

# **USING BEACH VILLAGE COMMITTEES (BVCs) TO COLLECT CATCH AND EFFORT DATA FOR THE FISHERIES OF LAKE CHILWA**

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## **1.0 Introduction**

Lake Chilwa is one of the most productive lakes in Malawi after lakes Malawi and Malombe. The lake is situated in Zomba and forms a boundary between Malawi and Mozambique. The lake constitutes four main fish species categories, mainly Matemba, Makumba, Mlamba and Others. The main harvesting fishing gears for these species include gillnets, matemba seine nets, mosquito seine nets and longlines, among others. Currently, there are over 5,000 fishers on the lake landing with an average annual fish production of 1,500 tons. In total, the fisheries resources of the lake support some 30,000 persons in terms of direct and indirect employment.

Over the years, efforts towards sustainable management of the fisheries resources have evolved from a top-down approach using technical measures coupled with strict enforcement of the regulations to a bottom-up approach using participatory fisheries management framework (PFM). The PFM framework advocates the active involvement of local institutions in decision-making over the management and utilization of the resources. In total, the lake has 15 beach village committees (BVCs) and 6 riverine beach committees (RVCs). Although these local institutions have a somewhat long history of existence, they have been found wanting where it comes to proper management of the resources. The fish production from the lake has remained stagnant over the years. A number of illegal, unregulated and unreported (IUU) fishing practices are still taking place in the lake. A critical example of the unregulated and unreported fishing practice is the common use of a modified gill net where the net panels are re-enforced using

bamboos, a development quite distinct from the normal gillnet fishing practice. As a result, fish production from the lake is not improving, a number of high-valued fish species such as Chambo are rarely observed in the catches, a pointer to localised extinction of the species. Even the once more dominant Matemba, small-sized species, are caught at extremely low levels that are unprecedented in history. Drivers to this situation are quite numerous and include food and nutrition security, employment status, ownership of the resource management system and the general socio-economic aspects of the fishing communities around the lake.

A need has therefore arisen to take an inventory of all fishing practices in Lake Chilwa, harness the involvement of the fishing communities in fish catch and effort data collection through participatory research.

## **2.0 Justification**

The rationale for instituting fish catch and effort data collection using BVCs stems from a number of perspectives. Fundamental among them is the state of the Department of Fisheries where insufficient resources negates efforts towards sustaining data collection systems. The much needed resources in this regard include finances, trained personnel, equipment and other research facilities.

In addition, the MCS system for the Department of Fisheries is not much effective due to limited capabilities. The conventional data collection system in place demands more on resources and technical staff establishment. This implies that the current system is not cost-effective. There are variations in landing times for many fishers and most of the fishing trips go unrecorded due to budgetary and logistical constraints. Using the BVCs to collect fish catch and effort data will capture information that could not be possible with the conventional data collection system.

As a result, there is continued IUU fishing with implications of excess participation and

impediments to economic viability in the fisheries sector. There are strong social and economic pressures on the fisheries resources, including vulnerability to poverty and a lack of viable alternative livelihood strategies for members of the fishing communities.

### **3.0 Objectives**

#### **Overall Objective**

- To ensure sustainable management and utilisation of fisheries resources in Lake Chilwa

#### **Specific Objectives**

- To promote community based data collection system through participatory fisheries research.
- To foster collective decision-making and ownership over the management of the fisheries resources of Lake Chilwa.
- To enhance capacity of combating IUU fishing.
- To improve MCS system for the fisheries of Lake Chilwa.
- To provide immediate feedback to the fishing communities on fisheries management initiatives for the fisheries of Lake Chilwa.

### **4.0 Methodology**

#### **4.1 Data to be collected**

The data to be collected by the fishing communities through the BVCs will include: Daily records of fish catch per fishing trip in form of catch by species, catch by gear, etc. In addition, fishing effort associated with the daily fishing episodes will include fishing crafts used, gear type used, gear-based details, number of fishing crew, etc. Apart from the catch and effort data, recording of water levels for some selected landing sites will be

done. The water level monitoring will be used as an indicator to climate change and will be linked with the catch landings for Lake Chilwa.

#### 4.2 Tools required for the data collection

A variety of tools will be required for the data collection and will include weighing scales, measuring boards or rulers, measuring tape, etc.

#### 4.3 Consensus building on the set up for the data collection protocol using fisher logbooks

The fishing communities through the BVCs and RVCs will be sensitised as regards their participation in fish catch and effort data collection.

#### 4.4 Training and outreach campaigns for participatory research

The fishing communities will be trained on the importance and use of the fish catch and effort data, the logbook data collection system, the data forms and other data related aspects.

#### 4.5 Study tour to a large-scale fishing unit where fisher logbooks are used

Since logbook system is currently being used by the large-scale fisheries of Lake Malawi, a study tour to Mangochi for some selected BVC members will be organized. This will help them appreciate what logbook data collection system is all about.

#### 4.6 Comparison with conventional catch and effort data from the Department of Fisheries on the Lake Chilwa fisheries

Available catch and effort data records for the lake will be used for comparison with the data to be collected by the BVCs. This will help to ascertain the statistical robustness of the logbook data collection system for the small-scale fisheries of Lake Chilwa. Further

considerations will include user-friendliness and error-free status of the system

#### 4.7 Value-chain analysis

Considering that the landing sites of the lake are also the market outlets for the fish species, a value-chain analysis will be done so as to quantify the fish passing through the market outlets.

#### 4.8 Assumptions and risks

It is envisaged that the fishing communities around the lake will be willing to support this intervention by participating in all activities related to the project. At the same time, it is of much importance if the Department of Fisheries through Fisheries Research Station in Monkey Bay as well as Zomba District Fisheries Office in partnership with WFC would adequately support the calendar of events for the program.

#### 4.9 Monitoring and evaluation (M+E) of the activities

There is need to have a continuous assessment of the project activities so that all planned activities are on schedule. The M+E system would involve the participation of all stakeholders such as the BVCs, local leaders around Lake Chilwa WFC, Department of Fisheries other partners. Once this is properly executed, continuity or sustainability of fisher logbook data collection system for the fisheries resources of Lake Chilwa would be guaranteed. This approach, if properly executed, will form a results-oriented case study and therefore have a multiplier-effect to other areas in Malawi.

### **5.0 Work plan and Budget**

The concept stipulates implementation period of one year initially with planned activities commencing in October 2010 on monthly basis (Table 1).

Table 1: Duration and work plan

No.	Activity	Months of 2010-2011												Amount (MK)	
		O	N	D	J	F	M	A	M	J	J	A	S		
1	Sensitise the BVCs on data collection	■													280,160
2	Produce manual of the data collection system	■	■												161,141
3	Train BVCs in data collection		■	■											966,716
4	Supervise data collection system			■	■	■	■	■	■	■	■	■	■		262,400
5	Routine data collection by the BVCs				■	■	■	■	■	■	■	■	■		135,120
6	Undertake technical backstopping of the system				■						■				388,746
7	Conduct M+E of the data collection system			■			■			■			■		299,584
8	Produce progress reports for the data collection system	■	■	■	■	■	■	■	■	■	■	■	■		126,312
9	Produce technical report for the data collection system			■			■			■			■		87,435
													<b>2,707,614</b>		

## 6.0 Expected outputs, beneficiaries and impact

a) Well managed and regulated fisheries resources of Lake Chilwa

A well managed and regulated resource based fishery attracts a lot of interventions from government as well as from development partners. The achievement of national development objectives is guaranteed in such a scenario.

b) Community ownership of the fisheries resources will be enhanced

The management approach will become a property of the fishing communities in the area. As such, the aspects of sustainability and continuity of the utilisation and management of the resources will become consolidated through this ownership. The various line ministries and departments that are concerned partners in this work will continue with their extension delivery and advocacy.

c) A reference point for other fishing communities in other areas willing to adopt the logbook fish catch and effort data collection system

Once the system is accomplished and is ascertained to function properly in the area, it will be a reference point for other communities in other areas who may be interested to have the same type of intervention from development partners.

## **7.0 References**

FAO (2002). Sample-based fishery surveys. A technical handbook. FAO Fisheries Technical paper 425.

FAO (2004). Safety in sampling. Methodological notes. FAO Fisheries Technical paper 454.

PL Alreck and RB Settle (1985). The survey Research Handbook.

### LOGBOOK DATA COLLECTION SYSTEM

Month/Year

Fishing craft

Fishing gear

Landing Site

Day	Fishing Area	Depth	Makumba	Matemba	Mlamba	Other
1						
2						
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