a large amount of fish for the markets through the more efficient (and more destructive) methods currently employed.

Improved fish stocks may also ultimately lead to fewer conflicts with neighbouring countries.

The benefits of improved management are that complete collapse of the stocks of the larger fish species will be averted.

3.3 Adherence to WWF-Norway's strategy and priorities

3.3.1 Strengthening the role of civil society

Strengthening civil society is an important tool for an NGO like WWF in general and is an integral part of the Project. This is a key activity to ensure the meaningful participation in the governance and management of natural resources. It involves awareness raising and capacity building within a range of skills. In order for local communities to take a more active management role for their own natural resource base, the CBNRM approach assists local communities in organising themselves, strengthening existing institutions or facilitating the establishment of new ones, as well as helping local communities to formulate their wishes and demands. This approach will play a major role in during the next phase with the establishment of Fish Protection Areas, managed by the communities for the communities.

3.3.2 Improving effectiveness and efficiency of policy, legal and institutional frameworks relating to sustainable natural resource management.

The interventions proposed by this project will allow a bottom-up approach to informing fresh water fishery policy/legislative development and attendant regulations. In addition, this proposal seeks institutional framework realignments at the local, regional, and national levels. Such realignments include: 1) devolution of benefits and authority to recognised community fishery management institutions (i.e. conservancies, traditional authorities, new fishery committees, etc.); 2) decentralisation of the sale and regulation of fishing licenses from the regional level to the local management level; and 3) once piloted and tested, the improved, decentralised fresh water management practices will be embedded in the national fishery legislation and regulations.

3.3.3 Improving the conservation status of biodiversity rich areas and key natural resources

The project area is largely comprised of a rich system of floodplains and permanent backwaters to the Zambezi River. These floodplains are part of a wider ecosystem that has historically been part of a seasonal migration complex for a mix of charismatic large African megafauna (i.e., elephant, buffalo, plains zebra, waterbuck, etc.) that also includes the Kalahari Woodlands found on the southern side of the Chobe River. Until the late 1960s, the floodplains were occupied by large numbers of wildlife such as red lechwe, puku, and hippopotamus. However, the occupation of the area by the South



WWF-Norway Project Proposal

African Defence Force, and attendant proliferation of firearms in the area, resulted in extensive over-use of the floodplains' valuable wildlife stocks for the next three decades.

Since passage of the Namibia Conservancy legislation in 1996, a number of conservancies have begun to form and remnant populations of these animals have begun to recover. Presently, the area is of significant biodiversity value to Namibia and the region, and is under consideration as a potential Ramsar Wetland Site of International Importance. Additionally, the area provides critical habitat to a number of endangered and/or rare species on the CITES appendixes (Nile crocodile, African elephant, etc.) and national and IUCN Red Data books.

The Zambezi and Chobe Rivers are rich in fish species diversity with more than 80 species identified from the Namibian section of the system. The entire Zambezi River has close to 160 species. Several species have been identified as having specialised life cycles and habitat niches. There are species that are not commonly sampled due to habitat preferences, but others are naturally rare. The annual flood cycle is the main stimulant for fish production and any changes to the hydrology will seriously influence the fish stocks. Similarly, any artificial changes to the habitats may negatively impact on the fish population. It was found that species diversity and species composition differ between stations as well as during the different flood periods. This is linked to habitat differences, and breeding and migration behaviour of the different species.

3.3.4 Contributing to low carbon development pathways and climate change adaptation

The maintenance and/or increased productivity of the fishery stocks is an effective climate change adaptation approach, as climate change in Namibia (lower rainfall) is anticipated to reduce the viability of subsistence and commercial agriculture. Consequently, the maintenance of a relatively stable Zambezi fishery is an important climate change adaptation strategy. Due to the nature of this intervention, there will be little impact on carbon development pathways.

3.3.5 Contributing to gender equality

Gender issues are important in the Project in the sense that many female heads of households rely on the fish resource for their income and securing this resource will help in maintaining the position the fish income provides. This is especially true for the Katima Mulilo fish market where the majority of the vendors are women. The project will further aim to include more women in the Fisheries Management Committees and when electing the fish guards for the different Fish Protection Areas.

4 THE PROJECT (GOAL, PURPOSE, OUTPUTS, ACTIVITIES)

4.1 Project Goal

The shared Zambezi/Chobe River fisheries resources sustainably managed by promoting transboundary coordination and collaboration on the introduction of fully integrated fishery management systems.

(Note: This is a reformulation of the goal from phase 1, placing more emphasis on the fishery management systems. As pointed out in the project first phase evaluation report, this goal is a long-term goal for the fishery as a whole and not specifically for this finite project.)



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4.2 Project Purpose

By end 2012, a fully integrated management system for livelihood and sport fisheries, that provides optimal benefits to all stakeholders reliant on this valuable resource, is in place in targeted pilot communities.

(Note: It was recognised that the purpose for the first phase was over-ambitious, in that sensitisation of communities is needed and that the project did not have the capacity to cover the entire fishery area. The number of communities involved with the project and seeking advice from the project is increasing, and these will benefit from lessons learned in working with the pilot communities.)

4.3 Project Outputs

Output 1.

Cross-border collaboration achieved in management of the fisheries resources.

Output 2.

Management plan for the fisheries developed during Project Phase 1 successfully implemented (in collaboration with neighbouring countries) for the benefit of the communities.

Output 3.

Fish Protection Areas established and fully functional in targeted pilot communities.

Output 4.

Tourist angling lodges operating in agreement with local fishing/conservancy committees.

Output 5.

Capacity built in research and monitoring of fish resource.

Output 6.

Collaboration in next phase of NNF fish ranching project.

(Note: These outputs differ from those of the first phase in that:

- 1. The implementation of the management plan implicitly includes “understanding of the impact of the new Inland Fisheries Resource Act (Namibia) on the fisherfolk” (previous Output 1).*
- 2. Previous Output 2 contained within new Output 1.*
- 3. Previous Output 3, i.e. “Support the emergence of local level community fishery groups that assume management responsibility for fisheries in their areas” is now considered an ongoing activity contributing towards new Outputs 2 to 4.*
- 4. Previous Output 4, fish farming, is now more sharply defined in new Output 6.*
- 5. Previous Output 5 “Monitoring programmes” is contained within new Output 5.*

4.4 Project activities

Output 1: Cross-border collaboration achieved in management of the fisheries resources

Activity 1.1: Meetings held between senior fisheries staff of the three different countries to lay the foundation for the establishment of the cross-border committee.



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Activity 1.2: Workshop held with all stakeholders (Namibia, Botswana and Zambia) for the formation of the cross-border committee and the development of the ToR.

Activity 1.3: Close links will be set up with the MFMR, Namibia the DoF, Zambia, and Fisheries Section, Botswana, to facilitate the flow of information between the fishermen and the three Government departments. Additionally, steps will be taken to incorporate representatives from the Botswana Fishery Department and Department of Wildlife and National Parks to coordinate fishery management issues along the river frontage of the Chobe National Park.

Activity 1.4: Cross-border committee meetings at senior level held on a bi-annual basis

Output 2: Management plan for the fisheries developed during Project Phase 1 successfully implemented (in collaboration with neighbouring countries) for the benefit of the communities.

Activity 2.1: Workshop to present Zambezi transboundary management plan developed by the end of Phase 1 of the project to stakeholders and to receive their endorsement and support.

Activity 2.2: Training of the different role players highlighted in the management plan ensuring efficient execution of the different tasks outlined.

Activity 2.3: Set up of all institutions as outlined in the management plan.

Output 3: Fish Protection Areas established, gazetted and fully functional in targeted, pilot areas.

Activity 3.1: Develop ToR for the Fisheries/Conservancy Committees.

Activity 3.2: Facilitate the devolution of power to the community level by implementing, through MFMR, the proposed amendments to the fisheries legislation.

Activity 3.3: Finalise the management structures of the Fish Protection Areas through a consultative process from all stakeholders, including tourist lodges.

Activity 3.4: Boundaries of Fish Protection Areas defined and gazetted in legislation on agreement by Traditional Authority, Regional Council and MFMR.

Activity 3.5: Management systems designed, implemented and enforced in targeted Fish Protection Areas.

Activity 3.6: Identify sites (in collaboration with stakeholders) for, and establish additional Fish Protection Areas.

Output 4: Tourist angling lodges operating in agreement with local fishing committees/conservancies.

Activity 4.1: Facilitate the decentralisation of the issuing of recreational fishing licenses.



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Activity 4.2: Workshops with fishing committees/conservancies, Regional Council, Traditional Authorities and fishing lodges to discuss the role of the committees and Fish Protection Areas, and develop agreements on resource use.

Output 5: Capacity built in research and monitoring of fish resource.

Activity 5.1: Training schedule developed for MFMR staff from the Caprivi.

Activity 5.2: Assess training needs in Zambian DoF and provide advice and assistance.

Activity 5.3: Conduct field surveys.

Activity 5.4: Follow the proposed research/monitoring protocol as outlined in the management plan.

Activity 5.5: Facilitate external researchers/institutions in conducting research on the fish and fisheries relevant to the project and long-term goals.

Activity 5.6: Data analysis and joint papers to be published.

Output 6: Collaboration in next phase of NNF fish ranching project.

Activity 6.1: Provide technical assistance, on ad-hoc basis, to on-going fish ranching activities implemented during the NNF Lead fish farming programme. This is seen as a minor component of the project but of great value to the communities involved. Input is needed to maintain the current programme in the project area, i.e. the Caprivi floodplains, and thus supplement new activities implemented in pilot project areas through the new Country Pilot Partnership (CPP) project.

5 MONITORING AND EVALUATION (M&E)

5.1 Project Monitoring and Evaluation Plan

A technical advisory committee (steering committee) consisting of representatives from the MFMR (MFMR should chair the meetings), Zambian authorities, IRDNC, NNF and WWF should be established to monitor and support the project activities. This committee will meet at least twice a year to review work plans, progress reports and the annual budget.

5.2 Project reviews and evaluations

A mid-term evaluation will be undertaken approximately 18 months into the project. This evaluation will be carried out by the MFMR, NNF, and WWF, together with representatives from Zambia and Botswana fisheries departments. An external consultant will accompany the team to provide an independent viewpoint. The findings and recommendations of the evaluation will then be built into the remainder of the Project. A final evaluation will be conducted approximately two months prior to project closure. This evaluation will entail the use of an external evaluator, along with MFMR, NNF and WWF staff.



WWF-Norway Project Proposal

6 PROJECT IMPLEMENTATION ARRANGEMENTS

6.1 Human and other capacity requirements

The Deputy Director from the Directorate Aquaculture stationed at Kamutjonga Inland Fisheries Institute from the Ministry of Fisheries and Marine Resources in Namibia will manage the Project, but the proposed activities will be carried out by the Project Executant based in Katima Mulilo.

Personnel from the Ministry at Katima Mulilo in Namibia will be fully involved in the Project. Some of the personnel from the Rundu office may also be attached to the project if and when needed. Personnel from the MFMR with the necessary fisheries knowledge will be involved.

Personnel from the Department of Fisheries in Zambia (Sesheke office) will take part in the Project as well as some of the local fishermen.

As in previous phases, the NNF will provide the Project Executant and manage his/her activities.

The WWF Namibia will provide technical staff to the project to assist the MFMR and NNF with the development and implementation of key project interventions, and submit Project progress and financial reports to WWF-Norway based upon sub-grant reports submitted by NNF and the Project Executant.

WWF-Norway will be responsible for technical and financial reporting to NORAD, based on reports submitted by WWF In Namibia and provide overall grant management of the NORAD funds.

An office for the project will be made available through Namibia Nature Foundation in Katima Mulilo until the new MFMR offices have been constructed (January 2011) when the project office will move to the MFMR complex. Close contact will be maintained at all times between the project staff and MFMR, and work in the field will be closely coordinated.

6.2 Project management and organisation

The project implementation arrangement will involve a number of organisations, all of whom bring particular skills, knowledge, and resources to the Project. The Norwegian Agency for Development Cooperation (Norad) and WWF-Norway are intended to be the primary project funders. WWF Namibia will be the field-based manager of the Project, being responsible for overall adherence to the project proposal, budget, planned outputs, and provision of technical assistance, while WWF-Norway is responsible in relation to Norad. Grant funds will be administered by the Namibia Nature Foundation (NNF), which is the appointed WWF Namibia grant management partner. The NNF will ensure financial reports are produced for WWF Namibia in a timely manner, audits are undertaken, and donor expenditure guidelines are adhered to. Field-based implementation of the project activities will be performed by the Project Executant and the MFMR, who will develop workplans, implement the field activities, liaise with counterpart fishery ministries in Botswana and Zambia, and provide technical progress reports to WWF Namibia for submission to WWF-Norway. The Project will liaise closely with the Namibian NGO, Integrated Rural Development and Nature Conservation (IRDNC), who will integrate various aspects of fishery management into conservancies where Fish Protection Areas are being introduced. In addition, and where applicable, the Project will coordinate



WWF-Norway Project Proposal

with the Namibia Ministry of Environment and Tourism, which is playing a key facilitator role in the establishment of the Kavango/Zambezi Transfrontier Conservation Area.

The project will be guided by a technical advisory committee (steering committee) consisting of representatives from the MFMR, Zambian authorities, IRDNC, NNF and WWF that will monitor and support the project activities.

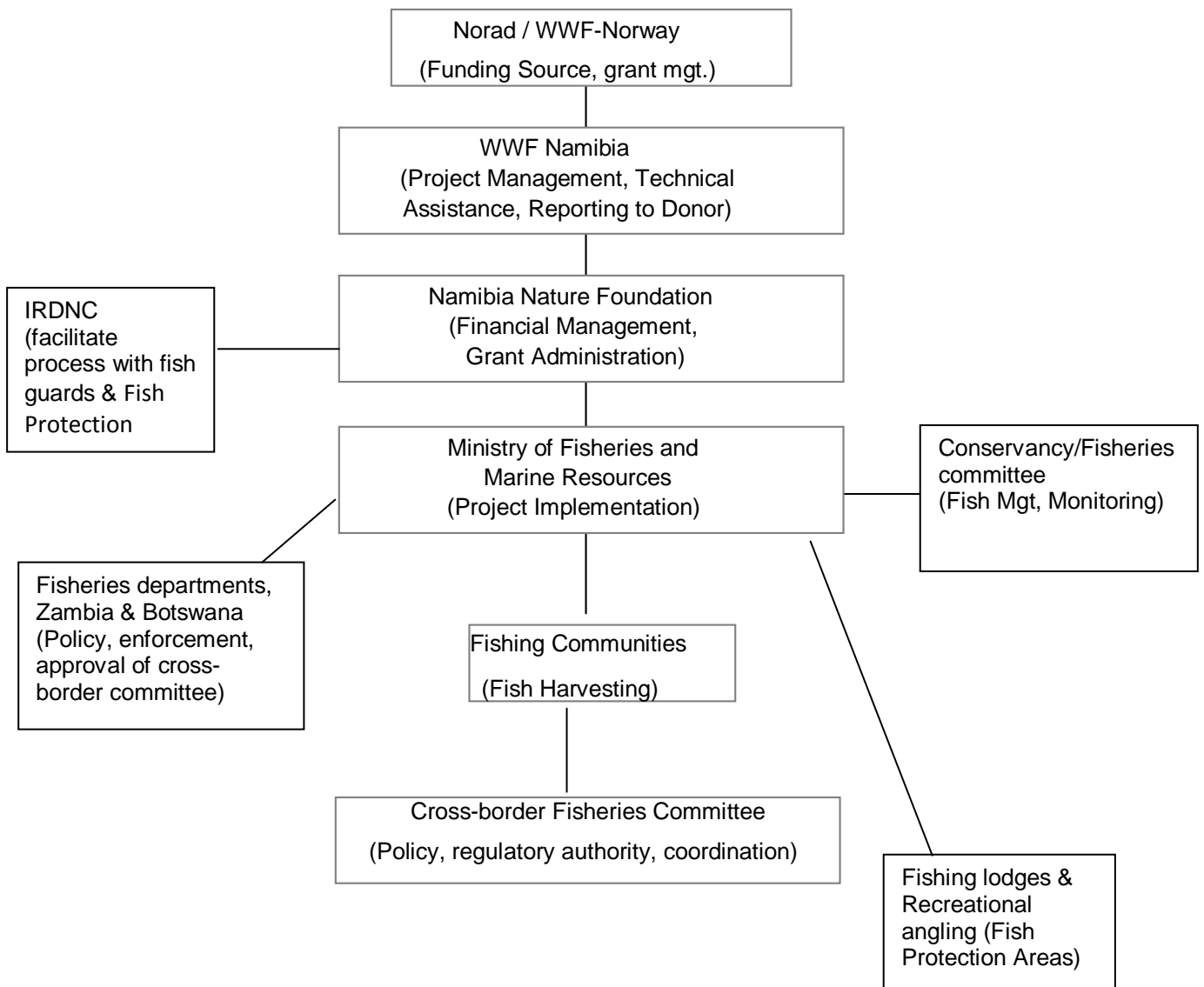


Figure 2. Illustration of planned key stakeholders and roles and responsibilities.



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7 ASSUMPTIONS AND RISKS

7.1 Assumptions

In order to achieve the purpose and outputs listed to lead to the conditions outlined in the goal, the following assumptions are made:

- The Fisheries Departments (Namibia and Zambia) are committed and make available the necessary resources (staff, funds, office space in new MFMR office at Katima Mulilo and equipment) for the Project (*MFMR's recent actions indicate commitment and steps are underway to achieve similar commitment from Zambia*).
- Staff from the MFMR Katima Mulilo office are fully involved with the activities of the project.
- A Fisheries Biologist is appointed at the Katima Mulilo office [*this has now been done*].
- A qualified and experienced executant can be recruited to run the Project, thereby providing dedicated inputs towards implementing, planning and reporting for the Project.
- The Regional Government, Traditional Authorities (both Namibia and Zambia) and other interested parties co-operate in the studies and discussions at regional level.
- The Department of Fisheries in Zambia delegate personnel to take part in the Project, as part of their employment duties, which will ensure the flow of information to the stakeholders in Zambia.
- Recruitment of suitable staff from the local communities (Namibia and Zambia) to ensure involvement of stakeholders for the Project.
- There is a continued willingness of local communities to take part in the Project and to test and evaluate proposed new management systems.
- The MFMR remains willing to devolve fishery management responsibilities and benefits to local community institutions, including conservancies (as stipulated in the White Paper on inland fisheries).

7.2 Risks

The following aspects have potential risks that can negatively impact on the project results:

- Full support and involvement from the Department of Fisheries in Zambia can be problematic and plagued with bureaucracy that slows project progress. This can be mitigated through the initial high-level meeting between the two Fisheries Departments from Namibia and Zambia. (*The recent appointment of a senior officer (Fisheries Officer) to Sesheke is an indication of commitment to managing the fishery, while good communication channels have now been established with the DoF HQ in Chilanga and Western Province regional office in Mongu*).
- The proposed amendments to the Inland Fisheries Resources Regulations for the devolution of power to the Fisheries/Conservancy Management Committees are not endorsed by the MFMR. The project should facilitate the process and provide all information to validate these changes. (*MFMR has indicated its intent to honour the changes in management emphasis*).



WWF-Norway Project Proposal

- Inability of fish guards to implement agreed regulations in the face of aggression by fishermen with illegal gear. *(Requires commitment by MFMR to provide enforcement back-up when requested by the communities).*

8 BUDGET

Year	Amount (N\$)	Amount (NOK)
1	1,185,822	912,171
2	1,238,826	952,943
3	1,273,749	979,807
TOTAL	3,698,397	2,844,921

9 SUSTAINABILITY AND EXIT STRATEGY

9.1 Sustainability criteria

The following components are built into the proposal to ensure the sustainability after the Project has ended:

- The involvement of the local communities in the management of the resource will enhance the feeling of ownership.
- Fisheries staff (Namibia and Zambia) will be attached to the Project and capacity and expertise will be built over time. Staff will then be able to take over all activities, depending on the manpower available at the time.
- Once the cross-border committee has been established and is functioning, support from government will ensure that the benefits of having this committee warrant its continued existence.
- The benefits (social, financial, and economic) of managing and benefiting from the resource will provide incentive for the fisheries/conservancy committees to continue with the recording of data, implementation of innovative management practices, and maintenance of the management structures generated.
- A detailed management plan for the region will give guidance to the management process.

The mid-term and end-of-project evaluations will be used to assess whether additional time or funding is required to fully sustain the activities initiated through this Project.

9.2 Exit strategy

The issue about sustainability after the life of the Project is extremely important for all stakeholders. All structures and institutions as proposed in the management plan should be in place to facilitate the handover process. A senior Fisheries Biologist was recently appointed in Katima Mulilo and will work very closely with the Project Executant and will be involved in all the project activities. The Fisheries Biologist, and a second biologist to be appointed, will then be in a position to sustain the



WWF-Norway Project Proposal

momentum that was created during the project period. The exit strategy will be further developed and outlined during the Project to ensure that the transition between the Project and the take over of the fisheries departments (Namibia and Zambia) is facilitated and that project activities continue as recommended.

With devolution of management to the communities and Traditional Authorities, the roles of MFMR and DoF will be changed to advice and support for the communities, and thus the management of the fisheries should be much easier to sustain without (or with more limited) further external project input.

The advisory committee (with ToR) will continue to monitor the activities after the project has ended for a period to be determined by MFMR. The funding of the advisory committee after the end of the project still needs to be discussed

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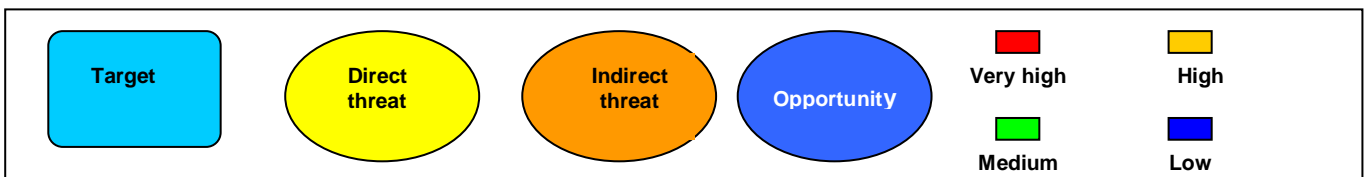
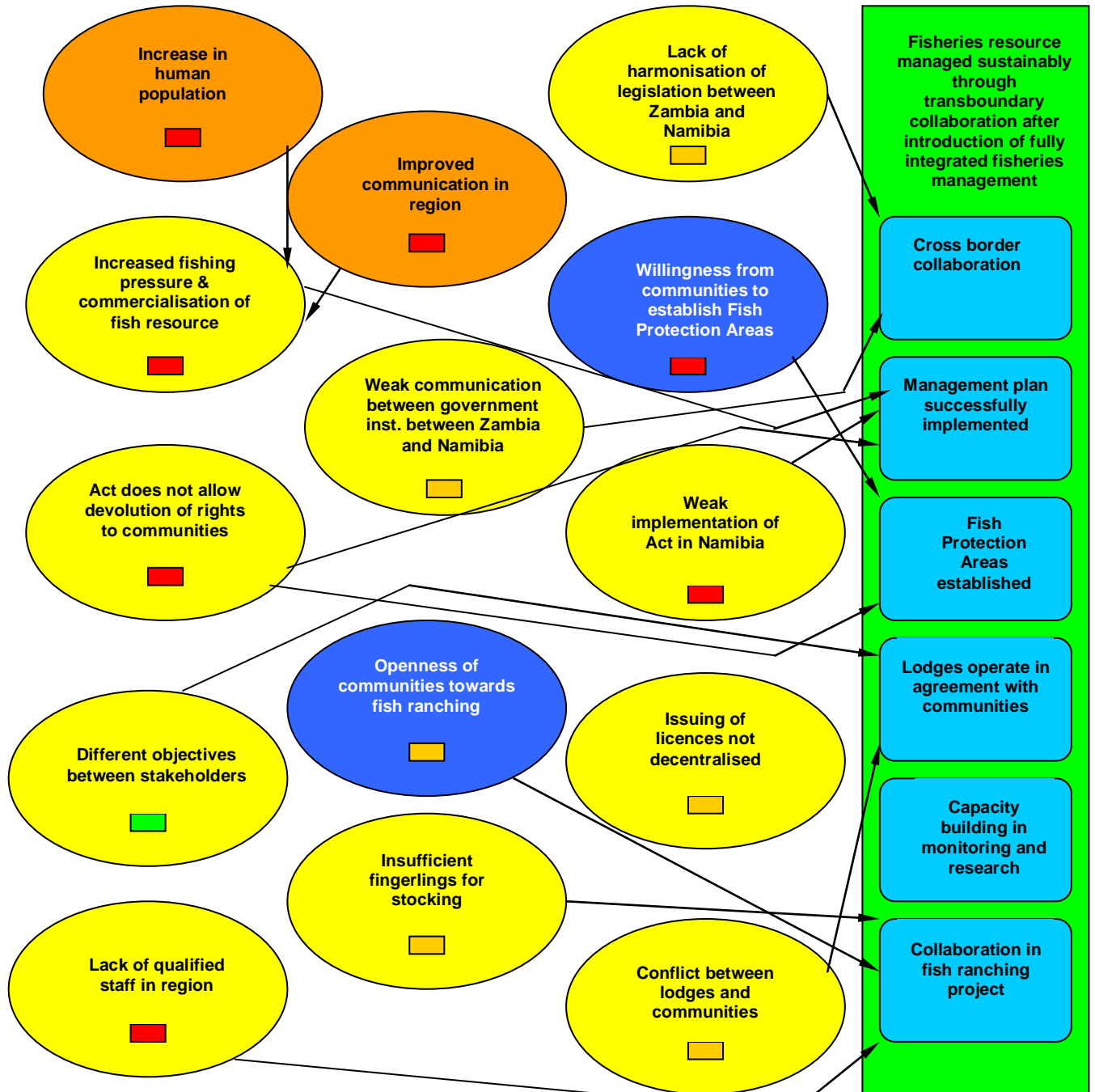
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APPENDICES

APPENDIX 1: CONCEPTUAL MODEL





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APPENDIX 2: LOGICAL FRAMEWORK

Purpose, outputs and activities of the proposed new project phase.

	Intervention logic	Objectively verifiable indicators (qualitative and quantitative)	Baseline (value and time of measurement)	Assumptions
Project Purpose (target):	By end 2012, a fully integrated management system for livelihood and sport fisheries, that provides optimal benefits to all stakeholders reliant on this valuable resource, is in place in targeted pilot communities	<ul style="list-style-type: none"> • Local fishery management structures operational (i.e., conservancy committees, Fisheries Committees, Traditional Authority, etc.) • New fishery management practices introduced at local level, including gear restrictions and mandatory licensing, Fish Protection Areas, sport fishery agreement with conservancies etc. 	<ul style="list-style-type: none"> • Fisheries committees in Caprivi and in Zambia formed but not yet mandated to take over responsibilities for fisheries management. 	<ul style="list-style-type: none"> • Full support by all stakeholders during the Project -[includes Fisheries Committees, Conservancy Committees, Lodges, Namibia-MFMR, Zambia-DoF] • MFMR accepts devolution of management to communities • Legislation amended to allow community institutions to manage own fisheries resources
Outputs (results)	<p>Output 1. Cross-border collaboration achieved in management of the fisheries resources</p>	<ul style="list-style-type: none"> ▪ Meetings of senior fisheries staff from three countries at least biannually. ▪ Minutes produced and communicated to local officers 	<ul style="list-style-type: none"> ▪ Communication between countries established and strengthened in latter part of Phase 1 	<ul style="list-style-type: none"> ▪ Governments commit to support for project and planning meetings.



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	Intervention logic	Objectively verifiable indicators (qualitative and quantitative)	Baseline (value and time of measurement)	Assumptions
	<p>Output 2. Management plan for the fisheries developed during Project Phase 1 successfully implemented (in collaboration with neighbouring countries) for the benefit of the communities.</p>	<ul style="list-style-type: none"> ▪ Published management plan ▪ Minutes of stakeholder meetings showing approval ▪ Reports from field officers ▪ Fishermen licensed and abiding by agreed regulations. ▪ MFMR and Zambia enforcement staff working in close consultation with management committees. ▪ Monitoring indicates stabilisation/improvement of fish stocks. 	<ul style="list-style-type: none"> ▪ Namibia Management Plan developed in first phase, incorporating recommendations from research reports, CBNRM reports and Evaluation report ▪ Fishermen ignoring existing regulations. ▪ Licensing through Regional Council impractical 	<ul style="list-style-type: none"> • MFMR accepts devolution of management to communities. • <i>(Zambia Fisheries Act already incorporates community involvement)</i>
	<p>Output 3. Fish Protection Areas established and fully functional in targeted pilot communities</p>	<ul style="list-style-type: none"> ▪ Fish Protection Areas gazetted by MFMR under inland fisheries regulations with defined boundaries, as per community requests ▪ Monitoring indicates absence of fishing ▪ Fish guards reports on Fish Protection Areas ▪ Lodges cease complaints 	<ul style="list-style-type: none"> ▪ Fishing in main river channels currently a free-for-all ▪ Lodges report severe stock depletion by illegal fishing methods 	<ul style="list-style-type: none"> ▪ MFMR accepts Fish Protection Area requests ▪ MFMR assists communities with initial enforcement, and thereafter on request by community



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	Intervention logic	Objectively verifiable indicators (qualitative and quantitative)	Baseline (value and time of measurement)	Assumptions
	<p>Output 4. Tourist angling lodges operating in agreements with local fishing committees/ conservancies</p>	<ul style="list-style-type: none"> ▪ Contributions from angling fees paid to lodges to committees/ conservancies. ▪ Catch records from lodges. ▪ Establishment of Fish Protection Areas and agreements over catch & release angling. 	<ul style="list-style-type: none"> ▪ Friction between lodges and MFMR over licensing enforcement. ▪ Complaints about falling catches. ▪ No Fish Protection Areas. 	<ul style="list-style-type: none"> ▪ Agreements on resource utilisation acceptable to all stakeholders ▪ Regional Council and MFMR enforcement section accepts revised licensing arrangements
	<p>Output 5. Capacity built in research and monitoring of fish resource</p>	<ul style="list-style-type: none"> ▪ MFMR Officers attendance on courses ▪ Certificates, further qualifications for MFMR staff ▪ Publication of these, papers, reports ▪ Reports on training of fish guards by field officers ▪ Production of publicity material for education in communities (e.g. posters) 	<ul style="list-style-type: none"> ▪ Newly appointed scientist has degree and training in GIS 	<ul style="list-style-type: none"> ▪ MFMR appoints further scientific and enforcement staff as agreed, thereby allowing staff time to attend courses ▪ MFMR agrees to staff attending training courses and conducting research for further degrees
	<p>Output 6. Collaboration in next phase of NNF fish ranching project</p>	<ul style="list-style-type: none"> ▪ Progress reports from NNF consultant Ms P. Lilungwe on project activities and collaboration with CCP project ▪ 	<ul style="list-style-type: none"> ▪ Successful stocking of 34 pans/ponds in first phase ▪ Growth monitored ▪ Many requests for project expansion to new areas 	<ul style="list-style-type: none"> ▪ CCP supports consultant for primary activities ▪ Project supplies technical and logistical back-up when necessary



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(Main) Activities
Output 1: Cross-border collaboration achieved in management of the fisheries resources
<i>Activity 1.1:</i> Meetings held between senior fisheries staff of the three different countries to lay the foundation for the establishment of cross-border committee.
<i>Activity 1.2</i> Workshop held with all stakeholders (Namibia, Botswana and Zambia) for the formation of the cross-border committee and the development of the ToR.
<i>Activity 1.3:</i> Close links will be set up with the MFMR, Namibia the DoF, Zambia, and Fisheries Section, Botswana, to facilitate the flow of information between the fishermen and the three Government departments. Additionally, steps will be taken to incorporate representatives from the Botswana Fishery Department and Department of Wildlife and National Parks to coordinate fishery management issues along the river frontage of the Chobe National Park.
<i>Activity 1.4:</i> Cross-border committee meetings at senior level held on a bi-annual basis.
Output 2: Management plan developed in Phase 1 successfully implemented for the benefit of the communities (in collaboration with neighbouring countries).
<i>Activity 2.1:</i> Workshop to present Zambezi transboundary management plan developed by the end of Phase 1 of the project to stakeholders and to receive their endorsement and support.
<i>Activity 2.2:</i> Training of the different role players highlighted in the management plan ensuring efficient execution of the different tasks outlined.
<i>Activity 2.3:</i> Set up of all institutions as outlined in the management plan.
Output 3: Fish Protection Areas established, gazetted and fully functional in targeted, pilot areas.
<i>Activity 3.1:</i> Develop a ToR for the Fisheries/Conservancy Committees.
<i>Activity 3.2:</i> Facilitate the devolution of power to the community level by implementing, through MFMR, the proposed amendments to the fisheries legislation.
<i>Activity 3.3:</i> Finalise the management structures of the Fish Protection Areas through a consultative process from all stakeholders, including tourist lodges.
<i>Activity 3.4:</i> Boundaries of Fish Protection Areas defined and gazetted in legislation on agreement by Traditional Authority, Regional Council and MFMR.
<i>Activity 3.5:</i> Management systems designed, implemented and enforced in targeted Fish Protection Areas.
<i>Activity 3.6:</i> Identify sites (in collaboration with stakeholders) for, and establish additional Fish Protection Areas.
Output 4: Tourist angling lodges operating in agreement with local fishing committees/conservancies
<i>Activity 4.1:</i> Facilitate the decentralisation of the issuing of recreational fishing licenses.



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(Main) Activities
<i>Activity 4.2:</i> Workshops with fishing committees/conservancies, Regional Council, Traditional Authorities and fishing lodges to discuss the role of the committees and Fish Protection Areas, and develop agreements on resource use.
Output 5: Capacity built in research and monitoring of fish resource.
<i>Activity 5.1:</i> Training schedule developed and implemented for MFMR staff from the Caprivi.
<i>Activity 5.2:</i> Assess training needs in Zambian DoF and provide advice and assistance.
<i>Activity 5.3:</i> Conduct field surveys.
<i>Activity 5.4:</i> Follow the proposed research/monitoring protocol as outlined in the management plan.
<i>Activity 5.5:</i> Facilitate external researchers/institutions in conducting research on the fish and fisheries relevant to the project and long-term goals.
<i>Activity 5.6:</i> Data analysis and joint papers to be published.
Output 6: Collaboration in next phase of NNF fish ranching project
<i>Activity 6.1:</i> Provide assistance to on-going fish ranching activities implemented during the NNF Lead fish farming programme, in areas others than those implemented in pilot project areas under new Country Pilot Partnership (CPP) project.



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APPENDIX 3: ACTIVITY SCHEDULE

Activities	Year 1				Year 2				Year 3				Deliverables
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
OUTPUT 1													
Cross-border collaboration													
Activities													
Senior meeting to lay foundation for cross-border committee													Agreement to collaborate fully, and authority given for local level cooperation.
Workshop: Committee ToR established													ToR agreed and implemented.
Fisheries departments link at local level													Monthly meetings and collaboration in activities.
Cross-border senior committee meetings													Senior policy-making meetings twice yearly.
OUTPUT 2													
Management Plan													
Activities													
Stakeholder workshop													Management plan agreed.
Training													All staff knowledgeable about project activities and targets.
Institutional establishment													Management plan functioning fully.
OUTPUT 3													
Fish Protection Areas													
Activities													



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Activities	Year 1				Year 2				Year 3				Deliverables
Local committees ToR developed													ToR agreed and published.
Amend legislation to devolve authority													Proposed amendments to regulations gazetted.
Finalise Fish Protection Areas management structures													Current proposed Fish Protection Areas have management system agreed.
Fish Protection Areas boundaries gazetted													Current proposed Fish Protection Areas have agreed boundaries.
Management systems implemented													Fish Protection Areas functioning.
Additional Fish Protection Areas													New Fish Protection Areas established on request by communities.
OUTPUT 4 Tourism agreements													
Activities													
Facilitate decentralisation of recreational fishing licences													Licences made available through lodges and other tourism organisations.
Agreements on resource use, particularly in Fish Protection Areas													Local communities and lodges cooperating fully.
OUTPUT 5 Capacity building													
Activities													
Training schedule for MFMR													Training needs identified and relevant courses attended (through separate funding sources).
Training needs for Zambia DoF													Training needs identified, advice and assistance given, relevant courses attended (through separate funding sources).
Field surveys													Data analysis, reports, management recommendations.



WWF-Norway Project Proposal Template

Activities	Year 1				Year 2				Year 3				Deliverables
Research/monitoring													Data analysis, reports, management recommendations.
Facilitate external research projects													Reports, papers, further degrees, management recommendations.
Data analysis													Reports, papers, further degrees, management recommendations.
OUTPUT 6													
Fish ranching													
Activities													
Assistance to CCP fish ranching project													Data analysis, Progress reports

APPENDIX 4: MONITORING AND EVALUATION PLAN

- 🐟 Technical Advisory Committee (steering committee) monitors and supports project activities. Committee to consist of representatives from MFMR (MFMR should chair the meetings), Zambian authorities, IRDNC, NNF and/or WWF.

- 🐟 Committee will meet at least twice a year to review work plans, progress reports and the annual budget.

- 🐟 Mid-term evaluation 18 months into project carried out by the MFMR, NNF, and WWF, together with representatives from Zambia and Botswana fisheries departments. An external consultant will accompany the team to provide an independent viewpoint.

- 🐟 Findings and recommendations of mid-term evaluation built into remainder of Project.

- 🐟 Final evaluation two months prior to project closure. Evaluation will be by independent evaluator in consultation with MFMR, Zambia and Botswana fisheries departments, NNF and WWF staff.

APPENDIX 5: DETAILED BUDGET

APPENDIX 6: UPDATED FINDINGS FROM EVALUATION REPORT

A. SUMMARY OF PROGRESS TOWARDS OUTPUTS IN PHASE 1

Output 1. A better understanding of the impact of the new Inland Fisheries Resource Act (Namibia) on the fisherfolk (on Namibians and Zambians and the resource) is acquired and documented.

Review of progress

Through the project, recommendations were made for revisions to the regulations under the Fisheries Act to address the problems in fishery management. The existing regulations and the proposed revisions are, however, lengthy and highly prescriptive, and leave little room for flexibility in management of the different fisheries stocks. Analysis of research results shows that many stocks are under-exploited and that the current gillnet mesh size regulations prohibit the exploitation of the smaller species while providing little in the way of protection for the juveniles of the heavily-exploited large cichlid species. It is therefore considered that there should be a change in emphasis from promoting the presently proposed fisheries regulations towards an approach whereby the communities, with guidance from the project/MFMR, are allowed to draw up their own localised regulations for ratification under the Act. The proposed revisions to the Act and to the regulations incorporate procedures for the declaration and establishment of inland fisheries committees, which should be the administrative bodies responsible for management. The proposed revisions do not yet incorporate the flexibility necessary for establishing local regulations as they specifically exclude rules that would be in contravention of the Act or any other relevant legislation. If this stipulation remains, the rules under the Act should be kept to an absolute minimum to facilitate flexibility in management. Such an approach would allow communities on the floodplains the right to exploit the small, prolific floodplain species during the period of flooding, while on the other hand, communities on major river channels would be encouraged to develop regulations that protect the large, valuable cichlid species until they have reached maturity.

Output 2. Collaboration on fisheries management achieved between the transboundary communities through the establishment of a cross border committee (between Namibia and Zambia) that will have input on the joint management of the shared fishery resource and oversight of the closed fishing season.

Review of progress

The transboundary committee is not yet established, but officials now have contact and cross-border visits take place. Zambia and Botswana have both given assurances of commitment to the project goals and it is essential in the next phase of the project that the countries work together.

Output 3: Support the emergence of local level community fishery groups that assume management responsibility for fisheries in their areas.

Review of progress

The first phase of the project has made considerable progress in sensitising all stakeholders in Namibia to take ownership and become involved in co-managing the resource. Key conservancies in the fishing area have engaged with the project staff, and fisheries committees have been voluntarily set up outside conservancy areas. The committees are unanimous in wanting to stop damaging fishing methods and have proposed several areas to be Fish Protection Areas. They have also now indicated that they are also responsive to the idea of harmonising of closed season regulations with neighbouring countries.

Output 4. Facilitation of the development of appropriate fish farming projects in conjunction with MFMR and projects utilising existing water bodies and local fish species.

Review of progress

The NNF-Lead Fish Farmers' Project was initiated under the Community Empowerment and Enrichment Project (CEE) and actively supported by the Zambezi/Chobe fisheries project which gave advice and technical support. A total of 30 natural pans and ponds were stocked with cichlids and catfish, over 4000 fish in total, and growth of the fish was monitored (Lilungwe, 2009). Training was given to the community in each case. Many requests were made for assistance with similar projects, and the MFMR proposes to set up a hatchery specifically to boost fingerling production.

Output 5. Monitoring programmes are introduced and/or maintained (i.e. for the river fisheries survey at Kalimbeza (Namibia) and Ngweshi (Zambia) area), the fish market survey at Katima Mulilo, EUS monitoring and the biological surveys on the rivers and the lakes.

Review of progress

Two-monthly biological surveys were conducted at four selected sites. A detailed report on analysis of data was prepared and management recommendations made (Hay & van der Waal, 2009a). These are incorporated into planning for the next project phase. The evaluation highlighted the need for extra scientific staff and MFMR has now appointed a senior scientist and is currently recruiting another scientist. Regular EUS monitoring takes place together with the biological sampling (Hay & van der Waal, 2009b). Fish market surveys in Katima Mulilo continue (Hay & van der Waal, in prep.). Cooperation with Zambia remains weak.

B. RECOMMENDATIONS OF EVALUATION REPORT

The evaluation report included a series of recommendations, firstly relating to the wrapping-up process for the first phase of the project, and secondly the terms of reference for the proposed second phase. The recommendations relevant to planning for the next phase are summarised here.

Management Plan

Develop a comprehensive management plan for the fisheries using CBNRM methodology based on the documentation published during the project on the status of the fish stocks and the guidelines for community based management (Jones, 2008). The management plan should take note of the Fisheries Act and regulations with proposed amendments.

The management plan should cover the Caprivi section of the Zambezi/Chobe system, involving all three countries through regular transboundary meetings, and should set out broad, harmonised policy guidelines, including monitoring approaches, collaboration, and information-sharing. The plan should emphasise that local level management plans with zonation maps should be developed at community fisheries committee levels, and accommodate different management approaches for main river, main channels, side channels, floodplains, pans, etc., including Fish Protection Areas.

The management plan should incorporate fisheries monitoring and research as well as adaptive management to develop understanding of the fisheries dynamics, particularly in relation to flood regimes. The next phase of the project, while not directly conducting research, should explore with MFMR ways of facilitating collaborative research with Namibian and other southern African research institutes/universities.

On acceptance by stakeholders, in particular MFMR, of the management proposals, the plan should be translated into Silozi and discussed and subsequently developed further with the fishing communities.

Amendment of Act and Regulations

The proposed fisheries regulations should be greatly simplified with the assistance of the project. The majority of proposed regulations are aimed specifically at fishing in the main river channels and do not take into account the widespread floodplain fisheries for very different fish species assemblages. Gazetting regulations including lengthy lists of banned fishing gears for the whole area will be counter-productive as fishermen will not respect regulations that they know are unnecessary and that prevent them efficiently harvesting resources. Regulations must therefore be agreed at local community level. For example, regulations aimed at protecting large species in the major river channels will be pointless in floodplain scenarios where small, pioneering, highly prolific species are the target. It is therefore suggested that only the most destructive fishing gears are prohibited through the Fisheries Act regulations. These are: seine nets, including gillnets modified to allow them to be dragged through the water; monofilament gillnets; drifting gillnets; beating the water or marginal vegetation to drive fish into gillnets; poisons and explosives.

Following development of the new comprehensive management plan, and with agreements on the way forward for community management and on local regulations, a new version of revisions of the Act and regulations should be drafted with legal advice and enacted through the MFMR.

The system for issuing fishing licences needs to be reviewed by MFMR in cooperation with the Regional Council in Katima Mulilo to facilitate management through gear registration at local authority level.

Recognition of importance of angling tourism to the local economy

Quantification of the contribution of the angling tourism sector to the local economy conducted during the project illustrates the value of the fishery and provides an enabling environment for future cooperation between MFMR, local fishing committees/conservancies and lodges (Baker & Thaniseb, 2009). It is important that project activities in the tourist areas address issues raised by both tourism and food fishery sectors. Communities (through conservancies) have accepted the concept of Fish Protection Areas and pilot programmes should be initiated as soon as possible. The project should explore the possibility of incorporating contributions from tourist lodges to conservancies that promote sound conservation measures such as Fish Protection Areas where catch and release angling can be promoted.

Transboundary collaboration

Strengthen transboundary collaboration between Namibia, Zambia and Botswana. Transboundary meetings must be a regular occurrence in the next phase of the project. These meetings should form the basis for improved communication and decision-making during the project in future,

Conditions for new project

The new phase should be a joint project primarily between Namibia and Zambia but with Botswana input also, operating with the full confidence and participation of senior officers in the Fisheries ministries/departments in the three countries. MFMR and the Zambian DoF must be active partners and there should be a more frequent project presence on the Zambian side of the river. Botswana should also be much more closely involved in the project as the Chobe floodplain is a shared resource and Botswana has a set of fishing regulations that needs to be harmonised with agreed regulations on the Namibian side of the Chobe River.

The project should be guided by a steering committee, meeting frequently, incorporating senior officers from the three countries. Commitment to the project goals by the countries is vital. MFMR has confirmed its commitment to the project. Zambia is also committed although formal notification is needed. Technical assistance should include a fish and fisheries specialist supporting a specialist in CBNRM. Extension messages must conform to current knowledge of fishery dynamics and not conflict with indigenous knowledge on the state of the fish stocks and how best to conserve them. The project emphasis must be on empowering the fishing communities/conservancies to manage the fisheries on a localised basis, including responsibility for licensing of fishermen and/or fishing gears. Regulations need to be reviewed to remove the excessive and biologically unnecessary restrictions contained therein. Agreement of local regulations should be decided on a localised basis dependent on the fishery priorities in the immediate area controlled by a committee or conservancy. The project's role should be to provide guidance to the communities based on sound scientific principles. The current project has initiated close links with IRDNC a local NGO that guides conservancies in CBNRM. It has appointed two officers trained through the project to assist IRDNC in fisheries matters. The new phase of the project should continue to provide close support to IRDNC to develop CBNRM in the fisheries.