

RESEARCH FOR THE MANAGEMENT
OF THE FISHERIES ON LAKE
TANGANYIKA

GCP/RAF/271/FIN-TD/91 (En)

GCP/RAF/271/FIN-TD/91(En)

February 1999

BUILDING MANAGEMENT PARTNERSHIPS:
LOCAL REFERENDA ON FISHERIES FUTURES FOR LAKE TANGANYIKA

Edited By:
J.E. Reynolds

FINNISH INTERNATIONAL DEVELOPMENT AGENCY

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS

Bujumbura, February 1999

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PREFACE

The Research for the Management of the Fisheries on Lake Tanganyika project (LTR) became fully operational in January 1992. It is executed by the Food and Agriculture Organization of the United Nations (FAO) and funded by the Finnish International Development Agency (FINNIDA) and the Arab Gulf Program for the United Nations Development Organization (AGFUND).

LTR's objective is the determination of the biological basis for fish production on Lake Tanganyika, in order to permit the formulation of a coherent lake-wide fisheries management policy for the four riparian States (Burundi, Democratic Republic of Congo, Tanzania, and Zambia).

Particular attention is given to the reinforcement of the skills and physical facilities of the fisheries research units in all four beneficiary countries as well as to the build-up of effective coordination mechanisms to ensure full collaboration between the Governments concerned.

Prof. O.V. LINDQVIST
LTR Scientific Coordinator

Dr. George HANEK
LTR Coordinator

LAKE TANGANYIKA RESEARCH (LTR)
FAO
B.P. 1250
BUJUMBURA
BURUNDI

Telex: FOODAGRI BDI 5092

Tel: (257) 22.97.60

Fax: (257) 22.97.61

E-mail: ltrbdi@cbinf.com

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* a series of **technical documents (GCP/RAF/271/FIN-TD)** related to meetings, missions and research organized by the project;

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For both series, reference is further made to the document number **(01)**, and the language in which the document is issued: English **(En)** and/or French **(Fr)**.

For bibliographic purposes this document
should be cited as follows:

Reynolds, J.E. (Ed.) 'Building management partnerships: Local
1999 referenda on fisheries futures for Lake Tanganyika.'
FAO/FINNIDA Research for the Management of the Fisheries of
Lake Tanganyika. **GCP/RAF/271/FIN-TD/91 (En): 63p.**

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ACKNOWLEDGMENTS

The authors would first like to express their deep gratitude to all village leaders and chiefs who assisted Community Referenda field team members in the course of their work, and to all fishers, processors, traders and others who so freely gave of their time, information, and suggestions during the community meetings.

The LTR Project Coordinator, Dr. George Hanek, deserves a special note of gratitude for his backstopping efforts, which made the whole exercise possible.

PART 1.

INTRODUCTION

By:

J.E. Reynolds

1.1 Background

The LTR Management Working Group's provisional 'Framework for Regional Fisheries Management' (Reynolds 1998), was presented at the Sixth Meeting of the LTR Co-ordination Committee held in June 1998 (Hanek and Reynolds 1998). In addition to endorsing the Framework, meeting delegates agreed to a series of supportive or accompanying measures in order to facilitate management planning co-ordination and implementation between the four lacustrine states.

One such measure proposed by the Working Group was the organisation of 'community referenda,' envisioned as a series of meetings with local stakeholder groups around the lake and tentatively scheduled for the last quarter of 1998. The referenda meetings were intended to provide an opportunity for:

- informing lakeshore community residents on the outcomes of major LTR studies;
- demonstrating how these outcomes led to formulation of the provisional regional management framework; and, simultaneously,
- obtaining feedback and inputs from local groups in order to strengthen the regional framework.

This document describes the way in which the LTR referenda field mission was planned and conducted, along with its principle findings. Parts 2 through 5 respectively provide accounts of national field team experiences and findings for Zambia, Tanzania, Burundi, and the Democratic Republic of Congo (DRC). A summary and concluding observations on the referenda mission is given in Part 6. References cited in the document text are listed in Part 7. Annex 1 shows an English language version of the series of posters used in each of the community meetings,¹ whilst Annex 2 provides a sample copy of the polling form used to gather group views on the six basic thematic elements of LTR's regional fisheries management Framework.

1.2 Community Referenda Programme

1.2.1 Activities and timing

The work programme for the referenda mission was adopted as originally proposed (Reynolds 1998), except that field activities commenced in early November instead of early October 1998 owing to unforeseen administrative delays. Table 1.1 lays out the sequence and timing of activities as actually followed.

1.2.2 Site selection

Since only very limited project resources were available for carrying out the referenda exercise, it was not possible to cover a wide selection of local communities or landing sites. It therefore was decided to select two locations within each country as venues for community briefing, comment, and polling meetings. Locations were selected in consultation with LTR National Co-ordinators, and with reference to LTR data on landing site sizes and fishing unit densities. Priority was given to central locations in areas where fisheries-related activities are

¹ Appropriate local language translations of the posters were prepared and used by the respective national teams in the actual exercise.

most concentrated, since there was a greater likelihood of attracting large numbers of local fishery stakeholders (fishers, traders, fisheries sector service providers, local fisheries and other authorities, etc.). On this basis, the locations shown in Table 1.2 were initially proposed as meeting venues within the four states.

Table 1.1 Sequence of LTR Community Referenda activities

Activity	Timing
a) Designation of national field teams within each of the four lacustrine states (4-5 team members per country, including those who took part in the 1997 LTR Socio-economic (SEC) survey).	Sept. 98
b) Preparation of community meeting agenda, briefing materials, and group interview protocols. (LTR HQ – Bujumbura)	Sept. – Oct. 98
c) Organisation and implementation of short planning and training sessions for each of the national teams (Burundi, DRC, Tanzania, Zambia), in order to review and test the data collection methodology and to finalise field itineraries. (Field stations)	Zambia: 02-06.11.98 Tanzania: 08-13.11.98 Burundi: 13-18.11.98 D.R.C.: 23-27.11.98
d) Conduct of fieldwork by each national team.	
e) Field validation of community meeting results to ensure completeness of detail.	Ongoing with each national team
f) Compilation and evaluation of information collected by the teams. Consider implications for draft Framework Plan. (LTR HQ – Bujumbura)	Ongoing with wrap-up late Nov. 98
g) Preparation of Community Referenda mission report.	Nov.- Dec. 98

By the time field activities were ready to commence, however, events forced some alteration in the choice of community meeting venues. For Tanzania, the logistics of the meeting slated for Kipili in Rukwa Region proved impossible to organise. Kipili is located far to the south of the LTR sub-station at Kigoma and is accessible from Kigoma only via the lake or over very poor roads. Several days are required for the round trip journey whichever form of transport is used. Poor steamer connections and lack of a serviceable four-wheel drive vehicle, coupled with time constraints, meant that an alternative site closer to the Kigoma base had to be selected. After further consultations between the LTR Co-ordinator and the TAFIRI Ag. Director/LTR National Co-ordinator in Kigoma, it was decided that Muyobozi would serve as this alternate site.

In the case of Burundi, Karonda had originally been selected as one of the referenda sites owing to its comparatively large size and southerly location. After consultations with the Director of Fisheries in Bujumbura, however, it was decided to substitute Rumonge as the southerly venue. Questions of access due to the security situation were involved, and in any event a meeting at Rumonge, as a major administrative and fishing centre in its own right, would be sure to attract a large audience from the whole of the south coast.

The DRC presented the most problematical situation, since by the time that the referenda mission was due to commence most of the shoreline south of Uvira was reported to be a war zone. The original plan of convening a community meeting in the Kalemie consequently had to be abandoned. Due to the security situation it was also not advisable for expatriates to travel from Burundi across the border to Uvira in the DRC. Arrangements were therefore made for the LTR Co-ordinator (Hanek) and the Development Planner (Reynolds) to meet the Director of the Uvira Centre de Recherche en Hydrobiologie (CRH) in Bujumbura. After consultations it was decided that the DRC referenda exercise would go ahead, but that the national field team would come to the Bujumbura HQ of LTR for the initial planning and training session and then return to carry out two community meetings on their own. The Uvira meeting would be held as originally planned, but Fizi, just south of Uvira, would become a substitute venue for Kalemie. Upon completion of the DRC fieldwork, the national team leader would report back to Bujumbura for debriefing.

The final choices for meeting venues in the four states are also indicated in Table 1.2.

Table 1.2 Venues for community briefing meetings

Burundi		DRC		Tanzania		Zambia	
(Proposed)	(Actual)	(Proposed)	(Actual)	(Proposed)	(Actual)	(Proposed)	(Actual)
1) Gitaza	1) Gitaza	1) Kivovo	1) Uvira)	1) Luanza	1) Luanza	1) Chisanza	Same
2) Karonda	2) Rumonge	(nr. Uvira)	2) Fizi	(nr. Kigoma)	2)	(East Coast)	
		2) Athenée		2) Kipili	Muyobozi	2) Nsumbu	
		(nr. Kalemie)			(nr. Kigoma)	(West coast)	

1.2.3 Procedures

Each community meeting was organised and conducted according to standard procedures and agenda, as outlined in Table 1.3 below. In order to facilitate team briefings at the meetings, a series of large posters was prepared. The posters (see Annex 1) provide textual and graphical depictions of major findings from six years of LTR Project hydrobiological (Lindqvist, Mölsä and Sarvala, 1997) and socio-economic investigations (Reynolds and Hanek, 1997) of the lake and its fisheries, including findings related to local views on fisheries issues and management problems. They also outline the principle elements of the Draft Regional Framework Fisheries Management Plan, as presented to and endorsed by delegates attending the Sixth Meeting of the LTR Co-ordination Committee (Hanek and Reynolds, 1998).

During the referenda mission's preparatory phase, the LTR Development Planner communicated by email with members of each national team in order to produce translated versions of the poster series appropriate to each locality. In this way, Bemba and Lungu versions were made up for the Zambian meetings, a Kiswahili version for the meetings in Tanzania and the DRC, and a Kirundi version for the meetings in Burundi.

The national teams carefully rehearsed procedures and the poster presentation during planning and training sessions held prior to the start of their respective field visits to the referenda communities. Each meeting was advertised through public announcements two to three days in advance, either via national radio, vehicle-mounted loudspeakers, local officials (chiefs, village chairpersons, fisheries officers, etc.), or a combination thereof.

Each meeting began with an introduction of the team and its mission, followed by the poster presentation and a question and comment session for the entire group of participants. Meeting participants were then asked to divide themselves into smaller groups, comprised respectively of: a) gear and equipment owners; b) fishing unit crew, labourers, and helpers; c) fish processors and traders; and (if indicated) d) other concerned residents (e.g. retired fishers, village elders, etc.). One or two team members joined each of these sub-groups in order to listen and record any further discussion, questions, or comments that arose. Finally, a poll was conducted amongst participants in each sub-group in order to ascertain their reactions, 'in principle,' to six basic management propositions deriving from the LTR Framework Plan. These bear on the following themes:

- **Proposition 1: 'Fishing and Conservation'** (limitations of fishing in one or more forms);
- **Proposition 2: 'Local Community Management Participation'** (co-management approaches involving both local fisherfolk and government officials);
- **Proposition 3: 'Management Groups'** (a nesting hierarchy of management advisory groups running from local to regional level);
- **Proposition 4: 'Licensing and Access Control'** (licensing to control the number of fishers and boats allowed to operate within given areas);
- **Proposition 5: 'Restriction on Purse Seining'** (prohibition of industrial fishing in certain parts of the lake); and

- **Proposition 6: ‘Restriction of Beach Seining’** (prohibition of beach seine fishing along certain areas of shoreline).

Votes were tabulated on standard forms (see Annex 2) according to categories of ‘Agree,’ ‘Disagree,’ or ‘No opinion.’ These tabulations together with the public questions and comments recorded during each meeting served as the basic information base upon which overall referenda outcomes were assessed.

Table 1.3 Procedures for national field team planning/training sessions and field activities

-
- | | |
|----|---|
| a) | LTR Project Co-ordinator and Development Planner confirm exact dates and venues for each meeting in co-ordination with the respective national field team leaders (to be designated) at each of the fisheries research institutes/LTR field stations (Bujumbura, Uvira, Kigoma, and Mpulungu). |
| b) | At the same time, verify composition of respective national teams (4-5 members each, drawn from lakeside research institute/ local fisheries authority staff). |
| c) | LTR Development Planner co-ordinates through email links with national team leaders and members to develop local language versions of poster series to be used in community meeting presentation. |
| d) | LTR Project Co-ordinator and Development Planner liaise with team leaders to organise logistical details for the field team planning/training sessions and community meetings to be held in their respective institutes and regions (planning/training session conference rooms, office supplies as appropriate, selection of actual meeting grounds, etc.). |
| e) | National team leaders ensure that local authorities and fisheries staff publicise the time and place of the meetings scheduled for their respective regions, and invite all members of the public involved with fisheries-related activities to attend. Announcements over the national radio networks can be used where possible. |
| f) | National field teams assemble for one-day planning and training sessions at the respective LTR field stations, just prior to scheduled field activities within the respective countries. |
| g) | Introduce national team members introduced to briefing materials prepared for use at the community meetings (posters and printed handouts in English, French, and local language translations). |
| h) | Field team members plan out and practise amongst themselves the best way of presenting briefing materials at the community meetings, and also familiarise themselves with procedures for recording public questions and comment on the Draft Framework proposals. |
| i) | Each community meeting opened by a representative of the national fishery authority and chaired by the national field team leader, who assumes primary responsibility for introducing the purpose of the meeting, presenting the public briefing materials, and moderating the question and discussion session that will follow. |
| j) | Remaining members of the team responsible for recording all questions and comments raised during this session. |
| k) | Each meeting to run for no more than about two hours’ duration. Proceedings to be conducted at an orderly pace with a minimum of delay, so as not to impose inordinate demands of time on participants needing to attend to their normal daily affairs. |
| l) | Each general meeting breaks into smaller sub-group meetings of fishing unit gear and equipment owners, crew/labourers, processors/traders, and (if indicated) ‘others.’ Discussion, questions, and comments continue to be moderated and recorded by team members assigned to each sub-group. Sub-group meetings wind up with polling of participants, using standard survey form and indicating preferences of ‘Agree,’ ‘Disagree,’ or ‘No opinion’ for the main measures being proposed under the Draft Framework. Voting by simple show of hand. |
| m) | Enter polling results along with the notes made by national field team members on computerised data sheets during debriefing session to follow each community meeting. |
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PART 2.

COMMUNITY REFERENDA IN ZAMBIA

By:

L. Mwape, J. Chimanga, E. Chipulu, C. Lukwesa, M. Mwenda, I. Zulu, and J.E. Reynolds

2.1 Team Preparations and Programme

The Zambian Community Referenda team was assembled at the LTR sub-station in Mpulungu on 2 November 1998. The team's composition is shown in Table 2.1. Fieldwork preparations and site visits were carried out according to the programme shown in Table 2.2. In light of severe time constraints it was decided not to try to organise a formal meeting with representatives of the industrial fishing companies. Instead a questionnaire was distributed to each of the company managing directors, with a request that they be completed and returned to the Department of Fisheries office by Friday, 06.11.98, when the team would be back from fieldwork in Chisanza and Nsumbu. The questionnaire duplicated the form to be used during the local referenda meetings.²

Table 2.1 Zambia Field Team Members

Name	Designation	Remarks
1) Mr. Leonard Mwape	OIC – DoF Mpulungu Stn.	Team Leader
2) Mr. Elias Chipulu	Fisheries Technician	--
3) Mr. Isaak Zulu	Asst. Fisheries Technician	Participated 1997 SEC Survey
4) Mr. Charles Lukwesa	Asst. Fisheries Technician	Participated 1997 SEC Survey
5) Mr. Maybin Mwenda	Asst. Fisheries Technician	Participated 1997 SEC Survey
6) Mr. Joseph Chimanga	Asst. Fisheries Technician	Participated 1997 SEC Survey
6) Mr. Clement Sichamba	Coxswain	--
7) Dr. E. Reynolds	LTR Consulting Dev. Planner	--

Table 2.2 Work Programme, Zambian Community Referenda Exercise

DATE	PLACE	ACTIVITY
02.11.98	Mpulungu Stn.	Planning session with Mwape (OIC); Meet Field Team Members; Review meeting poster translations.
03.11.98 (Morning)	Mpulungu Stn.	Field visit preparations: 1) Letter and questionnaire for industrial fishing companies. 2) Distribute above to companies for collection on Friday, 06.10.98. 3) Poster preparation: Continue poster translation review, minor corrections if needed. 4) Poster preparation: mount for flip chart presentation. 5) Fieldwork preparation: purchase supplies (notebooks, pencils, index cards for making random selection numbers; field team provisions). 6) Fieldwork preparation: Ensure Nsumbu area fishers notified through word of mouth (Chief (Chisanza already informed).
03.11.98 (Afternoon)	Mpulungu Stn.	Fieldwork preparation: Team briefing, practice session.

² Responses from the companies were incomplete owing to the absence of key management personnel.

Table 2.2 (Cont.)

DATE	PLACE	ACTIVITY
04.11.98 (Morning)	Mpulungu Stn. – 0730	Depart Mpulungu en route to Chisanza (East coast); <i>RV Silver Shoal</i>
	Chisanza – 0900	Arrive Chisanza and contact local officials for meeting assembly.
	Chisanza – 1000	Conduct Chisanza Community Referendum Meeting, Interviews.
04.11.98 (Afternoon)	Chisanza – 1400	Depart Chisanza en route to Nsumbu (West coast); <i>RV Silver Shoal</i> .
	Kasaba Bay – 1900	Layover at Kasaba Bay due to rough seas. Team debriefing, note compilation for Chisanza meeting.
05.11.98	Nsumbu – 0030	Arrive Nsumbu. Accommodation at Wildlife Club chalets.
05.11.98 (Morning)	Nsumbu – 1000	Conduct Nsumbu Community Referendum Meeting, Interviews.
05.11.98 (Afternoon)	Nsumbu – 1330	Depart Nsumbu en route for Mpulungu.
	Kasaba Bay – 1430	Layover at Kasaba for debriefing on Nsumbu meeting.
05.11.98 (Evening)	Mpulungu Stn. – 2100	Return to base.
06.11.98 (Morning)	Mpulungu Stn.	1) Collect forms distributed on Tuesday to industrial companies. 2) Compile field notes on office computers.
06.11.98 (Afternoon)	Mpulungu Stn.	1) Final wrap up, debriefing. 2) Reynolds departs aboard M/V <i>Liemba</i> en route to Kigoma (Tanzania).

2.2 Site Visit: Chisanza Area

The team left Mpulungu as scheduled in *RV Silver Shoal* and arrived at Chisanza Village on the eastern shore of the lake at 10:30 hours. As the vessel neared the Chisanza area the skipper navigated close to the shoreline in order to allow the team to use a loudspeaker (megaphone) to remind those in neighbouring settlements that all were invited to attend the morning's meeting.

Turnout at Chisanza was very good, with some 125 adult community residents in attendance. The team was welcomed by the Village Head, Ms. Jennara Nakazwe, along with her advisors. Mr. Robinson Mbita, Chairperson of the Chisanza Conservation Committee, opened the meeting. In his welcoming remarks he thanked the Department of Fisheries and members of the LTR team for coming to the community to discuss important issues affecting fishers on Lake Tanganyika. The Village Head Ms. Nakazwe spoke next and urged the audience to pay close attention to the exercise and participate fully in all the activities.

Mr. Chipulu then introduced the team members and again stressed the importance of audience participation. Mr Mwape provided more background and details on the referenda exercise and the procedures that were being followed.

The referenda poster series (Lungu language version of sample posters shown as Annex 1) was next presented by Mr Zulu. At the end of the poster session the meeting was opened to comments and queries from the audience. A number of questions were raised and these were fielded by Mr. Mwape whilst other members of the team made notes on what was being said. After about one hour the general meeting split up into four 'working groups' to consider the six management propositions that had been presented during the poster display. These groups were formed respectively of fishing boat and gear owners, fishing unit crew members, fish processors and traders, and other community members including village elders and retired fishers. Further questions and comments were raised and discussed within the separate groups before polling on the propositions was conducted. A list of all the points raised during the general and working group meetings is provided in Table 2.3, whilst proposition polling results are reviewed in Section 2.4.

After completing the general and sub-group meetings, members of the team thanked their village hosts and took a short tour to see a dried fish store being built by community members on a co-operative basis. The team then departed on *RV Silver Shoal* en route to Nsumbu at around 1400h.

Table 2.3 Questions and comments from Chisanza meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	
1) Q: Which gear caught the estimated tonnes of fish presented in the poster?	1) A: All gear combined.
2) Q: Which areas will be strictly no fishing areas?	2) A: No decisions have been taken as yet.
3) From your research can you tell us the places that would be best to be restricted fishing areas?	3) A: There are areas like the Nkamba Bay and the areas that local fishers suggested during the LTR Socio-Economic Survey last year, like river mouths (Kalambo and Lunzua rivers), which can be considered. So far no definite proposals have been made.
4) Q: Why are gill net fishers fishing only for home consumption not allowed to use the gill net of 63mm that is prohibited?	4) A: Both domestic and commercial fishers are now subject to the same regulations on net sizes.
5) Q: Could you tell us if you have come to introduce a closed season or not rather than just beating around the bush?	5) A: We have not come to introduce any closure. If fishers feel that a closure will help in conserving the stocks and the research findings support that, then the four countries will need to agree on an a given period. We as Government officials will keep all fishers informed about developments.
6) Q: Why not just have a closed period instead of other regulations like mesh size restrictions, which people are always violating.	6) A: Other regulations are important too in fish conservation.
7) Q: What is all this meeting about? Tell us what you want to do.	7) A: We have come to meet so that all of us – you, the LTR Project Team, and the Department of Fisheries, can put our heads together and consider measures that will help conserve the fish for the future.
8) Q: Why are we still paying for fishing licenses?	8) A: The current regulations call for payment of license fees.
9) Q: Are the gears going to have the same restrictions?	9) A: Each gear will have its own regulations.
10) Comment: ‘The cooperation between Government and fishers in conservation is a good idea because it is man’s responsibility to conserve the natural resources.’	10) Noted.

Table 2.3 (Cont.)

Question/Comment	Team Response/Remarks
<p>B. Gear/Equipment Owners Group</p> <p>1) Q: Do the current committees (Village conservation committees organized through LTBP) have the right to make their own regulation contrary to the fisheries regulation?</p> <p>2) Q: Why does the government ask us to have licenses?</p> <p>3) Q: Why should fishers with only hooks and lines on boats be required to get a license?</p> <p>4) Q: Which ministry is responsible for water transport?</p> <p>5) Q: Why do beach seines have 63mm mesh size minimum while gill nets have 76mm minimum mesh size?</p>	<p>Observations</p> <ul style="list-style-type: none"> Initially some members of the group had difficulty understanding the first management proposition on ‘Fishing and conservation.’ Everyone freely participated in the discussion. There were a number of complaints about high license fees. <p>1) A: No.</p> <p>2) A: For the government to regulate the number of fishers.</p> <p>3) A: The license is not meant for the boat but for fishing.</p> <p>4) A: Ministry of Power, Transport, and Communication.</p> <p>5) A: This anomaly has been identified and will be corrected.</p>
<p>C. Crew/Labourer Group</p> <p>1) Q: Are we going to pay for the licenses also?</p> <p>2) Q: Where does the money from fishing licenses go to?</p> <p>3) Q: What will you do you fisheries officer once fish finishes in the lake?</p> <p>4) Comment: ‘The fish was made by God so God decides the population of the fish, not man.’</p>	<p>Observations</p> <ul style="list-style-type: none"> Some crew members expressed a sense of inferiority or low status in comparison with the boat and equipment owners, and as such thought they did not qualify to participate in the exercise. <p>1) A: The gear owner will pay for the license unless you also have your own gear.</p> <p>2) A: It is government revenue. Just like other licenses, levies, fees and taxes people pay to the government.</p> <p>3) A: ?</p> <p>4) --</p>
<p>D. Processor/Trader Group</p> <p>1) Q: We are not fishers. Are we going to be involved in these committees?</p> <p>2) Q: Are we going to asked to have trading licenses too?</p> <p>3) Q: Why doesn’t the Fisheries Department collect the fish levy?</p>	<p>Observations</p> <ul style="list-style-type: none"> Members of this group were all women. They did not speak up during the general meeting, but spoke freely when in a group by themselves, separate from the men. Attendance of women from the local community was generally poor. <p>1) A: Of course. You have the right to participate in these committees.</p> <p>2) A: Yes, if it is decided so in future.</p> <p>3) A: Fish levy is meant as revenue for the councils.</p>

Table 2.3 (Cont.)

Question/Comment	Team Response/Remarks
4) Q: Why do village committees charge levy on cassava?	4) A: It is not the village committee but the Council Revenue Collector.
5) Comment: Village committee members should have identity cards.	5) Noted.
E. Village Heads, Elders, Retired Fishers Group ('Others')	Observations
	<ul style="list-style-type: none"> Many members of this group were retired fishers, and expressed a concern for fish conservation equal to that of the active fishers in the community.
1) Q: Why does the government ask for licenses?	1) A: So that the government is able to regulate the number of fishers.
2) Q: Are we all going to have the same licenses?	2) A: No. Licenses will be according to the type of fishing gear.

2.3 Site Visit: Nsumbu Area

Due to rough seas encountered later in the evening of 4 November 1998 it was decided to seek shelter at Kasaba Bay. A debriefing and note compilation session for the Chisanza meeting was held during this layover. *Silver Shoal* departed from Kasaba Bay around 2330h and the arrived at Nsumbu pier around 0030h on 5 November 1998. After an overnight rest the team reassembled to begin the day's programme around 0830, when announcements were made throughout the community inviting everyone to attend the meeting scheduled to begin at 0930h.

A crowd of some 180 individuals assembled in the shade of trees at the Nsumbu landing beach. Mr Chipulu introduced the team members to the audience. The Chairperson of the Stratum 5 Committee then welcomed the team and asked the audience to take advantage of the meeting and participate fully.

Mr Mwape introduced the exercise. In his remarks he reminded the audience that the village meetings now being conducted were a follow-up to the LTR Project's socio-economic survey conducted last year. He underlined the importance of seeking local community residents' views on fishing issues and urged full participation in the meeting.

The Bemba language poster series was then presented by Mr Chipulu (see sample series shown as Annex 1). Following the same arrangement as for Chisanza, Mr. Mwape then moderated a general questions and comments session. This proved to be quite lively. Some of the participants were particularly outspoken and several sharp comments were made with regard to industrial fishing companies. After about an hour the meeting was split up into smaller groups of gear and equipment owners, crew members, processors and traders, and other community members. A few of the more outspoken participants were at first reluctant to break up the general meeting, but were eventually persuaded that it would be easier to conduct discussion and record responses in smaller groups.

Further questions and comments were contributed and discussed within the separate groups before polling on the propositions was conducted. A list of all the points raised during the general and working group meetings is provided in Table 2.4. Proposition polling results are reviewed in Section 2.4.

The meeting ended at 13:00 hours and the team left for Mpulungu shortly thereafter.

Table 2.4 Questions and comments from Nsumbu meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	Observations <ul style="list-style-type: none"> The women attending the general meeting sat to one side and did not contribute anything in the presence of men.
1) Q: Why is it that the industrial fishing companies were not invited to the meeting?	1) A: We decided to meet artisanal fishers alone first then industrial fishing companies later. (At this point the meeting almost came to a halt. The artisanal fishers wanted to have the meeting together with all the fishers be it artisanal or industrial companies. The Nsumbu local fishers were made to understand that the team was not favoring the industrial fishing companies. The meeting continued.)
2) Q: Why has the Department of Fisheries allowed the number of industrial fishing companies boats to rise to 23?	2) A: This is the responsibility of the Licensing Committee, not the DoF directly.
3) Q: Why does Zambia have so many industrial units while Tanzania has none on Lake Tanganyika?	3) A: ?
4) Q: Who is more destructive, artisanal or industrial fishers?	4) A: ?
5) Q: Why are we going through the regulations that are already made?	5) A: We are hoping to harmonize the regulations round the lake.
6) Q: Why were the chiefs invited to make regulations without the knowledge of their subjects?	6) A: They have power to make traditional laws. Remember there are three set of laws in Zambia: Traditional Law, By-laws, and the National Law.
7) Q: Will the out come of this meeting just end up here?	7) A: The outcomes of this meeting are intended for implementation.
8) Q: Why doesn't Government come up with a system to check which of the two fisheries, artisanal or industrial, is most depleting the fish?	8) A: That's a good idea
9) Q: The national park is already restricted, so why are we discussing this issue?	9) A: This question is meant also for other fishery areas.
10) Q: Why do you favour the industrial fishers?	10) A: We do not favor them.
11) Q: Why are we paying double for fish levy? In Mpulungu we are paying a landing fee, and then we are asked to pay customs duty even though the fish is local?	11) A: This is a matter for the two councils (Kaputa and Mpulungu) to settle. On the issue of customs duty, the authority involved has been informed about this anomaly.
B. Gear/Equipment Owners Group	Observations <ul style="list-style-type: none"> The group was very difficult to work with. They seemed more interested in discussing the issue of fishing within the national park than the issues being introduced by the team.

Table 2.4 (Cont.)

Question/Comment	Team Response/Remarks
1) Q: Why are so many licenses given out to industrial fishing companies?	1) A: The Licensing Committee decides on the number of industrial boats that should be given permits.
C. Crew/Labourer Group	
1) Q: Why are the industrial fishing companies favoured?	
D. Processor/Trader Group	
1) Q: Why don't we have uniform prices?	1) A: This is not an issue best addressed during this meeting, but it can be discussed in the village committees.
2) Q: Why do current committees not act in our interests?	2) A: They are supposed to.
3) Q: Why are we charged customs duty for the fish we buy within the country?	3) A: It's a mistake that should be corrected.
4) Q: Why does Mpulungu Council charge a landing fee?	4) A: It is council revenue used to maintain the harbour.
E. Village Heads, Elders, Retired Fishers Group ('Others')	
Observations <ul style="list-style-type: none"> The referenda propositions were presented and voted upon in a straightforward manner. No extra questions or comments were recorded from this group. 	

2.4 Zambia Referenda Results

Figures 2.1 through 2.6 depict results of the Zambia referenda meetings for each site and for the two sites in combination. Emphatic support is registered across both sites and all sub-groups for Propositions 2 and 5, relating respectively to 'Local Community Management Participation (co-management approaches involving both local fisherfolk and government officials), and 'Restriction on Purse Seining' (prohibition of industrial fishing in certain parts of the lake). Beyond these two propositions, community sentiment appears to be more fragmented. On Proposition 1 ('Fishing and Conservation' – i.e. limitations of fishing in one or more forms), very strong endorsement is registered amongst owners, traders, and 'others' (mostly retired fishers and community elders) at Chisanza, and amongst traders and 'others' at Nsumbu. Chisanza crew members are rather divided in their views, whereas group opinion amongst Nsumbu owners and crew is decidedly negative.

Chisanza crew and 'others' are very strongly supportive of the principle of 'Management Groups' (Proposition 3 – a nested system of management advisory groups from local to regional level), as are Nsumbu owners, crew, and 'others.' Chisanza owners are by a slight margin generally in favour of this proposition, whilst processors/traders of both Chisanza and Nsumbu register no definitive response.

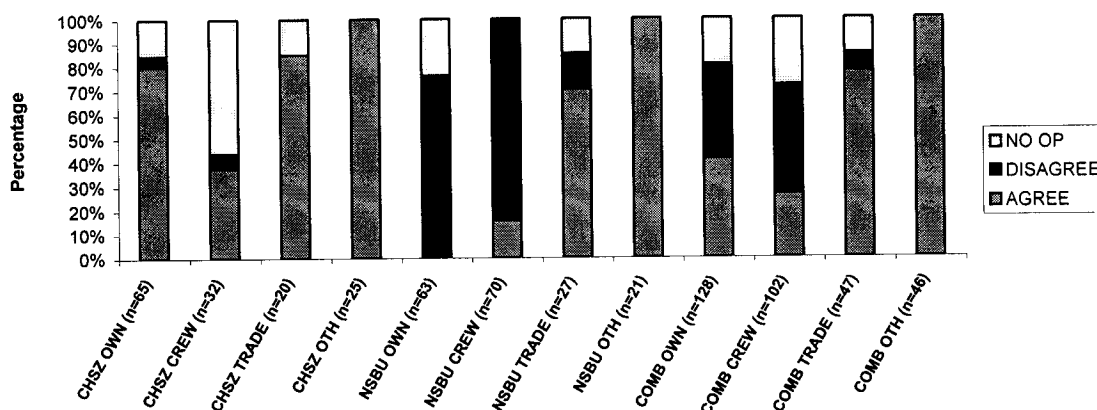
On Proposition 4, 'Licensing and Access Control,' strong positive reaction is only found amongst the Chisanza 'others' and the Nsumbu owners. All other groups across both sites either voted decisively against the principle of licensing to control numbers of boats and/or fishers allowed to operate within given areas, or weighed in with a mixed response.

The principle of beach seine restriction (Proposition 6) met with moderate to high levels of approval amongst Chisanza owners, crew, and 'others', as well as amongst Nsumbu owners and crew. Traders in the Chisanza area are of mixed views on such restriction, and their counterparts

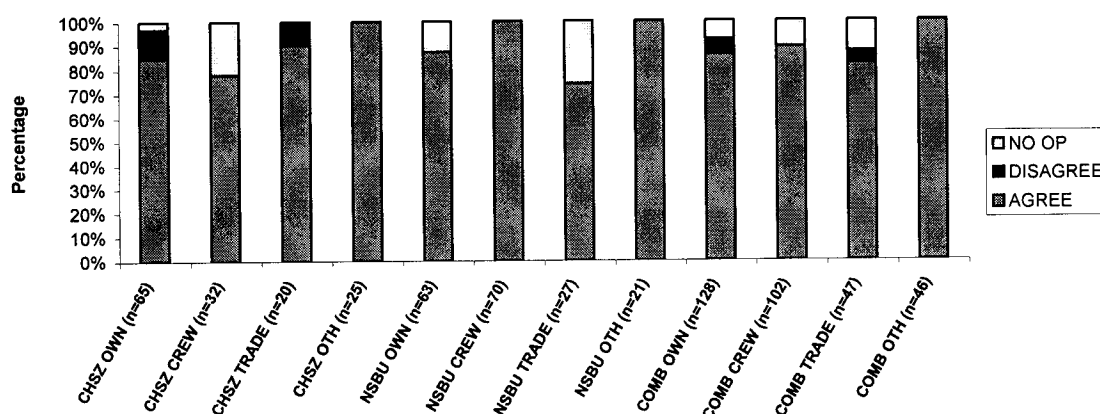
in Nsumbu are very much set against it. Nsumbu ‘others’ are largely unwilling to venture an opinion on Proposition 6.

FIGURES 2.1 – 2.3*

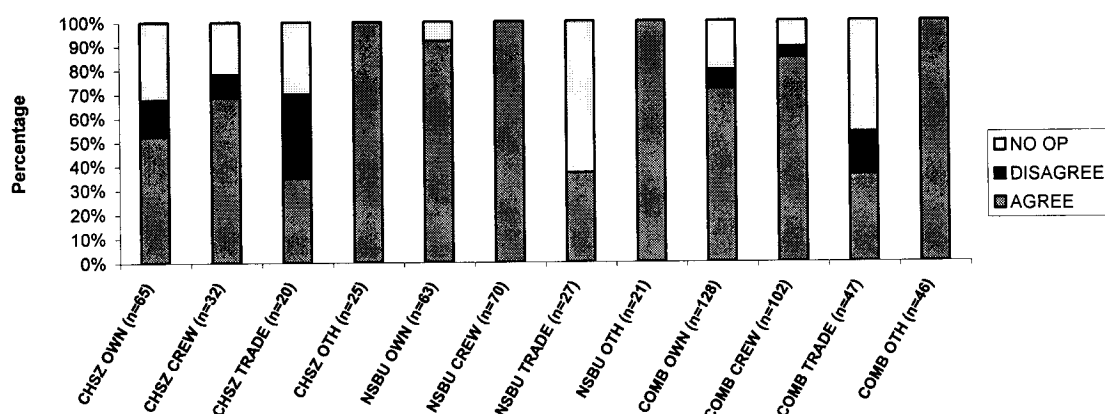
Prop. 1: Fishing & Conservation



Prop. 2: Local Community Management Participation

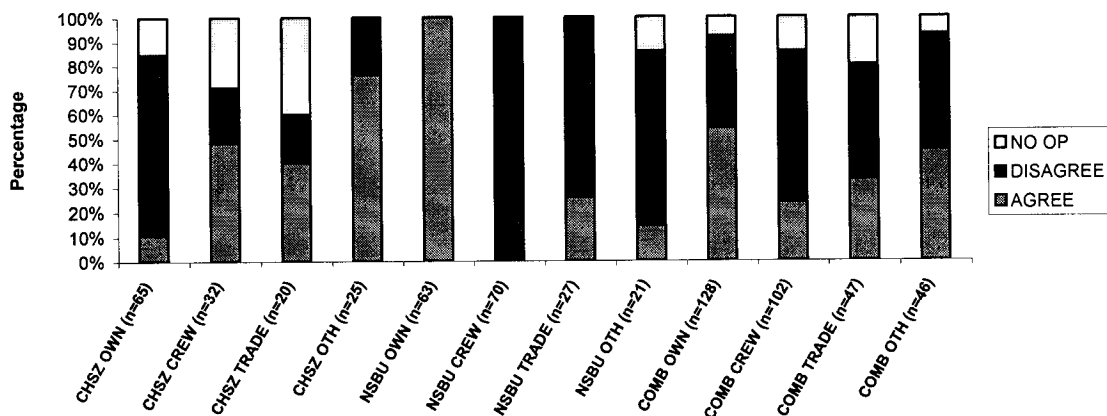


Prop. 3: Management Group System

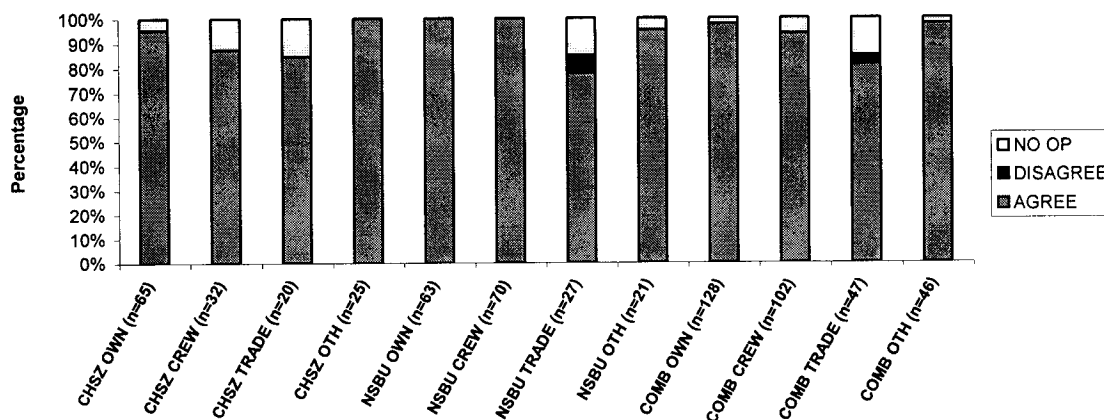


*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

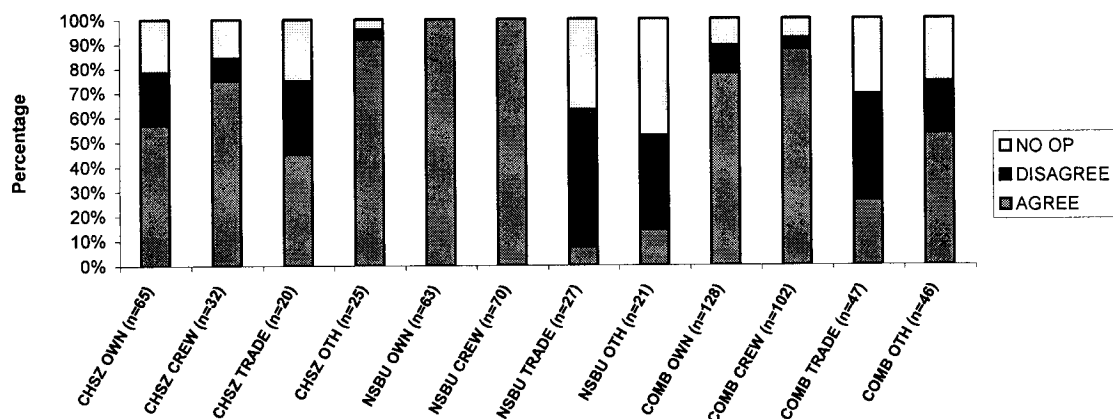
Prop. 4: Licensing & Access Control



Prop. 5: Restrict Purse Seining



Prop. 6: Restrict Beach Seining



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

PART 3.

COMMUNITY REFERENDA IN TANZANIA

By:

D. Chitamwebwa, D.O.Z. Kweka, P. Mfilinge, S. Muhoza, S.B. Ngoroma, and J.E. Reynolds

3.1 Team Preparations and Programme

The Tanzanian Community Referenda team was assembled at the LTR sub-station in Kigoma on 9 November 1998. The team's composition is shown in Table 3.1. Fieldwork preparations and site visits were carried out according to the programme shown in Table 3.2.

Table 3.1 Tanzanian Field Team Members

Name	Designation	Remarks
1) Mr. D. Chitamwebwa	Ag. Director – TAFIRI/Kigoma.	Team Leader; Participated SEC Survey 1997
2) Mr. D.O.Z. Kweka	Fisheries Officer, Min. of Natural Resources & Tourism	Kigoma Rural
3) Mr. S.B. Ngoroma	Fisheries Officer, Min. of Natural Resources & Tourism	Kigoma Urban
4) Mr. P. Mfilinge	Research Officer, TAFIRI – Kigoma	--
5) Mr. S. Muhoza	Research Technician, TAFIRI – Kigoma	Participated SEC Survey 1997
7) Dr. E. Reynolds	LTR Consulting Dev. Planner	--

Table 3.2 Work Programme, Tanzanian Community Referenda Exercise

DATE	PLACE	ACTIVITY
08.11.98 (Evening)	Kigoma Port	Arrival of Reynolds aboard <i>MV Liemba</i> from Mpulungu. Meeting with Mr. Chitamwebwa to discuss programme.
09.11.98 (Morning & Afternoon sessions)	TAFIRI- Kigoma	Field visit preparations: 1) Introduction of Field Team and briefing by Reynolds on referenda exercise and its background; circulation of reading materials. 2) Discuss, agree on publicity and village visit schedule. 3) Purchase team supplies (notebooks, pencils, etc.); arrange for use of flipchart from UNICEF office. 4) Review of poster translations, minor corrections as needed. 5) Poster preparation: mount for flip chart presentation. 6) Designation of team spokesperson (for poster presentations at local meetings); practice presentations.
10.11.98 (Morning)	TAFIRI - Kigoma	Field visit preparations: 1) Practice presentation. 2) Publicity team to visit Muyobozi to announce meeting for Thursday over loudspeaker.

Table 3.2 (Cont.)

DATE	PLACE	ACTIVITY
10.11..98 (Afternoon)	TAFIRI - Kigoma	Field visit preparations: 1) Final practice sessions. 2) Publicity team to visit Luanza area to announce meeting for Wednesday over loudspeaker.
11.11.98	Luanza landing (0900)	Arrive Luanza and contact local officials for meeting assembly.
	Luanza landing (1000 - 1230)	Conduct Luanza Community Referendum Meeting, Interviews. Arrange for fishing unit owners to distribute and complete ballots on management propositions.
11.11.98 (Afternoon)	TAFIRI - Kigoma	Return to Kigoma; debriefing, compilation of field notes.
12.11.98 (Morning)	Muyobozi landing (0900)	Arrive Muyobozi and contact local officials for meeting assembly.
	Muyobozi (1000 – 1230)	Conduct Muyobozi Community Referendum Meeting, Interviews.
12.11.98 (Afternoon)	TAFIRI – Kigoma	Return to Kigoma; debriefing, compilation of field notes. Collect ballots from Luanza-based fishing unit owners.
13.11.98 (Morning)	TAFIRI – Kigoma	Final team debriefing.
	Kigoma Airport	Reynolds departs en route to Bujumbura (Burundi).

3.2 Site Visit: Luanza Landing (Kigoma Town)

The team arrived as scheduled at Luanza Landing close to Kigoma Port on Wednesday, 11 November 1998, at 0900h. A set of loudspeakers was set up on two of the market kiosks at the top of the landing beach and people were called to assemble for the community meeting. The TAFIRI vehicle had been used on the previous day to circulate with one of the loudspeakers in the vicinity of the landing, in order to publicise the meeting, so that the team's arrival was anticipated. A good crowd comprised of some 200 fishers, fish processors, and traders was in attendance.

Opening remarks were made by the Beach Chairperson, Mr. A. Kimwaga. The team was welcomed and Mr. Kweka was asked to introduce each of its members to the meeting. Mr. Kweka then addressed the audience as follows:

Mr. Chairperson:

The aim of this mission is to present to you and your fellow fishers some of the major research findings of the LTR Project and to consider possible measures for planning the future of fishing activities in the lake. As many of you already are aware, the LTR Project, 'Research for the Management of the Fisheries of Lake Tanganyika,' involves all four of the countries surrounding the lake. It was started in 1992 and continues to the present. The project is funded by the Government of Finland and is operated by the Food and Agriculture Organization in collaboration with the four governments of Zambia, Tanzania, the Democratic Republic of Congo, and Burundi.

The research findings the LTR team will review today are concerned with the distribution of our three main fish, *dagaa*, *malumbu*, and *migebuka*, and some of the impacts of fishing activities on their populations.

Many people in this and other communities around the lake helped out in the socio-economic survey that LTR conducted in July 1997, and we will also be reviewing some of these survey results with you today.

We now ask everybody to listen to the presentation of Mr. Chitamwebwa, the Acting Director of TAFIRI - Kigoma, who will be showing you a series of posters. After his presentation, we would like to open the meeting to any questions that you have. Following the question and discussion period, we

would ask that the meeting be divided into three smaller groups of boat and gear owners, crew and helpers, and fish processors and traders. Team members will hold separate discussions with each of these groups in order to learn people's responses to the six preliminary fisheries management proposals being suggested by LTR.

I now welcome Mr. Chitamwebwa to address the meeting.

Mr. Chitamwebwa next presented the referenda poster series (Kiswahili language version of sample posters shown as Annex 1). At the end of the poster session the meeting was opened to comments and queries from the audience. A number of questions were raised and these were fielded by Mr. Chitamwebwa whilst other members of the team made notes on what was being said. The general meeting then split up into three groups composed respectively of: fishing boat and gear owners, fishing unit crew members and helpers, and fish processors and traders. Further questions and comments were raised and discussed within the separate groups before polling on the six management propositions was conducted. A list of all questions and comments raised during the general and working group meetings is provided in Table 3.3, whilst proposition polling results are reviewed in Section 3.4.

Upon completion of the general and sub-group meetings, the team thanked Luanza landing site officials and returned to the TAFIRI offices in order to write up field notes. Members of the owner sub-group requested that they be allowed extra time to consider the management propositions. Special arrangements were therefore made to collect owner group ballots in individual sealed envelopes on the following day.

Table 3.3 Questions and comments from Luanza meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	
1) Q: How long does it take fish to grow from hatching to time they are recruited to the fishery.	1) A: Depends spp. of fish. Dagua = 5-6 months. Malungu = 6-7 months. For migebuga = ca 3 yrs.
2) Q: Why should there be a limit to number of fishers and fishing vessels when the majority of people would like to invest more in the fisheries.	2) A: The stock of fish is ultimately limited. If there are no limits on the number of fishing units or fishers, then the chances of being able to operate a profitable fishery will be reduced. We invest with the expectation of getting some returns, but this will not be possible if everybody tries to harvest fish without any kind of limit. Also, there is a question of sustainability of the resource. If too much is taken today, there will be no fish for tomorrow.
3) Comment: It would be easier for fishers to distinguish between the small and large fish if they had appropriate echo sounders to use. This way, locals would not be getting into difficulties with fishery authorities. (Applause.)	3) This point is noted and should be taken for future consideration. One shop in town has recently ordered some simple portable echo sounders for trying out on the lake.
4) Q: Government hasn't designated permanent landing sites around the town to serve fisherfolk on an exclusive basis. Some sites where <i>dagua</i> now being dried have been earmarked for other uses like game sanctuaries, building sites, residential areas, etc. Can area be formally established for fishers?	4) A: This matter has been taken to Regional Government authorities for consideration.
5) Q: What steps have been taken to counteract post-harvest losses especially during the rainy season?	A: TAFIRI has received an expression of interest from the Austrian Government to establish solar drying facilities. There is particular interest in working with women's groups on this development.

Table 3.3 (Cont.)

Question/Comment	Team Response/Remarks
1) Comment: Women's groups usually have problems raising funds to match assistance grants (equity contribution). There should be special allowance made when assistance is provided.	1) A: This point can't be answered at present because not enough is known about the proposed project. (Generally noted that local fishers should feel free to pass at TAFIRI or Fishery Office with any questions they might have. These offices are always open and at the service of local fisherfolk.)
B. Gear/Equipment Owners Group	Observations <ul style="list-style-type: none"> • Owners requested they be given more time to consider the questions being posed. One fisher observed that this was the first time he had ever been given a chance to participate in such decision-making, and it was very important. He did not want to answer in a hasty way. • After some discussion it was agreed that copies of the question list would be left at Luanza and that each owner would submit a response on a separate piece of paper. Papers to be collected Thursday afternoon.
C. Crew/Labourer Group	
1) Suggestion: The proposition on 'fishing and conservation' (first one on form) could maybe be clarified if some examples of what is meant by limits to fishing.	1) Noted.
D. Processor/Trader Group	Observations <ul style="list-style-type: none"> • This group started with some 45 participants, but in the middle of the polling on the management propositions two catamarans arrived back from the fishing grounds and many of the traders left the group in order to bid on the catch. Only 17 of the original 45 stayed on to complete the polling.
1) Comment: One participant observed that at Kalilani (village around Mahale national park) and Sibwesa (one village after border with Rukwa Region), fishers should be allowed to remain using beach seines. No small fish are being caught at these places apart from dagaa.	1) The speaker was very strong on this point.
2) Comment: Two other participants thought that beach seines should be banned forever. In fact seines are destroying nests and fishing grounds. Fish must be preserved for future generations.	2) Noted.
3) Comment: The licensing system needs to be improved. Within town, there is one license for 'Nguvu kazi' (small traders like shoe shiners, fish processors at beach, or kiosk operators). Another license category is for larger shops and traders. When it comes to the actual business being operated, there is often no difference between the 'nguvu kazi' traders and the regular license traders. This unfair.	3) Noted.

3.3 Site Visit: Muyobozi

The community meeting at Muyobozi, about one and a half hour's drive south of Kigoma, started as scheduled at 1000h. The general meeting took place in the middle of the village market area and lasted about one hour, with some 160 men and 37 women in attendance. Afterwards, three sub-groups comprised respectively of fishing unit owners, crew, and processors/traders met for a further hour and a half.

Proceedings were opened by the Village Chairperson, Mzee Sadik Mkala, who stressed that this was a special day for Muyobozi people to get together to discuss fishery issues. All people living around the area are 'fishers' in one way or another: some go out on the lake to catch fish; others are active in drying or selling fish; and everyone eats fish. Therefore, this meeting is something that nobody should miss. Muyobozi people have often seen the *Explorer* passing by and have wondered what it was doing. Today is a chance to find out about the work the boat has been conducting, and about the work of the Lake Tanganyika Research Project in general.

Mzee Mkala then introduced Mr. Kweka, who briefed the audience on the team's mission, just as he did for the Luanza meeting on the previous day (see Section 3.2 above). Mr. Chitamwebwa spoke next. He emphasised that the village meeting exercise was being conducted by LTR on a lakewide basis, with the same procedures being used in each of the four countries. He then presented the team's set of posters (Kiswahili language version of sample posters shown as Annex 1).

Questions and comments raised after the poster series presentation, as well as those raised in the sub-groups following the general meeting, are noted in Table 3.4. Proposition polling results for Muyobozi are reviewed in Section 3.4.

Table 3.4 Questions and comments from Muyobozi meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	
1) There is piracy in the lake. How can this be dealt with? (Reaction from another member of audience to the effect that the speaker is a Government officer and it is for the Government to protect people's property. Government shouldn't evade responsibility.)	1) Village Chairperson observed that the team visiting today were representing the researchers who have been working on the lake. Everybody responsible to look after people's welfare. Chairperson promised to follow up further on this matter with the Government.
2) One participant observed that <i>dagaa</i> are now very far out in lake. Can Government better inform local fishers where fish are to be found at particular times? Otherwise much fuel is wasted.	2) At present there are less <i>mikebuku</i> , that otherwise tend to chase <i>dagaa</i> into waters close to shore. So now the main factor regulating the movement of <i>dagaa</i> is the availability of food.
3) In 1982 researchers reported to the fishers that what they were catching was very little in comparison to what is in the water. So now why are you telling us that there are limited resources in the lake?	3) Every species of fish has its own life span. A species' overall population depends on many factors – food, temperature, oxygen, fishing pressure, etc. As these change, the populations can change. With <i>dagaa</i> the life span is only about one year. It is possible that some years very heavy populations can be seen, whilst in others the fish are fairly scarce.

Table 3.4 (Cont.)

Question/Comment	Team Response/Remarks
B. Gear/Equipment Owners Group	<p>Observations</p> <ul style="list-style-type: none"> Members of this group discussed each of the propositions very thoroughly, until it was possible to reach a unanimous verdict. <p>1) Q: About the ‘fishing and conservation’ question, what type of gear would be applicable to local fishers? 1) A: We are not concerned with type of gear as such, but in the general idea of limits in principle.</p> <p>2) Group comment: Fisheries management groups. There were no particular questions but the majority wanted such groups to be formed as soon as possible. 2) Noted.</p> <p>3) Q: On local community participation, wouldn’t it be better to set the types of regulations that are needed before locals are asked to participate in controlling the fisheries? 3) A: Current regulations such as for mesh size, registration of vessels, fees for licenses, etc. are well known to locals. What the team is interested in finding out is whether local fishing community residents agree with them or not.</p> <p>4) Q: A person who had a license some four years back, and operated for only a year, is now in a position to revive his fishing activities.. What is his status? Does he have to pay for the intervening years? 4) A: The man should have informed authorities that he had stopped fishing. The legal position is that person will have to pay for the intervening years.</p> <p>5) Comment: There should be uniformity in licenses. In the present system different license fees apply to different gear. Some paying higher, some less. This opens opportunities for cheating. 5) [Note: license fees are US\$ 3 (equivalent) per person on a beach seine team, US\$ 4 per crew member on a lift net unit, and US\$ 3 per crew member for a gillnet unit. There is no restriction on the length of nets. No fees are assessed for longlines or hook and line.]</p> <p>6) Group comment: Purse seines. Very strong sentiments expressed against purse seines. Should be an absolute ban on this technique. 6) Noted.</p> <p>7) Group comment: Beach seines. It was agreed after lengthy discussion that there should be some areas of restriction on beach seining. But it was also the sense of the group that local fishers should be involved in choosing sites for beach seine operations/ restrictions. 7) Noted.</p> <p>8) Comment: Security on the lake. Local fishers should be allowed to carry communication equipment (portable radios) so that if anything happens, people could be alerted. Also, availability of police should be increased, esp. to check on security problems and influx of refugees. 8) Noted.</p>
C. Crew/Labourer Group	<p>1) Q: Is the beach seine prohibition applied lakewide or just in Tanzania? 1) A: It is not prohibited in all the countries, but one of the purposes of the present LTR community meeting exercise is to determine whether it would be a good idea to work for some form of restriction on beach seining everywhere.</p> <p>2) Q: Would there be some compensation for beach seine owners if gear had to be retired? Some owners have taken loans for bank and would incur loss. 2) This is something that certainly needs more study.</p>

Table 3.4 (Cont.)

Question/Comment	Team Response/Remarks
1) Suggestion: Fish finders should be made available for locals to locate fish concentrations instead of having to go blindly and wasting fuel.	1) Noted.
2) Suggestion: Scoop nets should be considered a less productive gear and exempted from license fees.	2) Noted.
3) Comment: It is difficult to tell when concentrating fish whether they are <i>nyamunyamu</i> or <i>dagaa</i> . Sometimes one or two of hauls of <i>nyamunyamu</i> are made before getting <i>dagaa</i> .	3) Noted.
4) Comment: Gear owners often pay a license fee for their crew members and then chase them away without the license.	4) Noted.
D. Processor/Trader Group	Observations
	<ul style="list-style-type: none"> This sub-group meeting started with the comment that the general meeting was somewhat biased against processors/ traders and in favour of fishers. It was pointed out that the results presented included the responses of processors/ traders as well, and that also there is an interaction and interdependence between the groups. Fishers depend on processors/ traders and vice versa.
1) Q: From now onwards are locals allowed to sell <i>nyamunyamu</i> in markets?	1) A: For the moment authorities are proceeding with the existing regulations. These do prohibit the sale of <i>nyamunyamu</i> and other juvenile fish. But ways are being sought in order to avoid the harvest of juveniles.
2) Q: Does an 'nguvu kazi' (petty trading) license give authority to move a cargo of five bags of dried <i>dagaa</i> to Kasulu?	2) A: The 'nguvu kazi' license only applies to a local (village) area. It does not give permission to operate outside a village area.
3) Q: Could the present project research help small-scale women fishmongers to organise into groups in order to promote their business?	3) A: Government at the moment is encouraging women's groups to organise and to apply for soft-term loans. Interested local women should contact the Village Chairperson in order to initiate a request through the District Council.
4) Q: I only have the capacity to buy one basin of fresh <i>dagaa</i> at a time. What can I do, because the license inspectors are bothering us very much?	4) A: This depends on inspector's discretion. If the problem persists, it would be better to organise into groups.
5) Q: Which is best gillnet mesh size to use?	5) A: Net mesh sizes of 2" and above for this lake.
6) Q: Fishers and owners are paying licenses, but once operating out on the lake they can get no help from Government if they get into problems. What is the position of Government?	6) A: It is the aim of Government to see fishers operate in safe way. But resources are extremely limited, which is why village leaders are encouraged to arrange for security precautions, rescues, etc.
7) Comment: There should be a specific trading centre where fish traders could meet with businesspeople from other countries in order to carry out transactions, rather than everybody being spread out along the beaches. Current situation is that many agents of foreign traders are working the beaches. Traders themselves stay in Kigoma and let middlemen do the running. The middlemen are now operating without licenses.	7) A: Once money is changed at the bank, people are free to buy fish. But when exporting they are supposed to declare their consignments on customs forms and pay a duty to Central Government (6% of US\$ 1.20/kg for <i>dagaa</i> ; US\$ 2/kg for other dried fish ex-Tanganyika. Rates for Mwanza-originating fish are different. Exporters are also supposed to pay TShs. 400 per bag of <i>dagaa</i> to the Local Government (Town Council or District Council).

3.4 Tanzania Referenda Results

Figures 3.1 through 3.6 depict results of the Tanzania referenda meetings for each site and for the two sites in combination.

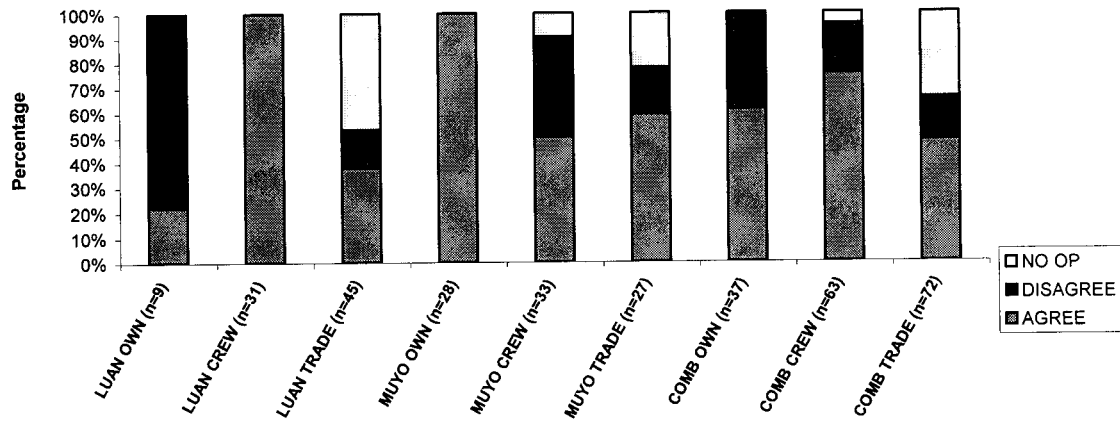
Very pronounced levels of support are registered for Propositions 2, 3, and 5. These deal respectively with measures that would entail: ‘Local Community Management Participation’ (co-management approaches involving both local fisherfolk and government officials); a ‘Management Group System’ (nested system of management advisory groups from local to regional level); and ‘Restriction of Purse Seining’ (prohibition of industrial fishing in certain areas of the lake).

Less unanimity is seen in connection with Propositions 1, 4, and 6. These bear respectively on principles of: ‘Fishing and Conservation’ (limitations on fishing in one or more forms); ‘Licensing and Access Control’ (licensing to control the number of fishers and boats allowed to operate within given areas); and ‘Restriction of Beach Seining’ (prohibition of beach seine fishing along certain areas of shoreline).

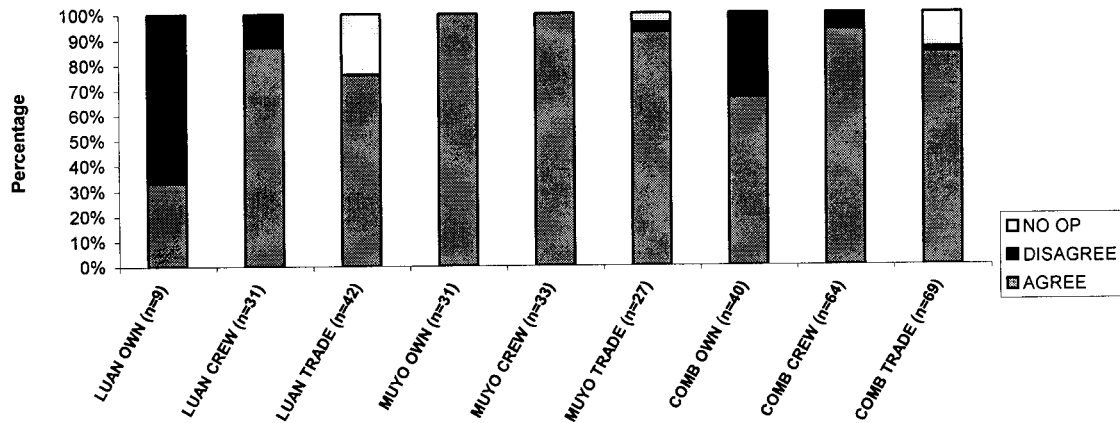
Important distinctions between subgroups are apparent in several instances. Fishing unit owners representing the area around Kigoma Town (Luanza Landing) express rather strong collective opposition to all the Propositions with the exception of Proposition 3 (system of management groups). Kigoma area crew and helpers are firmly against Proposition 4 (licensing), and processors and traders representing the Muyobozi area are firmly against Proposition 6 (beach seine restrictions).

FIGURES 3.1 – 3.3*

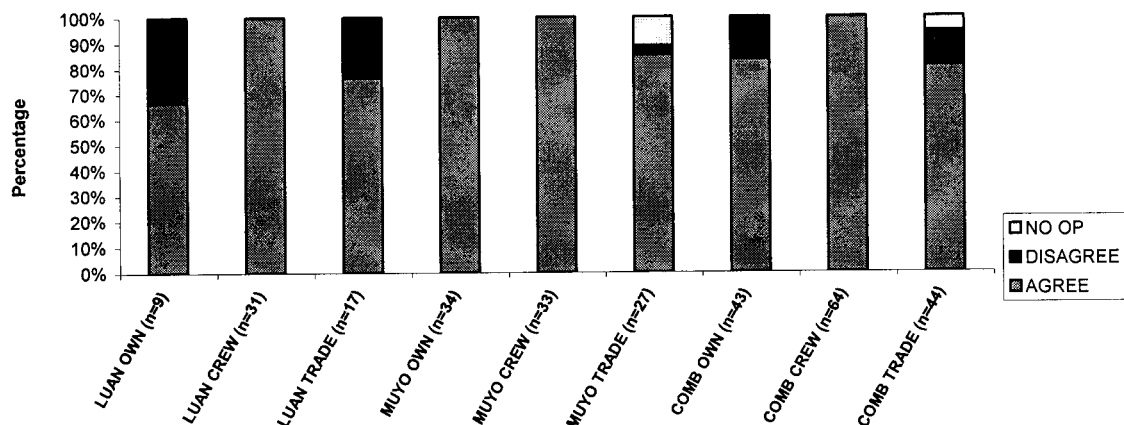
Prop. 1: Fishing & Conservation



Prop. 2: Local Community Management Participation

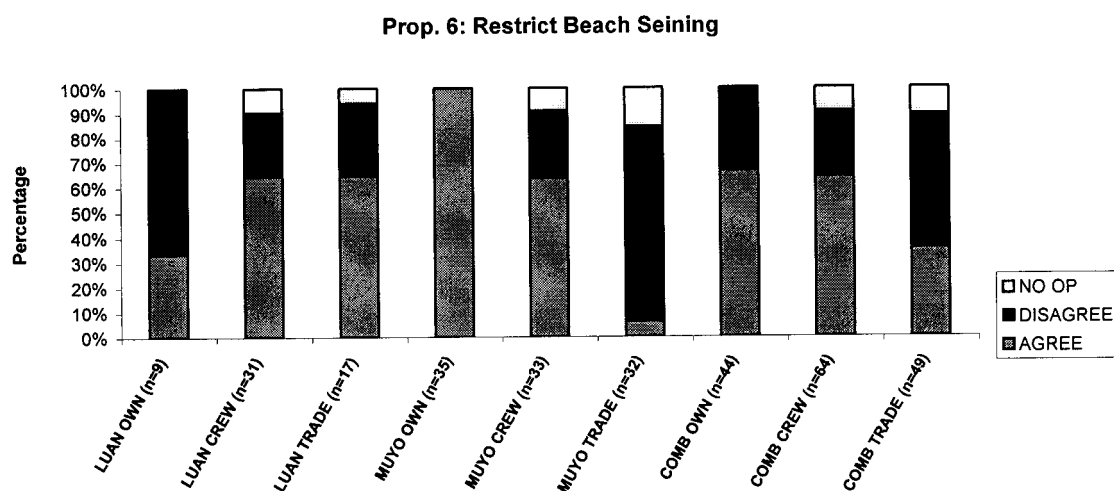
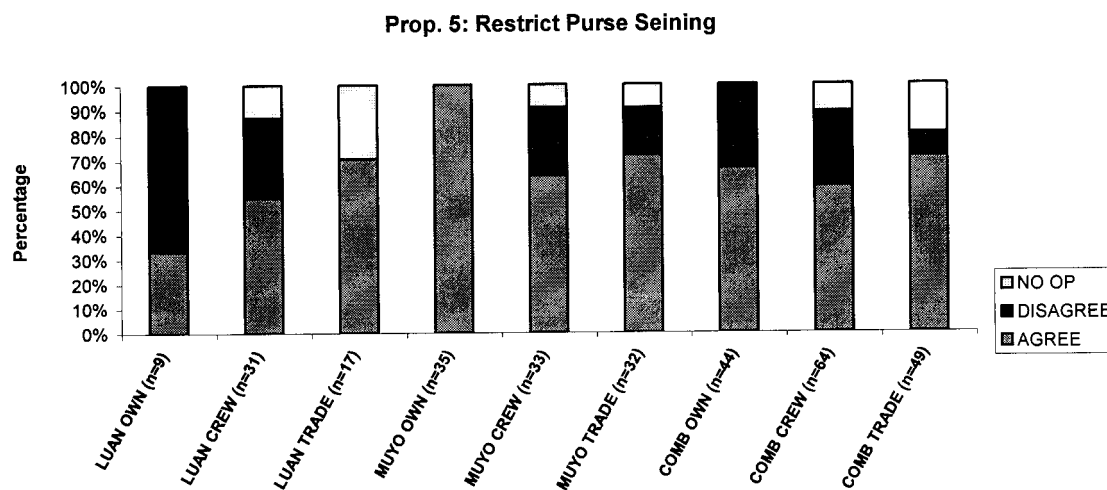
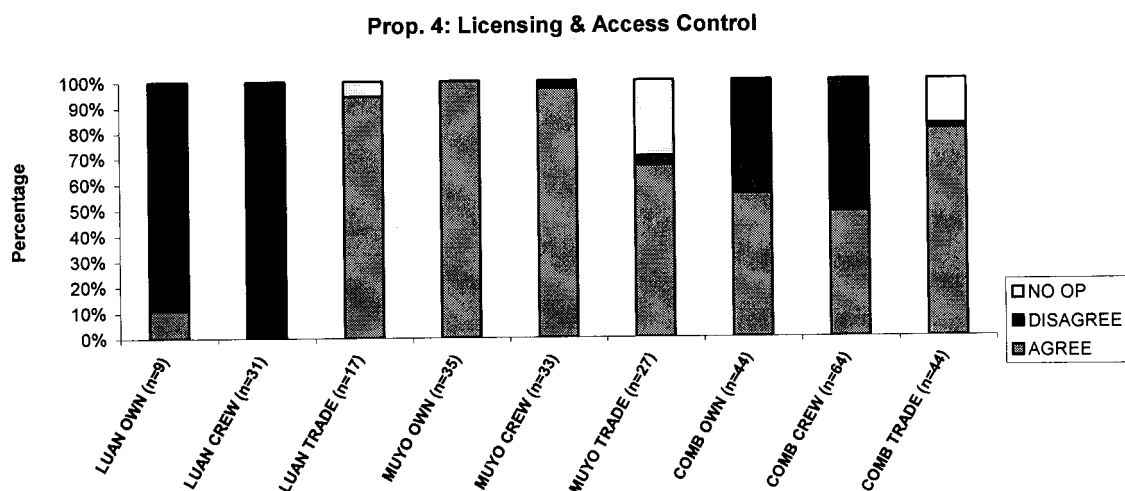


Prop. 3: Management Group System



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

FIGURES 3.4 – 3.6*



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

PART 4.

COMMUNITY REFERENDA IN BURUNDI

By:

*R. Kanyaru, E. Nikomeze, B. Nyakageni, A. Gihanyuzi,
M. Ndayarengako, G. Ndorimana, and J.E. Reynolds*

4.1 Team Preparations and Programme

The Burundi Community Referenda team was assembled at LTR Headquarters in Bujumbura on 16 November 1998. The team's composition is shown in Table 4.1. Fieldwork preparations and site visits were carried out according to the programme shown in Table 4.2.

Table 4.1 Burundi Field Team Members

Name	Designation	Remarks
1) Mr. Roger Kanyaru	Directeur, Département des Eaux, Pêche et Pisciculture	Team Leader; Participated SEC Survey 1997
2) Mr. Edouard Nikomeze	Assistant. Biologiste	Participated SEC Survey 1997
3) Mr. Mr. Boniface Nyakageni	Conseiller	--
4) Mr. Antoine Gihanyuzi	Technicien	--
5) Mr. Moise Ndayarengako	Enqueteur	To assist team at Gitaza. Participated SEC Survey 1997.
6) Mr. Gordien Ndorimana	Enqueteur	To assist team at Rumonge. Participated SEC Survey 1997.
7) Dr. E. Reynolds	LTR Consulting Dev. Planner	--
8) Dr. G. Hanek	LTR Coordinator	--

Table 4.2 Work Programme, Burundi Community Referenda Exercise

DATE	LIEU	ACTIVITE
13.11.98	Bujumbura/ siège de RLT	Arrivée de Reynolds en provenance de Kigoma. Reunions preliminaires avec Dr. G. Hanek (Coordonnateur de RLT) et Mr. R. Kanyaru, Responsable de l'Equipe de terrain. Arranger les communiqués à la radio pour les réunions de la communauté locale sur les sites de Gitaza et de Rumonge.
14.11.98 (Matin)	Siège de RLT	Des réunions supplémentaires avec Dr. G. Hanek et Kanyaru pour arrange le travail de terrain, logistique, la composition de l'équipe, etc.
16.11.98 (Matin)	Siège de RLT (0930 -1200)	Préparatifs de la visite sur terrain 1) Présentation à l'Atelier de Planification et de Formation (Hanek) 2) Compte rendu de l'équipe (Reynolds). 3) Confirmation du programme, provision de l'équipement, arrangement du transport, etc. (Reynolds, Hanek, Kanyaru) 4) Révision de l'équipe sur le matériel de briefing, méthodes.

Table 4.2 (Cont.)

DATE	LIEU	ACTIVITE
16.11.98 (Après-midi)	Siege de RLT (1400 – 1700)	Préparations de la visite sur terrain: 1) Sessions de présentation pratique des posters. 2) Compte rendu final de l'équipe pour le travail de terrain de Mardi
17.11.98	RLT - Site de Gitaza (0900)	Arrivée à Gitaza 0930 et contacter les administratifs locaux pour les réunions.
	Site de Gitaza (1000 – 1230)	Réunion sur le Referendum Communautaire à Gitaza, interviews des Sous-Groupes.
17.11.98 (Après-midi)	Siège de RLT	Retour au siège de RLT; debriefing, compilation des notes de terrain.
18.11.98 (Matin)	RLT - Site de Rumonge (0830)	Arrivée à Rumonge 0930 et contacter les administratifs locaux pour la réunion.
18.11.98 (Matin—Cont.)	Site de Rumonge (1000 – 1230)	Réunion sur le Referendum Communautaire à Rumonge, interviews.
18.11.98 (Après-midi)	Siège de RLT	1) Retourner au siège de RLT; debriefing, compilation des notes de terrain. 2) Révision finale du programme.

4.2 Site Visit: Gitaza Landing

The team arrived as scheduled at Gitaza Landing (approximately one half hour's drive south of Bujumbura) on Tuesday, 17 November 1998, at 0900h. We were welcomed by 'le chef de zone,' Niyonkuru Frédéric and the 'le chef de secteur,' Baranyizigiye Pierre. Some 110 men and 5 women along with many curious children made up the assembly of local Gitaza fisherfolk.

Le chef de zone welcomed all participants. He first thanked the visitors and then asked the audience to pay close attention to the proceedings. Mr. Nyakageni Boniface, speaking on behalf of the team, expressed his appreciation to the all present for having come to attend the meeting. He next introduced all the team members to the crowd, and briefly summarised the history of the LTR Project.

Mr. Kanyaru then presented the referenda poster series (Kirundi language version of sample posters shown as Annex 1). At the end of the poster session the meeting was opened to comments and queries from the audience. The only question asked during the general assembly sought to clarify the procedure of breaking up into smaller groups. During the sub-group sessions themselves a number of other questions and comments were recorded, and these are noted in Table 4.3. Results of polling on the six proposed management measures are reviewed in Section 4.4.

Table 4.3 Questions and comments from Gitaza meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	
1) Q: How will it be possible for small fishers to work together in a group with rich ones?	1) A: We are dealing with problems that concern everyone who depends on fish from the lake. If they are to be solved, everyone will have to work together. Our meeting today can be seen as a start on this process.
B. Gear/Equipment Owners Group	
1) Comment: Fishing and conservation. Fishers should be allowed to fish anywhere in the lake providing there is good security.	1) A: It is Government's policy to encourage fishing as much as possible, but those who want to fish should understand that some regulations are necessary in order to protect the resource of the lake for future generations. One important thing is to catch adult rather than juvenile fish, and this is best done by moving well offshore before nets are set – around 5 km offshore is considered a good distance.
2) Q: We have problems with theft. What can be done about this?	2) A: What we can do is to tell people from the 'Garde Lacustre' to assure the fishers' security, and to help them to recover their stolen material. It is Government's job to ensure security on the lake, but this will also take the cooperation of local fishers.
3) Comment: Mesh sizes. Local fishers do not favour the idea of having to make any changes in the nets they use. Some people depend only on fishing for their living, and don't have money to invest in new gear. Forced introduction of new net requirements would encourage stealing.	3) A: Whatever kind of fish you catch: <i>S. tanganyicae</i> , <i>L. stappersii</i> , or <i>isamake</i> , fishers should use nets allowed by the rules. It is not fair to those who follow the rules to ignore those who don't.
4) Group comment: Fisheries associations. Fishers in this group do not appreciate the idea of working through associations after their experience with widespread corrupt practices during the SUPOBU years. Associations of more than around five people cannot be expected to work well.	4) [SUPOBU: a failed parastatal organisation that operated in the 1970s as the national fish distribution and marketing agency. During the height of its operation it provided extensive equipment, gear, credit facilities to local fisher associations.]
5) Comment: Purse seines. Only one purse seine unit should be allowed to operate in Burundi.	5) Noted.
6) Comment: Beach seines are not a big problem in the area because there are many places where they cannot be operated due to rocky shorelines.	6) Noted.
C. Crew/Labourer Group	
	Observations <ul style="list-style-type: none"> No specific questions or comments were recorded during the meeting with this sub-group. The only questions asked concerned clarification of the six propositions on management measures prior to polling of the group.

Table 4.3 (Cont.)

Question/Comment	Team Response/Remarks
D. Processor/Trader Group	Observations <ul style="list-style-type: none"> The new DAPA project just getting underway through the Fisheries Dept. is the object of much interest. People seem worried that if credit guarantees are going to be required to receive loans for inputs, then only the rich will be the ones to benefit. Gear theft is reported to be rampant during the present period of crisis, and people are worried about having items obtained through loans stolen by thieves.
1) Comment: Fishers would like to be assured of their security on the lake, and they should be allowed to fish wherever they want to. The quantity of fish available to traders depends on the quantity caught by the fishers.	1) Noted.
2) Comment: When SUPOBU was still working fishers and traders both found it easy to obtain supplies like knives, fuel, and other items.	2) Noted.
3) Comment: Local fisheries committees still exist in the area from before and they are useful in keeping watch on conditions and encouraging people to comply with regulations, pay taxes when they should, etc.	3) Noted.
4) Comment: There should be an agreed time for fishers to operate so that fish can reach the beach in good condition. When fish are not fresh they end up being sold for a cheaper price.	4) Noted.
5) Comment: Beach seines present no danger. They operate only where there are sandy beaches.	5) Noted.
6) Q: Will the new DAPA project provide credit facilities to local people in order to buy inputs, etc.?	6) A: The DAPA project is just starting and credit provision procedures have not yet been established.

4.3 Site Visit: Rumonge

The field team arrived for the community meeting at Rumonge (about one hour's drive south of Bujumbura) at 0930h. Contact was made with local officials and two members of the team walked along the landing beach with a megaphone to remind people to join the assembly. The meeting commenced at 1000h at the road entrance to the beach, with a large crowd of 222 local fishers and traders/processors (210 men and 12 women) joining in. The team was greeted by local officials, including 'L'administrateur' of Rumonge commune, 'Commandant Bashirahishize Antoine, and the chief of the Rumonge Fishers Committee Aristide Nduwayo. The 'Commandant de la P.S.P.' and the 'Commandant du camp de Kigwena' also joined the meeting. Members of Karonda, Mvugo and Magara Fishing Committees came to attend as well.

Proceedings were opened by 'L'administrateur,' who welcomed the visiting team and all meeting participants. He urged those attending to listen to the team's presentation and help with the exercise by offering questions, comments, and suggestions. Mr. Nyakageni Boniface then introduced the team, thanked everyone for taking time to participate in the meeting, and spoke briefly about the purpose of our visit. He then invited the Director of the Department of Fisheries to review major LTR research findings and proposals for future management measures

with the aid of the team's referenda poster series (Kirundi language version of sample posters shown as Annex 1). Questions and comments raised after the poster series presentation, as well as those raised in the sub-groups following the general meeting, are noted in Table 4.4. Proposition polling results for Rumonge are reviewed in Section 4.4.

Table 4.4 Questions and comments from Rumonge meeting participants

Question/Comment	Team Response/Remarks
A. General meeting	Observations <ul style="list-style-type: none"> The poster presentation was followed with great interest by meeting participants.
1) Q: You tell us that the catch for 1968 was 73,000 tonnes, and that for 1995 it was around 180,000 tonnes. But it seems that the fish stocks are decreasing. What can be done to allow the fish to increase in the lake?	1) A: Although more fish are being caught, each individual is probably catching fewer fish because the number of fishers has been increasing. It is precisely because we are concerned about the future state of the stocks that we are developing suggestions for management that everybody can agree to.
B. Gear/Equipment Owners Group	Observations <ul style="list-style-type: none"> This group of owners seemed to have mixed views on fisheries regulations. On the one hand they express the desire to operate when and where they want, without restrictions, and on the other hand they see the need to have some rules to follow. It is apparent that there is considerable dissatisfaction with the performance of local fishing committees in the recent past.
1) Comment: We have problems with obtaining engines here. Some engines have been stolen and others destroyed during recent security crises.	1) A: On the question of robbery, it may be a good idea to look into the possibility of getting insurance. Obviously it is important to alert the police in cases of theft and to ensure that all fishing gear is registered. The Department should further look into possible ways for helping those who have been dispossessed of gear and equipment.
1) Comment: Locals including beach seine fishers and line fishers also need engines to help them move from one beach to another without problems.	2) Noted.
1) Group comment: Rumonge fishers are in need of a place where they can obtain fishing materials like nets and lights at a low price.	3) Comment noted.
1) Comment from woman boat owner: There is a need to train more women in fishing activity, and to help them obtain fishing materials, which are very expensive to try to rent.	4) Comment noted.
1) Group comment: Everyone agrees about the need for local fishing committees. But committee members should be freely chosen to include owners and crew as well as government officials and police.	5) A: A committee should be made up of those fishers who are liked and trusted so that local people feel confident when their committee members represent them in dealing with officials and the police.

Table 4.4 (Cont.)

Question/Comment	Team Response/Remarks
1) Group comment: Fishing 5km from shoreline. A number of owners expressed the opinion that there should be no restriction on fishing close to the shoreline. Having to fish at least five kilometres out can be very tiring for those who have to paddle canoes.	1) A: The idea of a 5km restricted fishing zone is to protect young fish that grow near the shore, so that they can eventually become full size and then contribute both to the catch and the maintenance of the stocks.
C. Crew/Labourer Group	<p>Observations</p> <ul style="list-style-type: none"> Rumonge crew and labourers feel that they are in a very disadvantaged position. They do not think they are treated fairly by those who own boats and equipment. At the same time are apprehensive about expressing their opinions because of possible repercussions. They needed to be reassured that all comments would be treated in an anonymous fashion, so that work does not get back to owners about who said what. <p>1) Comment: Fishers would like to be members of advisory groups made up of people around the lake, but there is a feeling that the owners do not allow crew and labourers a chance to voice their opinions. 1) A: Noted.</p> <p>2) Comment: When projects come along it is only the owners who benefit from them. Crew and helpers should be able to get help in acquiring fishing materials as well. 2) A: Noted.</p> <p>3) Comment: Officials decide on rules without consulting the fishers. 3) A: This is something that needs to be corrected and is exactly what the present exercise is about – seeking opinions and suggestions from people in local communities.</p> <p>4) Comment: Beach seine fishers should be allowed to fish wherever they want. We will make sure that nobody is catching young fish. 4) A: Remember though that beach seines catch small fish no matter what, and that they also destroy breeding grounds of the cichlids.</p> <p>5) Comment: Right now we are not allowed to fish beyond an 8 km distance from the shore. We would like to be able to fish as we did formerly – even into Congolese waters. We wish that our security could be assured, so that we could fish wherever we want. 5) A: Noted.</p> <p>6) Comment: When a crew member has an accident no one takes care of him. Owners just replace someone who has been hurt. Yet if an owner finds that his equipment has been lost or damaged, he demands that the crew pay for it. 6) A: Noted.</p>
D. Processor/Trader Group	1) Comment: Traders would like to be consulted on the rules before they are decided and applied. 1) A: Everyone with an interest in fishing or the fish business should be consulted about which rules should be made and how they should be enforced.

D.4 BURUNDI REFERENDA RESULTS

The graphs shown as Figures 4.1 through 4.6 express results of the Burundi referenda meetings for each site and for the two sites in combination.

High levels of unanimity across both sites and their constituent sub-groups of owners, crew, and processors/traders are apparent for Propositions 2 and 3. These bear respectively on principles of 'Local Community Management Participation' (co-management approaches involving both local fisherfolk and government officials), and creation of a 'Management Group System' (a nested system of management advisory groups from local to regional level).

Proposition 1 on 'Fishing and Conservation' (limitations on fishing in one or more forms) garners moderate to very strong levels of support amongst all groups except the crew and labourer representatives at Rumonge, who voted as a bloc against it.

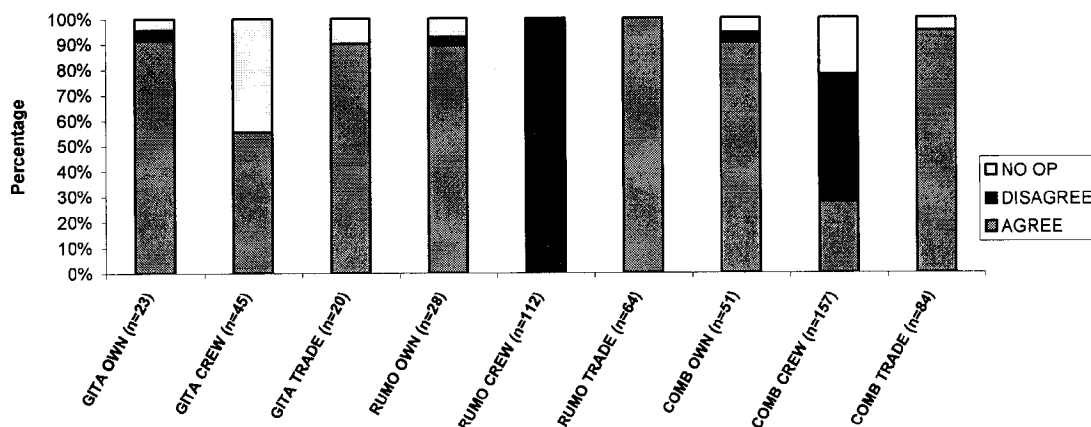
The principle of 'Licensing and Access Control' (Proposition 4 -- licensing to control the number of fishers and boats allowed to operate within given areas) gains support only amongst Gitaza owners and Rumonge crew.

The vote on Proposition 5 indicates that only gear and equipment owners favour measures to restrict industrial fishing (purse seining). Other groups at both sites solidly reject this proposition.

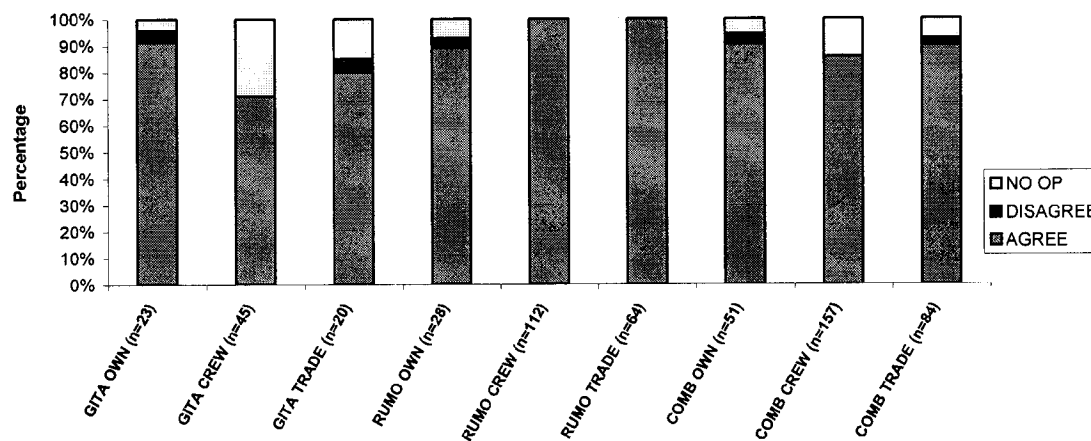
Finally, traders at both sites greeted with almost unanimous rejection Proposition 6, bearing on the prohibition of beach seine fishing. At the same time, the proposition earned a strong positive endorsement from Gitaza owners, and an equally strong rejection from Rumonge owners. Crew members at both sites mostly opted not to venture an opinion.

FIGURES 4.1 –4.3*

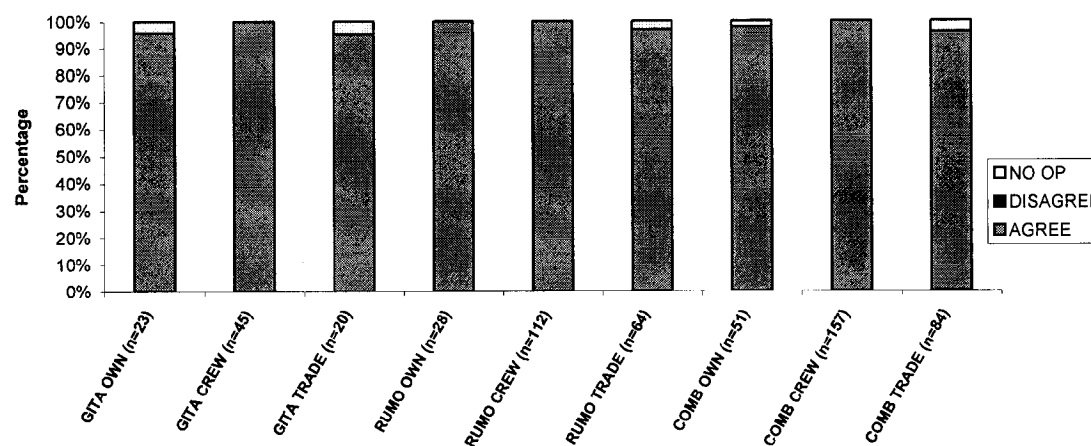
Prop. 1: Fishing & Conservation



Prop. 2: Local Community Management Participation

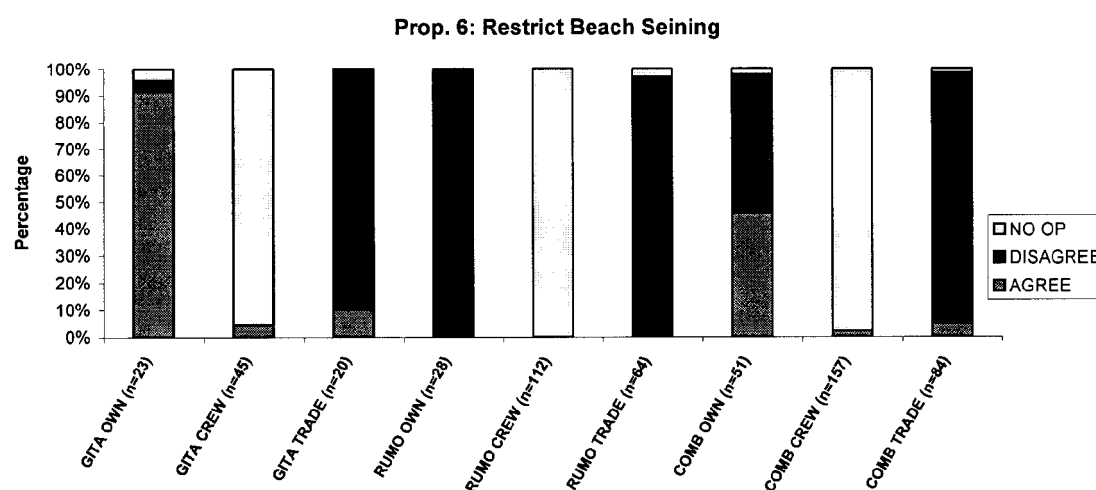
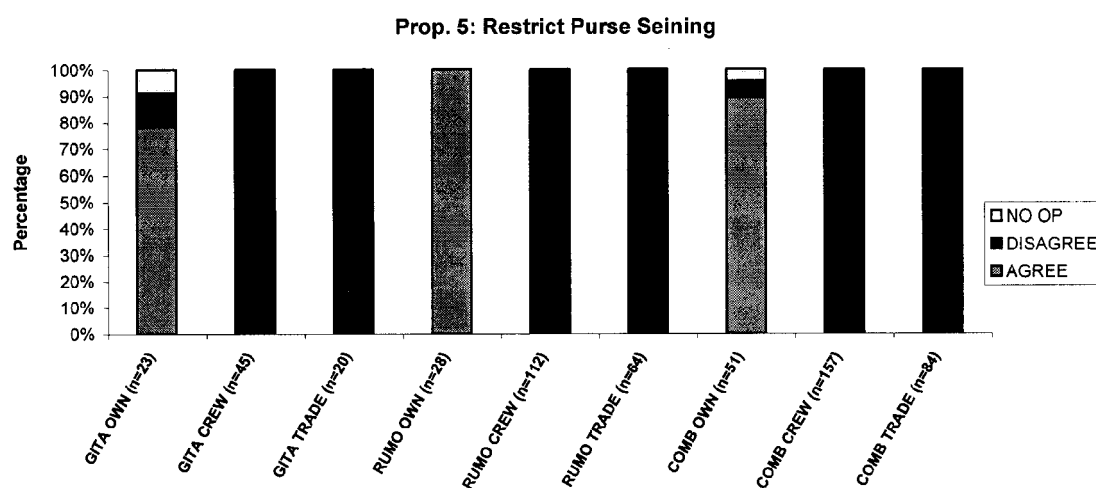
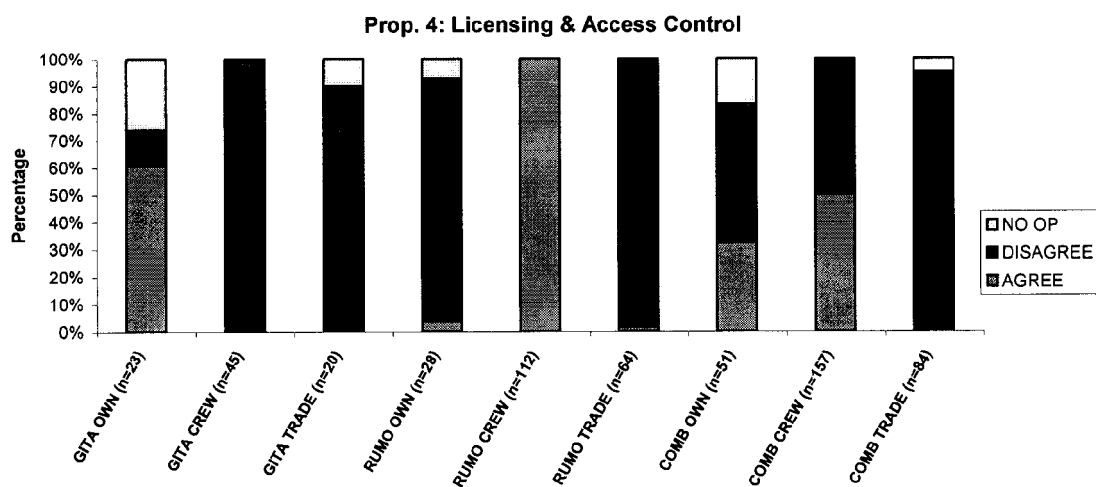


Prop. 3: Management Group System



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

FIGURES 4.4 –4.6*



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

PART 5.

COMMUNITY REFERENDA IN DEMOCRATIC REPUBLIC OF CONGO

By:

M. N'Sibula, M. Nyiringabi, M. Muke Syaïre, K. Musobokelwa, and J.E. Reynolds

5.1 Team Preparations and Programme

The Democratic Republic of Congo (DRC) Community Referenda team was assembled at LTR Headquarters in Bujumbura on 23 November 1998. The team's composition is shown in Table 5.1. Fieldwork preparations and site visits were carried out according to the programme shown in Table 5.2. Some revisions were necessary to the programme as originally planned due to the unsettled situation existing in the eastern DRC. It was not possible to obtain clearance for the team's advisor, Dr. E. Reynolds, to travel into the Uvira area. Furthermore, difficulties were encountered in relaying the community meeting poster materials and flipchart across the border between Burundi and the DRC on the morning of 24 November 1998. These materials had to be sent to the DRC team in Uvira on the following day. As a result, the team decided to postpone the Uvira community meeting (first scheduled for the 24th), until 26 November, after first completing the Fizi meeting as scheduled on 25 November 1998.

Table 5.1 DRC Field Team Members

Name	Designation	Remarks
1) Mr. Mulimbwa N'Sibula	Directeur Scientifique, CRH/Uvira	Team Leader
2) Mr. Muteso Nyiringabi	Chef de Secteur Pêche, Service d'Environnement	Participated SEC Survey 1997
3) Mr. Mukirania Muke Syaïre	Secrétaire Scientifique, CRH/Uvira	Participated SEC Survey 1997
4) Mr. Kitungano Musobokelwa	Chef Dpt d'Economie de Pêche, CRH/Uvira	Participated SEC Survey 1997
5) Mr. J.-M. Tumba	Assistant Biologiste, RLT	Participated SEC Survey 1997
6) Dr. E. Reynolds	LTR Consulting Dev. Planner	--

Table 5.2 Work Programme, DRC Community Referenda Exercise

DATE	LIEU	ACTIVITE
23.11.98 (Matin)	Bujumbura/ siège de RLT	Des réunions supplémentaires avec Drs. G. Hanek et Reynolds pour arranger le travail de terrain, logistique, la composition de l'équipe, etc.
23.11.98 (Matin)	Siège de RLT (0930 -1200)	Préparatifs de la visite sur terrain 1) Présentation a l'Atelier de Planification et de Formation (Hanek) 2) Compte rendu de l'équipe (Reynolds). 3) Confirmation du programme, provision de l'équipement, arrangement du transport, etc. (Reynolds, Hanek) 4) Révision de l'équipe sur le matériel de briefing, méthodes.
23.11..98 (Après-midi)	Siege de RLT (1400 – 1700)	Préparations de la visite sur terrain: 1) Sessions de présentation pratique des posters. 2) Compte rendu final de l'équipe pour le travail de terrain de Mardi

Table 5.2 (Cont.)

DATE	LIEU	ACTIVITE
25.11.98 (Matin)	Site de Fizi (0930)	Arrivée à Fizi, Ecole primaire de Makobola et contacter les administratifs locaux pour la réunion.
	Site de Fizi (1000 – 1300)	Réunion sur le Referendum Communautaire à Fizi. Interviews des Sous-Groupes.
25.11.98 (Après-midi)	Siège du CRH/Uvira	Retour au siège du CRH/Uvira; debriefing, compilation des notes de terrain.
26.11.98 (Matin)	Site d'Uvira (0830)	Arrivée à cathédrale d'Uvira et contacter les administratifs locaux pour la réunion.
	Site d'Uvira (0900 - 1200)	Réunion sur le Referendum Communautaire à cathédrale d'Uvira. Interviews des Sous-Groupes.
26.11.98 (Après-midi)	Siège du CRH/Uvira	Retour au siège du CRH/Uvira; debriefing, compilation des notes de terrain.
27.11.98 (Matin)	Siège de RLT	1) Retourner au siège de RLT; debriefing, compilation des notes de terrain. 2) Révision finale du programme.

5.2 Site Visit: Fizi Area

The team arrived at the Makobola Primary School in Fizi (approximately one half hour's drive south of Uvira) on Wednesday, 25 November 1998, at 0900h. Word of the meeting had been sent two days in advance and a crowd totaling 166 (164 men and 2 women) fishing unit owners, crew, and processors/traders had assembled at the school. After some introductory remarks and explanation of the purpose of the LTR mission, team members presented the referenda poster series (Kiswahili language version of sample posters shown as Annex 1). Various comments and queries from the audience were recorded during both the general meeting and the subsequent three 'working group' sessions of gear and equipment owners, crew and helpers, and processors and traders. These are shown in Table 5.3 as combined notes for all three sub-groups. Results of polling on the six proposed management measures are reviewed in Section 5.4.

Table 5.3 Questions and comments from Fizi meeting participants

Question/Comment	Team Response/Remarks
1) Q: What may we do if our fishing nets catch young clupeids?	1) A: The use of authorized mesh size is recommended
2) Q: If fishing young clupeids is prohibited, how may we and our families earn our lives?	2) A: This is a problem that we must all work together to solve. Remember also that it may be necessary to diversify into other income activities like poultry or fish breeding.
3) Q: How may we manage to pay tax while the use of authorized mesh size let us catch just a small quantity of fish?	3) A: The tax would depend on the catch.
4) Comment: The catch decrease is the result of pollution of the lake done by our neighbouring countries.	4) Noted.
5) Comment: We too wish we could catch just adult fish and not the young ones.	5) Noted.

Table 5.3 (Cont.)

Question/Comment	Team Response/Remarks
1) Comment: The government contribution is absolutely necessary for the development of the fishing activity.	1) Noted.
2) Comment: In order to contribute in the conservation of fish stocks, it is good to limit the number of lights operating in the lake.	2) Noted.
3) Comment: Fishers would like to be able to market their catches more directly, through their own organisation.	3) Noted.
4) Comment: We need to have shops that sell fishing materials and to be able to buy these materials more cheaply.	4) Noted.
5) Comment: Fishers need to get more training in various fishing techniques and activities.	5) Noted.
6) Comment: Local people would welcome the chance to participate in committees or associations dealing with rules on fishing activity and fisheries training for communities living around the lake.	6) Noted.

5.3 Site Visit: Uvira Area

The Uvira community referendum meeting was convened on 26 November 1998 at the Uvira Cathedral, beginning around 0900h. There were a total of 142 local fisherfolk in attendance, including 136 men and 6 women. The team followed the same procedure as used at Fizi on the previous day. Questions and comments from the Uvira audience are noted in Table 5.4. Results of polling on the six proposed management measures are reviewed in Section 5.4.

Table 5.4 Questions and comments from Uvira meeting participants

Question/Comment	Team Response/Remarks
1) Q: How may we proceed to make our fishing regulations when the other countries have their own laws?	1) A: We are trying to work toward a situation where the management of the lake will be done by all riparian countries in the same way.
2) Q: We use two kinds of beach seines. Which one do you think it would be best to stop using?	2) A: Beach seines in general are known to be destructive, so it would perhaps be best to stop using them altogether.
3) Comment: The use of seine would be allowed and the use of 'tam-tam' (unutimbo) prohibited.	3) Noted.
4) Comment: We suggest that fishing materials be made available and that fishers be allowed to buy them to a cheaper price or by credit.	4) Noted.
5) Comment: Fishers should be assisted in obtaining other ways of earning a living if some kinds of fishing activity are going to be forbidden.	5) Noted.
6) Comment: Fishers appreciate the idea of limiting the number of lights allowed instead of the number of fishing units.	6) Noted.

5.4 DRC Referenda Results

Figures 5.1 through 5.6 depict results of the DRC referenda meetings for each site and for the two sites in combination.

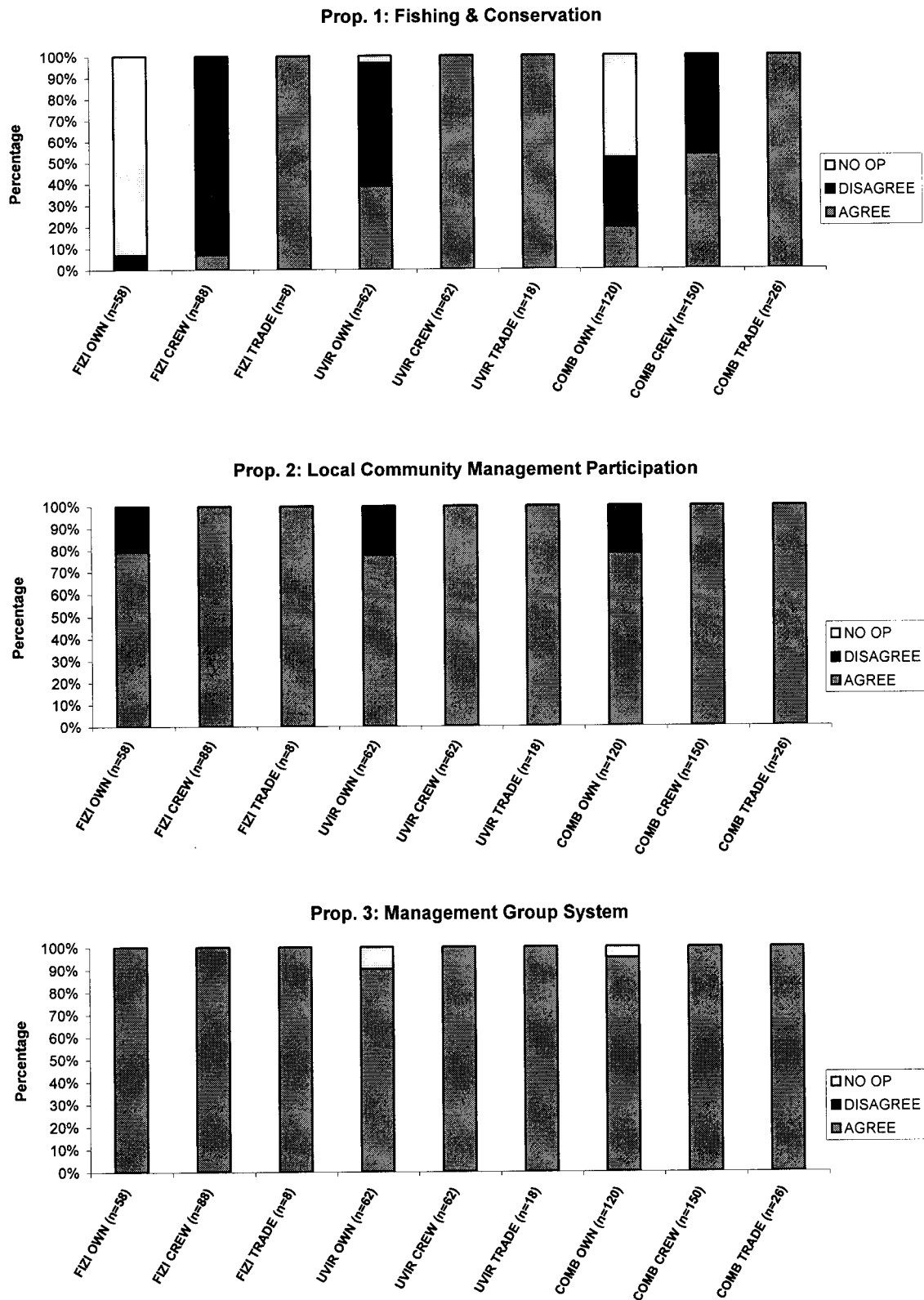
Polling of the three sub-groups at each site revealed unanimous or near unanimous support for Propositions 2, 3, and 5. These bear respectively on principles of co-management involving both local fisherfolk and government officials, establishment of a system of management advisory groups from local to regional level, and prohibition of industrial fishing in certain areas of the lake.

With regard to Proposition 1, 'Fishing and Conservation' (limitations on fishing in one or more forms), full endorsement is registered amongst processors and traders in both Fizi and Uvira, and amongst crew representatives in Uvira.

Proposition 4 on licensing as a means to control distribution of effort gains wholesale support from Fizi processors and traders, and moderate majority support from their counterparts in the Uvira area. Fizi owners voted as a bloc not to take a stance ('No opinion') on Proposition 4, whilst those representing owners around Uvira voted as a bloc to reject it. Crew member group views were solidly negative in Fizi, and slightly negative in Uvira.

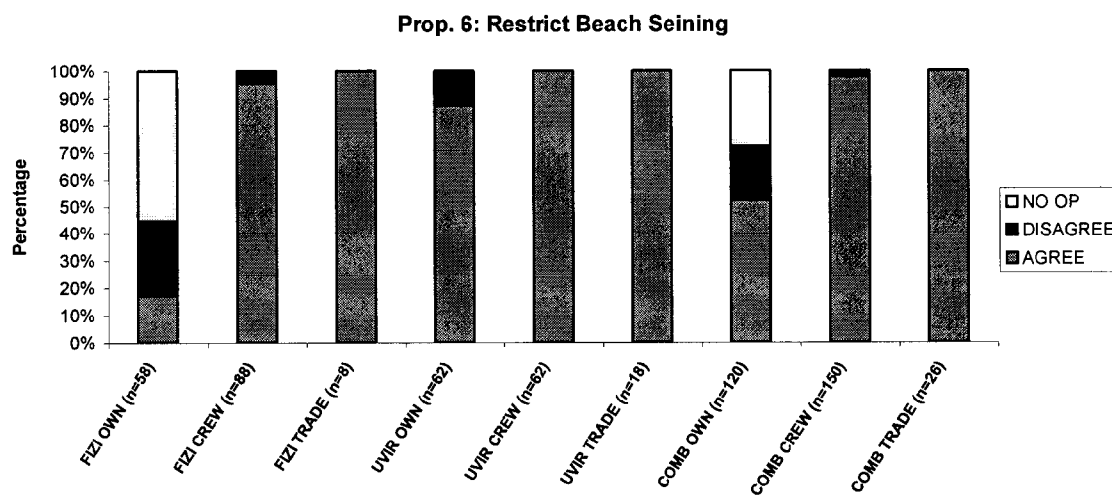
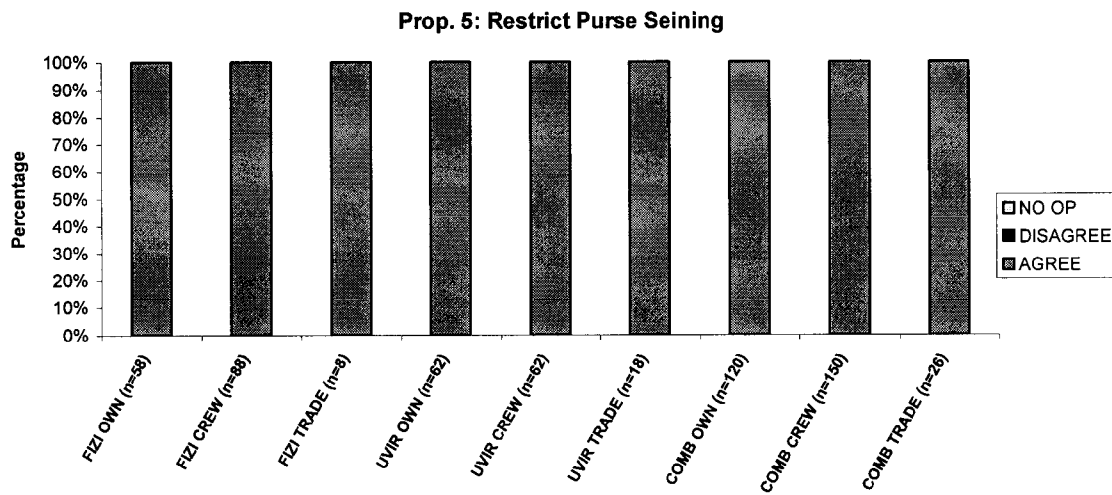
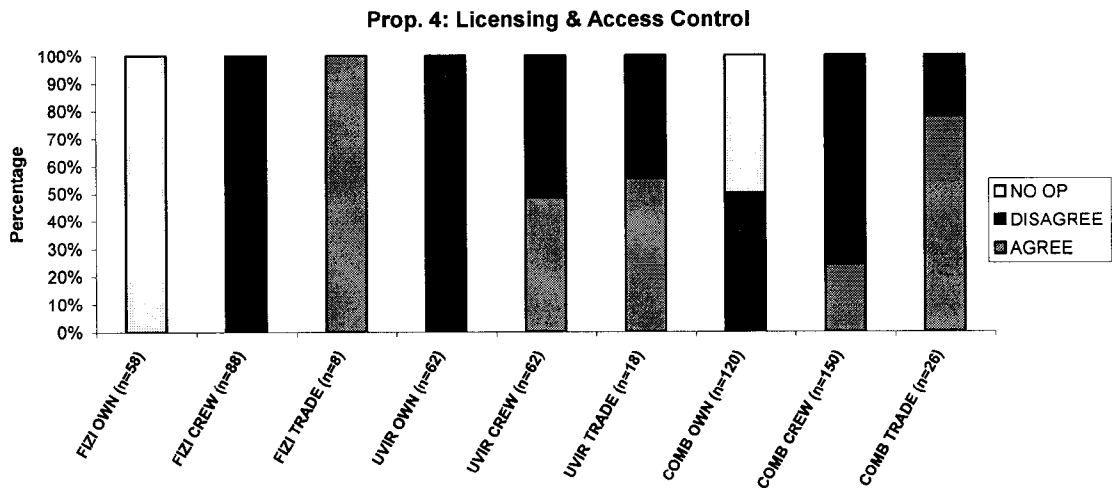
The vote on Proposition 6 shows extremely strong endorsement of measures that would prohibit the use of beach seines amongst all categories represented at both sites with the exception of Fizi owners, most of whom choose not to venture an opinion on the matter.

FIGURES 5.1 – 5.3*



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

FIGURES 5.4 – 5.6*



*Weighting factors applied to correct for group size differences between sites in computing combined percentages within each sub-group category.

PART 6.

SUMMARY AND RECOMMENDATIONS

By:

J.E. Reynolds

6.1 Summary Review

This document reports on the Community Referenda exercise mounted by the LTR Project in November 1998 at eight selected settlements along the four national shorelines of Lake Tanganyika. The exercise was one of the 'Accompanying Measures' recommended under the LTR Management Working Group's provisional 'Framework for Regional Fisheries Management,' as endorsed by delegates to Sixth Meeting of the LTR Co-ordination Committee held in June 1998.

The referenda were organised as a series of public meetings for the exchange of information and views between local fisheries stakeholder groups and the LTR project team. Three principal aims were involved. The meetings were intended first to inform local community residents of major outcomes of LTR hydrobiological and socio-economic studies over the past six years. Secondly, they were intended to explain to participants how LTR research findings form the basis for measures proposed in the regional fisheries management framework. Finally, the meetings aimed at securing further feedback and input from local-level stakeholders, in keeping with the critical need for them to remain engaged as active and responsible partners in confronting the challenges of Lake Tanganyika fisheries management.

Budgetary constraints dictated that only a very limited number of community meetings could be undertaken. Two locations were selected in each of the four lacustrine countries in consultation with LTR National Co-ordinators, and taking into account previous LTR data on landing site sizes and fishing unit densities. Initial selections ensured that meeting venues would represent all major regional concentrations of small-scale fishing populations around the lake, but logistical considerations in the case of Tanzania and security considerations in the case of Burundi and especially in the case of the DRC forced changes in plan. Use of alternate sites meant that it was still possible for the LTR field teams to convene two community meetings per country. For Tanzania and the DRC, however, it was not possible to include in the exercise communities representing the extensive southern coastlines (Rukwa Region in Tanzania, and Shaba Province in the DRC).

Preparations for referenda field work included the formation of national teams of 4 to 5 individuals each, drawn from the staff of the fisheries research institutes and Department of Fisheries offices that share in LTR work at the four stations around the lake (Bujumbura, Uvira, Kigoma, and Mpulungu). A series of large posters was also drawn up to facilitate presentation of briefing materials to local community audiences. These visual displays, prepared in four local language versions, combined simple textual and graphical messages to portray major results of project investigations to date and to lay out the basic outlines of LTR's Draft Regional Framework Fisheries Management Plan. Planning and training sessions were organised with each national field team so that procedures and briefing materials could be fully rehearsed prior to the start of the respective community meeting visits. Meeting dates and venues were announced beforehand through public media and local administrative and fisheries officials.

The eight community meetings adhered to a common format. Official welcoming addresses and introduction of team members opened the proceedings. A public briefing by team members based on the poster series followed. Participants were then invited to engage in a general question and comment session. Upon conclusion of the general meeting everyone was asked to break into 'working groups' of fishing unit owners, crew, processors and traders, and (if appropriate) other participants with fisheries interests. Team members divided themselves between the different sub-groups in order to moderate discussion, record further questions and comments, and finally

conduct a poll on the six basic management propositions that form the core of LTR's draft Regional Framework Plan.

These propositions concern principles of: 1) limitations on fishing in one form or another; 2) local community participation in fisheries management; 3) the formation of management advisory groups running from local to regional level; 3) licensing to control the number of fishers and boats allowed to operate within given areas; 4) prohibition of industrial fishing in certain parts of the lake; and prohibition of beach seine fishing along certain areas of shoreline.

Team debriefing sessions were held after each community meeting to tabulate polling results and compile and compare notes recorded during the question and comment sessions.

6.2 Principal Findings

6.2.1 Group discussions and team observations

Although polling on the provisional LTR management measures was the chief purpose of the referenda exercise, notes on participant questions and comments and other observations recorded by the four national field teams during the community meetings constitute an important supplementary source of information available for evaluation. Principal findings from this body of material bear mostly on the following themes.²

Receptiveness to co-management approach

First, it is readily apparent from the interest and enthusiasm shown and genuine concerns expressed that local resource users value the opportunity to engage in public deliberation of fisheries issues. In all instances the briefings on LTR activities and the poster presentation showing research outcomes and recommendations was followed with close attention. Group question and answer sessions, either in the general assemblies or the sub-group meetings, or both, were frequently lively and loquacious affairs.³ Community involvement, accountability of public officials, transparency in decision-making, and shared responsibility in the use and protection of shared natural resources are hallmarks of the co-management approach, as advocated in the guidelines for FAO's *Code of Conduct for Responsible Fisheries* (CCRF). The referenda meeting experiences show that Lake Tanganyika fisherfolk generally are very appreciative of such qualities and traits, and are quite willing to engage both the idea and process of co-management.

Socio-economic displacement and marginalisation

In a number of instances, either through direct observation or respondents' statements, national field team members, noted indications that socio-economic inequalities are posing significant problems within fisherfolk communities. When crew members and fishworkers in their sub-group meetings speak of poor working conditions, or manipulative and arbitrary behaviour on the part of some employers, then it is clear that underlying tensions exist. When they worry about reprisals from 'bosses' for speaking out about their frustrations, or express a sense of powerless and isolation from the deliberations of local beach committees and 'rich owners,' it is clear that feelings of disenfranchisement and inferiority cloud the social environment of the lakeshore. Such circumstances pose obstacles to the development of meaningful, truly participatory, local management arrangements.

There also seems to be a serious gender dimension to problems of socio-economic inequality. It was remarked upon that women were rather poorly represented at community referenda meetings given their actual level of participation in Lake Tanganyika fisheries as workers, processors, traders, and even boat and gear owners. In accounting for this pattern, field

² As demonstrated by the tables of questions and comments from community meeting participants in the foregoing sections, discussion in both the general and sub-group assemblies was wide ranging, and some of the points raised were not of immediate relevance to referenda concerns.

³ It should be noted, however, that the various national field teams did not record meeting proceedings with the same degree of thoroughness.

team members commented that such public meetings are conventionally treated as ‘male affairs,’ in which women are neither expected nor encouraged to take an active part. In almost all the general meeting sessions, those women present kept themselves grouped apart, sitting or standing off the side or to the rear of the main (male) audience, and never raised a question or comment when discussion was invited after the conclusion of the poster presentations. Once in the processor/trader sub-group setting, however, where they made up most if not all of the audience, women showed no hesitancy in contributing to discussion, and did so in penetrating and insightful ways. As with the case of crew members, the sense of inequality and subordination that attends women’s participation in public discourse and decision-making related to fisheries affairs is not conducive to the development of effective co-management capabilities.

Sharing management responsibility lakewide

Another common theme that emerges from community and sub-group discussions recorded by field team members relates to the fair distribution of management responsibilities and costs across the four national jurisdictions. Thus, fishers in Zambia, for example, question why their waters should host such a high concentration of industrial fishing craft, when they are almost totally absent from the other national sectors of the lake and, in most cases, actually have ‘migrated in’ from these other sectors. Tanzania fishers, to take another example, ask why beach seines should be banned in their national waters but allowed to operate elsewhere. Finally, as a last and general example, the field teams often noticed a certain reluctance on the part of local fishers to accept the idea of restrictions on their own activities (licensing, craft quotas, gillnet mesh size specifications, zone or season closures, etc.), if similar limitations could not be applied in a consistent way on a lakewide basis. This reluctance is apparent even in cases where underlying reasons for such restrictions are perceived as legitimate. The message for regional fisheries management planning is that there are strong local expectations for fairness and uniformity in the allocation of management responsibility between resource users, and in attendant application of measures to control fishing mortality.

Antipathy towards industrial fishing

A great deal of ill feeling exists amongst small-scale fishers towards purse seining operations. The antipathy is general around the lake, but is exceedingly strong in the southern end, where virtually all of the ‘industrial’ units are now based. The situation is untenable.

Perceptions of beach seining.

Judging from widespread remarks made during the community meetings, the destructive nature of beach seine operations on clupeid stocks and cichlid breeding and nesting sites is not wholly appreciated by local fishers. To some extent reluctance to acknowledge beach seines as destructive gear may be driven by a lack of alternative modes of fishing. It also seems to be related to existing gear kit investments, and the understandable apprehension that further restrictions or bans on beach seines may result in substantial financial losses. In a few cases beach seining is not a common practice, owing to the unsuitable nature of the shoreline, and is thus not seen as a serious problem.

Input availability

The field teams encountered frequent reference to input supply problems on one sort or another. Some respondents spoke of chronic shortages of fishing materials at any price, whilst others complained of having to pay inordinately high prices. The need for more commercial outlets selling equipment and gear of correct specifications at reasonable prices was a common topic in the sub-groups. The refrain was also heard, sometimes on a nostalgic and always on a hopeful note, to the effect that technical assistance projects and easy credit arrangements were good remedies for input availability problems.

Security problems

Many references were made in the community meeting discussions to cases of piracy and other loss of gear and equipment owing to widespread conditions of insecurity that now exist on the lake. At the present time the situation does not seem to be improving and may even be deteriorating further, as the situation in eastern DRC continues along its violent course.

6.2.2 Polling results

A synopsis of polling results for the six referenda propositions is presented in Tables 6.1 through 6.6. Results are broken down by country and according to the three major sub-groups through which community meeting participants cast their votes – respectively the owners of fishing gear and equipment, crew members and fishing unit labourers, and fish processors and traders.⁴

Proposition 1: ‘Fishing and conservation.’ This proposition met with a mixed response across both sub-groups and countries (Table 6.1). It was endorsed by a moderate owner majority in Tanzania and by a very strong owner majority in Burundi. Owner representatives in Zambia and the DRC were split or undecided in their reactions. Crew sub-groups in Tanzania (strong majority) and the DRC (moderate majority) approved of Proposition 1, whilst those in Zambia and Burundi were split or undecided. For processor/trader sub-groups, strong (Zambia) or very strong (Burundi and DRC) majority support was registered for Proposition 1 except in the case of Tanzania, where opinion remained split or undecided. Overall, this proposition gained some measure of majority endorsement in 7 out of the 12 national sub-group polled, thus earning a ‘Moderate Agreement’ rating.

Table 6.1 Majority views on Referenda Proposition 1, sub-groups by country*

PROP. 1: ‘Fishing & Conservation’[Text: ‘People around the lake who want to fish should be allowed to do so, but within limits, because their children and grandchildren should always be able to catch enough of all the kinds of fish that we have now.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-Group Vote	Overall Assessment
Owners	0	+1	+3	0	2 Yes, 2 Split (= 0)	Undecided
Crew	0	+2	0	+1	2 Yes, 2 Split (= 0)	Undecided
Processors/ Traders	+2	0	+3	+3	3 Yes, 1 Split (+2)	Strong Agreement
Overall Country Vote	1 Yes, 2 Split (= 0)	2 Yes, 1 Split (+2)	2 Yes, 1 Split (+2)	2 Yes, 1 Split (+2)	--	--
Overall Assessment	Undecided	Strong Agreement	Strong Agreement	Strong Agreement	7 Yes, 5 Split (+1)	Moderate Agreement

* **Scores:** +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (> 65%); +/-3 = Very strong majority for/opposed (> 80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

Proposition 2: ‘Local community participation in fisheries management.’ Proposition 2 was enthusiastically endorsed across all sub-groups and countries (Table 6.2). With a unanimous ‘yes’ vote (12 out of 12 sub-groups), it earns a rating of ‘Very Strong Agreement.’

⁴ The category of ‘Others,’ including retired fishers, village elders, and anyone else not fitting into the first three categories, was only employed in the case of the Zambia meetings. It is therefore not included in this synopsis.

Table 6.2 Majority views on Referenda Proposition 2, sub-groups by country*

PROP. 2: ‘Local community participation in fisheries management.’ [Text: ‘Fishers, traders, and other residents of local communities involved in fisheries-related activities should be able to take part along with government officials in deciding on fisheries rules and in making sure that they are followed in their community areas.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-GroupVote	Overall Assessment
Owners	+3	+2	+3	+2	4 Yes (+3)	Very Strong Agreement
Crew	+3	+3	+3	+3	4 Yes (+3)	Very Strong Agreement
Processors/ Traders	+3	+3	+3	+3	4 Yes (+3)	Very Strong Agreement
Overall Country Vote	3 Yes (+3)	3 Yes (+3)	3 Yes (+3)	3 Yes (+3)	--	--
Overall Assessment	Very Strong Agreement	Very Strong Agreement	Very Strong Agreement	Very Strong Agreement	12 Yes (+3)	Very Strong Agreement

* Scores: +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (65%); +/-3 = Very strong majority for/opposed (80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

Proposition 3: ‘Fisheries management groups.’ Proposition 3 likewise was received very enthusiastically in all communities, (Table 6.3), and likewise earns a rating of ‘Very Strong Agreement.’

Table 6.3 Majority views on Referenda Proposition 3, sub-groups by country*

PROP. 3: ‘Fisheries management groups.’ [Text: ‘There should be a system of fisheries advisory groups made up of members elected from lakeside communities as well as fisheries officials, running from the local landing beach level to one covering the entire lake (local, region/province, national, lakewide). At each level, group members would monitor or keep watch on the fisheries activities within their areas of responsibility, and give advice and recommendations on how they should be controlled or improved.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-GroupVote	Overall Assessment
Owners	+2	+3	+3	+3	4 Yes (+3)	Very Strong Agreement
Crew	+3	+3	+3	+3	4 Yes (+3)	Very Strong Agreement
Processors/ Traders	+3	+2	+3	+3	4 Yes (+3)	Very Strong Agreement
Overall Country Vote	3 Yes (+3)	3 Yes (+3)	3 Yes (+3)	3 Yes (+3)	--	--
Overall Assessment	Very Strong Agreement	Very Strong Agreement	Very Strong Agreement	Very Strong Agreement	12 Yes (+3)	Very Strong Agreement

* Scores: +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (65%); +/-3 = Very strong majority for/opposed (80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

Proposition 4: ‘Licensing and control of access to fishing.’ Heavily divided views were apparent with regard to the proposition on licensing and access control (Table 6.4). Such a management measure is supported in principle only by owner representatives in Zambia and Tanzania, and by processor/trader representatives in Tanzania and the DRC. It is rejected in

principle by crew representatives in Zambia and by processor/trader representatives in Burundi. The vote is undecided (split or ‘No opinion’) amongst owners in Burundi and the DRC, crew in Tanzania and Burundi, and processors/traders in Zambia. The overall assessment for Proposition 4 is therefore ‘Undecided.’

Table 6.4 Majority views on Referenda Proposition 4, sub-groups by country*

PROP. 4: ‘Licensing and control of access to fishing.’ [Text: ‘In order to help conserve fish stocks, there should be a system of licenses for individuals and fishing boats, to control the number of fishers and boats allowed to operate along each section of the shoreline.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-Group Vote	Overall Assessment
Owners	+1	+1	0	0	2 Yes, 2 Split (= 0)	Undecided
Crew	-1	0	0	-2	2 No, 2 Split (= 0)	Undecided
Processors/ Trader	0	+2	-3	+2	2 Yes, 1 No, 1 Split (= 0)	Undecided
Overall Country Vote	1 Yes, 1 No, 1 Split (=0)	2 Yes, 1 Split (+2)	1 No, 2 Split (=0)	1 Yes, 1 No, 1 Split (=0)	--	--
Overall Assessment	Undecided	Strong Agreement	Undecided	Undecided	4 Yes, 3 No, 5 Split (=0)	Undecided

* Scores: +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (65%); +/-3 = Very strong majority for/opposed (80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

Proposition 5: ‘Restriction on purse seine units.’ Industrial fishing prohibition zones are moderately to strongly favoured in principle by all sub-groups in all countries, with the exception of crew and processor/trader representatives in Burundi (Table 6.5). Proposition 5 is thus assigned a ‘Strong Agreement’ rating for its overall assessment.

Table 6.5 Majority views on Referenda Proposition 5, sub-groups by country*

PROP. 5: ‘Restriction on purse seine units.’ [Text: ‘In order to help conserve fish stocks, there should be areas of the lake where purse seine units are not allowed to operate at all.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-Group Vote	Overall Assessment
Owners	+3	+2	+3	+3	4 Yes (+3)	Very Strong Agreement
Crew	+3	+1	-3	+3	3 Yes, 1 No (+3)	Very Strong Agreement
Processors/ Trader	+3	+2	-3	+3	3 Yes, 1 No (+3)	Very Strong Agreement
Overall Country Vote	3 Yes (+3)	3 Yes (+3)	1 Yes, 2 No (-2)	3 Yes (+3)	--	--
Overall Assessment	Very Strong Agreement	Very Strong Agreement	Strong Disagreement	Very Strong Agreement	10 Yes, 2 No (+2)	Strong Agreement

* Scores: +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (65%); +/-3 = Very strong majority for/opposed (80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

Proposition 6: ‘Restriction on beach seining.’ Moderate to very strong endorsements for the principle of beach seine prohibition zones came from owner and crew sub-groups in Zambia, Tanzania, and the DRC, as well as from those representing processor/traders in the DRC (Table 6.6.). The proposition was rejected by processor/traders in Tanzania (moderate majority opposed) and Burundi (very strong majority opposed). Opinion was split or undecided in the case of owner and crew groups in Burundi and processor/traders in Zambia.5). Proposition 6 therefore earns a ‘Moderate Agreement’ rating overall.

Table 6.6 Majority views on Referenda Proposition 6, sub-groups by country*

PROP. 6: ‘Restriction on beach seining.’ [Text: ‘In order to help conserve fish stocks, there should be places along the shoreline of the lake where no beach seining is allowed at all.’]						
Sub- Group	Zambia	Tanzania	Burundi	DRC	Overall Sub-Group Vote	Overall Assessment
Owners	+2	+2	0	+1	3 Yes, 1 Split (+2)	Strong Agreement
Crew	+3	+2	0	+3	3 Yes, 1 Split (+2)	Strong Agreement
Processors/ Trader	0	-1	-3	+3	1 Yes, 2 No, 1 Split (=0)	Undecided
Overall Country Vote	2 Yes, 1 Split (+2)	2 Yes, 1 No (+2)	1 No, 1 Split (=0)	3 Yes (+3)	--	--
Overall Assessment	Strong Agreement	Strong Agreement	Undecided	Very Strong Agreement	7 Yes, 2 No 3 Split (+1)	Moderate Agreement

* **Scores:** +/-1 = Majority for/opposed (> 50%); +/-2 = Strong majority for/opposed (> 65%); +/-3 = Very strong majority for/opposed (> 80%); 0 = Divided opinion or a ‘no opinion’ majority. Weighting factors applied to correct for group size differences between individual sites in computing overall scores for each country.

6.3 Recommendations

Consideration of principal findings of the LTR Community Referenda exercise leads to several recommendations. It must be borne in mind however that circumstances allowed the field teams to engage only a miniscule proportion of the scores of thousands who, as gear and equipment owners, crew members and labourers, processors and traders, and other fisheries-dependent community residents, make up the local stakeholder population of the Lake Tanganyika littoral. It should be remembered also that communities along significant portions of the shoreline could not be included in the exercise owing to logistical factors (Rukwa Region in Tanzania) and conditions of severe insecurity (eastern DRC south of Uvira). It therefore cannot be claimed that referenda meeting outcomes necessarily reflect the larger reality of fisherfolk opinion around the entire lake. On the other hand, the referenda exercise was to a large extent organised as an effort to validate or cross-check results of, and management planning decisions derived from, earlier socio-economic survey investigations carried out by the LTR Project. These latter which were based on a far more representative scope of geographical and sample population coverage (Reynolds and Hanek 1997).

With these observations duly noted, the following recommendations are set forth.

- 1) Regional Fisheries Management Framework core elements.** The six basic management propositions that make up the core of LTR’s draft Regional Framework Plan largely meet with local approval and thus may thus continue to be regarded as valid and legitimate reference points for elaborating management strategy and tactics on a lakewide basis.

- 2) ***Licensing and control of access.*** Local stakeholder opinion appears to be quite heavily divided on the issue of operator and craft licensing as a means to control entry to the fishery. Of the six management propositions presented to participants in the community referenda meetings, this proved to be the one case that yielded an indeterminate outcome. In elaborating access control mechanisms, therefore, careful consultations should be taken to ensure that local stakeholder apprehensions vis-à-vis licensing modalities are accommodated or resolved as much as possible.
- 3) ***Equity and inclusion.*** The disadvantaged circumstances of crew and other fishworkers, including women, warrant close attention. In building local co-management capabilities and implementing necessary ‘accompanying measures’ for technical assistance, special provision should be made to ensure that these groups are given full opportunity to participate in the process and to share in the benefits that responsible fisheries development will yield.
- 4) ***Fairness and uniformity in management obligations.*** It is unrealistic and counterproductive to burden some localities or national groups with management obligations when such requirements are not observed elsewhere. Technical measures such as gear restrictions and area closures, along with other measures to regulate fishing such as input controls and access limitations, should thus be elaborated and applied with due care. Ultimately, local stakeholders should be able to perceive that the burden of management responsibility is fairly distributed -- i.e. that the associated ‘pain and gain’ are as uniform and consistent across the entire lake as it is possible to achieve.
- 5) ***Industrial fishing operations.*** It is imperative to find some means of alleviating high levels of frustration and tension amongst small-scale fishers brought on by the increasingly intrusive impacts of industrial purse seining in the southern area of the lake. Serious curtailment of industrial harvesting operations is indicated.
- 6) ***Beach seine fishery.*** The destructive effect of beach seining on fish stocks is not universally recognised by Lake Tanganyika fisherfolk. Future ‘accompanying measures’ to support a regional fisheries management plan should include an environmental education component in order to help reinforce understanding of the adverse impact of beach seines. At the same time, as has already been recognised in earlier LTR planning work, viable substitute harvest techniques should be developed and demonstrated if local operators are to be encouraged to abandon or curtail their beach seining activities. The beach seine is a primary gear for many small-scale fishers, especially in the southern portion of the lake, so that enormous stakes in terms of gear investment, means of livelihood, and availability of product to consumers are involved.
- 7) ***Input availability.*** In designing any ‘accompanying measures’ that entail technical assistance to improve or develop gear technology for Lake Tanganyika artisanal fishers, the existing situation with regard to input supply should be thoroughly reviewed. It appears that lack of adequate commercial outlets coupled with the lack of netting material of recommended mesh sizes is to some extent acting to discourage the use of responsible fishing practices. One component of a gear technology improvement project could be to strengthen input supply channels around the shoreline through assistance to build inventories of gear that meet recommended specifications.
- 8) ***Security issues.*** Problems of gear theft may be mitigated, probably to a large extent, through the establishment of community-based management mechanisms, according to the recommendations already in place within the LTR Regional Framework Plan. Such mechanisms would tend to strengthen self-policing activities by local fisher stakeholders along their respective sections of coastline.

- 9) ***Disseminating research results.*** The enthusiasm and interest with which community referenda meeting participants followed the poster shows presented by the national field teams indicate that local people very much appreciate feedback on research findings and project activities generally. It is therefore recommended that a small pamphlet be prepared, using the textual and graphical content of the referenda posters, for distribution to local fisheries officers, chairs of village committees, or other leaders at major landing sites around the lake. Reference copies of the LTR research and recommendation briefings presented in the community meetings would then be available at the local level, further encouraging a sense of partnership and participation in fisheries management planning amongst lakeshore community residents.

PART 7.

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ANNEX 1

POSTER DISPLAY PRESENTED DURING COMMUNITY MEETINGS (SAMPLE FROM ZAMBIA, ENGLISH TRANSLATION)

**LAKE TANGANYIKA
RESEARCH (LTR)**

**RESEARCH TO HELP PLAN THE FUTURE OF
FISHING**

***** (1992 - 1998) *****

STUDY OF FISH TO LEARN ABOUT:

- * FOODS THEY EAT & AREAS THEY LIVE DURING
DIFFERENT LIFE STAGES FROM YOUNG TO
ADULT.**
- * HOW FISHING ACTIVITIES CHANGE THE
OVERALL POPULATIONS OF FISH.**

**WORKING WITH PEOPLE OF THE
LAKE TO UNDERSTAND:**

- * THE IMPORTANCE OF FISHING TO THEIR
LIVES.**
- * THE PROBLEMS THEY FACE & THEIR IDEAS
FOR WHAT SHOULD BE DONE IN THE FUTURE.**

MAJOR RESEARCH FINDINGS: FISH POPULATIONS

1. *KAPENTA1* (= *S. TANGANICAE* – LOCAL NAME??)

- * MOSTLY IN NORTHERN HALF OF LAKE. (HAVE DECLINED IN SOUTH.)**
- * YOUNG FIRST CAUGHT BY PURSE SEINE UNITS FAR OFF SHORE; LATER BY LIFT NET UNITS CLOSER TO SHORE.**

2. *KAPENTA2* (= *L. MIODON* – LOCAL NAME??)

- * CONTRIBUTE LESS TO THE PURSE SEINE AND LIFT NET CATCHES THAN *KAPENTA1* & *MVOLO/MIKEBUKA*.**
- * YOUNG FISH USUAL CATCH OF BEACH SEINES. *KAPENTA2* (= *L. MIODON*) MOVE FURTHER AWAY FROM SHORE AS THEY GET OLDER.**

3. *MVOLO/MIKEBUKA* (= *L. STAPPERSI*)

- * FAIRLY EVENLY DISTRIBUTED AROUND THE LAKE, BUT MOST COMMON IN CENTRAL PART.**
- * CONTRIBUTE ABOUT 20% TO THE LIFT NET CATCH IN NORTHERN LAKE, & ALMOST ALL (95%) OF THE PURSE SEINE CATCH IN SOUTHERN LAKE.**

**MAJOR RESEARCH FINDINGS:
FISHING DANGER SIGNS**

IN ALL THE LAKE:

- ✳ **FEWER OF THE LARGER *SANGALA* (*LATES*) SPP. ARE CAUGHT NOW IN COMPARISON TO 20 - 30 YEARS AGO.**
- ✳ **BEACH SEINES ARE DESTROYING THE NESTS OF CICHLID SPP.**

IN THE NORTHERN HALF OF THE LAKE

- ✳ **HIGH NUMBER OF SMALL *KAPENTA1* (= *S. TANGANICAE*) & *MIKEBUKA* IN CATCHES.**

IN THE SOUTHERN HALF OF THE LAKE

- ✳ **BEACH SEINES ARE CATCHING YOUNG *KAPENTA2* (= *L. MIODON*), INSTEAD OF ADULT FISH.**
- ✳ **VERY HEAVY FISHING OF *MVOLO/MIKEBUKA* BY PURSE SEINE UNITS. NOW 23 UNITS OPERATING AS COMPARED WITH 3 ABOUT 15 YEARS AGO.**

MAJOR RESEARCH FINDINGS: FISHING ACTIVITY (1)

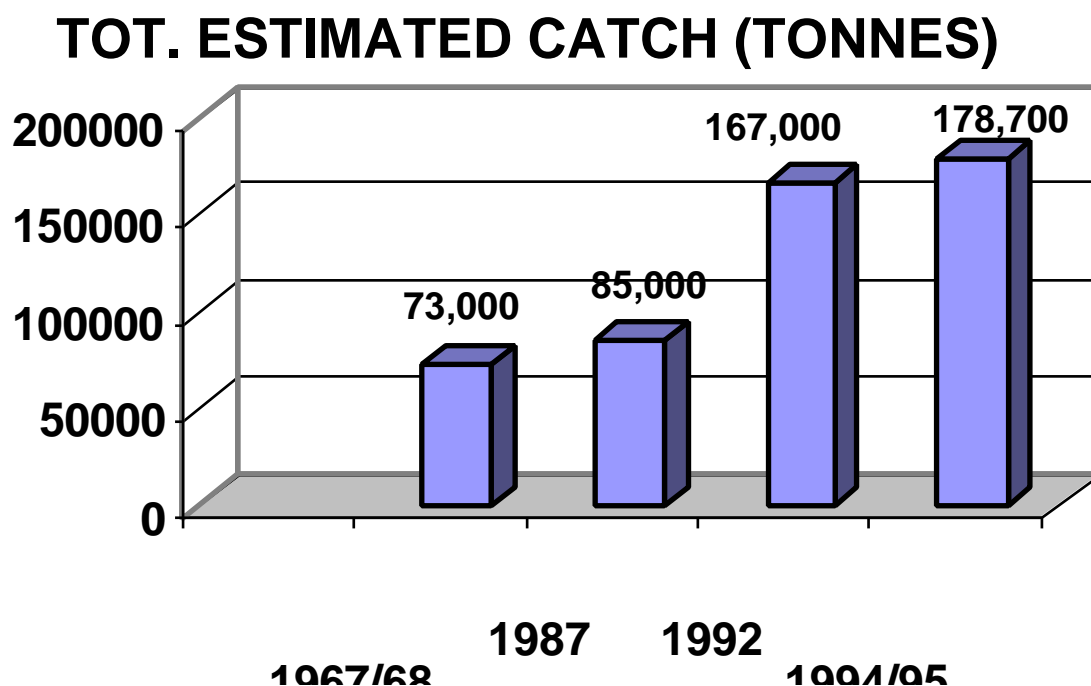
✳ **THERE ARE ABOUT 45,000 FISHERS & 17,000 BOATS OPERATING FROM 786 LANDINGS AROUND THE LAKE (1995 COUNT).**

Country	Total Landing Sites	Total Fishers	Total Fishing Boats
Burundi	54	2,071	1,061
DRC	417	26,308	10,650
Tanzania	208	12,510	3,955
Zambia	107	4,118	1,427
Lake-wide totals	786	44,957	17,093

✳ **IT IS ESTIMATED THAT THERE ARE ABOUT ONE MILLION (1,000,000) PEOPLE AROUND THE LAKE WHO DEPEND ON FISHING IN ONE WAY OR ANOTHER (FISHERS, TRADERS, & OTHERS, ALONG WITH THEIR FAMILIES).**

MAJOR RESEARCH FINDINGS: FISHING ACTIVITY (2)

*** MORE AND MORE PEOPLE HAVE TAKEN UP FISHING IN THE LAST 20-30 YEARS, & MORE FISH ARE BEING CAUGHT.**



*** BUT HOW LONG CAN THIS LAST? EVEN THOUGH MORE FISH ARE BEING CAUGHT, EACH PERSON ACTUALLY CATCHES LESS THAN BEFORE**

MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (1)

✳ **THE LTR SURVEY TEAM VISITED 66 LANDING PLACES AROUND THE LAKE IN 1997 & TALKED TO 923 FISHERS, & 431 PROCESSORS & TRADERS.**

Country	Total Landings Visited	Total Fishers Visited	Total Traders Visited
Burundi	5	155	62
DRC	8	98	82
Tanzania	39	475	177
Zambia	14	195	110
Lake-wide totals	66	923	431

✳ **ABOUT 52% OF ZAMBIAN FISHERS WORK WITH GILLNETS OR LONGLINES & ABOUT 48% WITH LIFT NETS OR BEACH SEINES.**

✳ **OF PROCESSORS & TRADERS, ABOUT 22% ARE MEN & 78% WOMEN.**

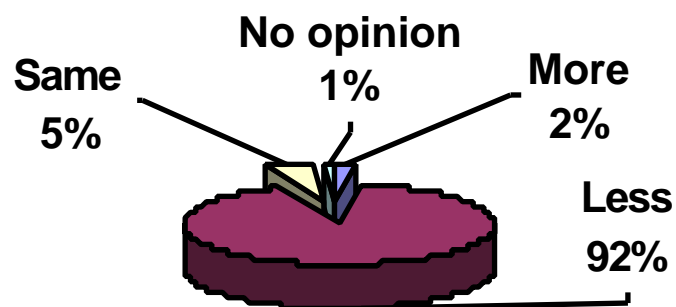
MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (2)

✳ A LARGE AMOUNT OF INFORMATION WAS COLLECTED IN THE SURVEY. EXAMPLES OF WHAT PEOPLE HAD TO SAY ARE AS FOLLOWS.

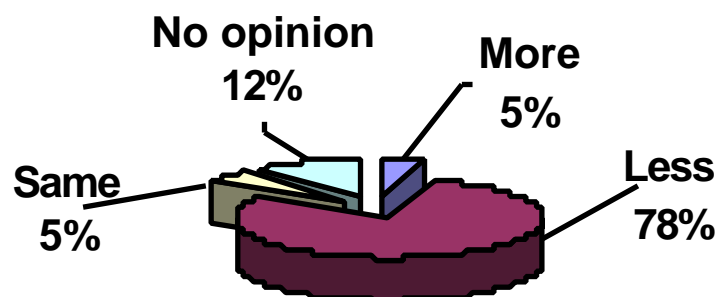


✳ EXAMPLE 1: 'CATCHES ARE MORE THAN, LESS THAN, OR THE SAME AS BEFORE'

Lift net/Beach seine fishers--ZAMBIA



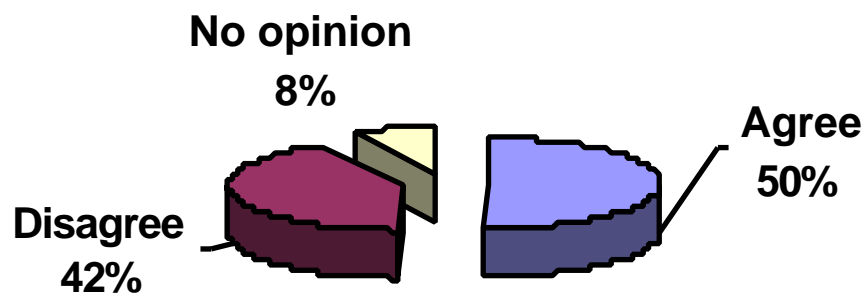
Gillnet/Longline fishers--ZAMBIA



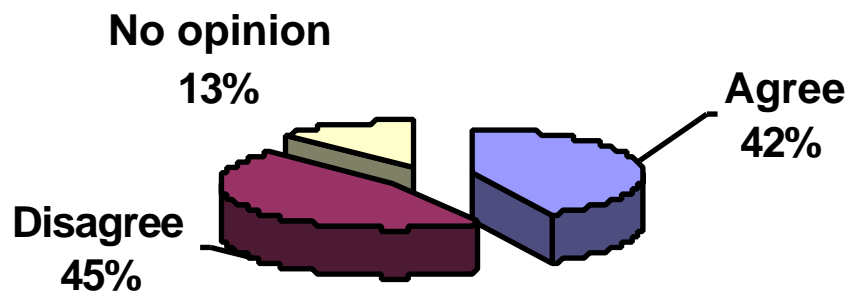
MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (3)

*** EXAMPLE 2: ‘ALL FISHERS SHOULD BE ALLOWED TO FISH ANYWHERE THEY WANT IN THE LAKE’**

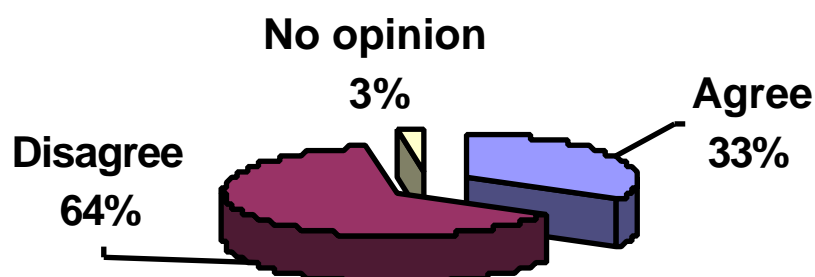
Lift net/Beach seine fishers--ZAMBIA



Gillnet/Longline fishers--ZAMBIA



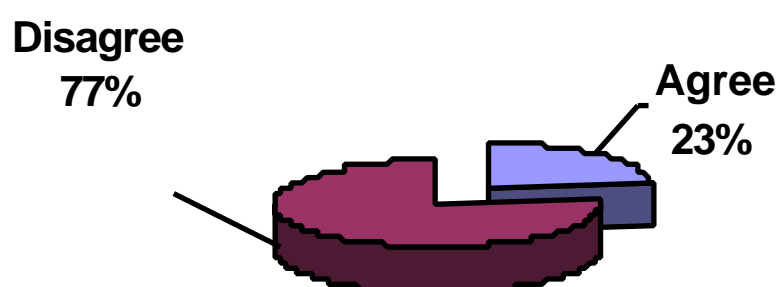
Processors/Traders--ZAMBIA



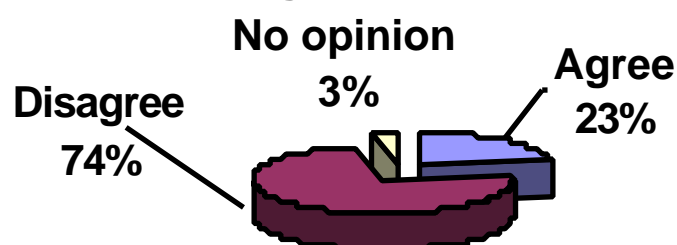
MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (4)

* **EXAMPLE 3:** ‘THERE SHOULD BE A LIMIT ON THE NUMBER OF PEOPLE ALLOWED TO FISH IN THE LAKE.’

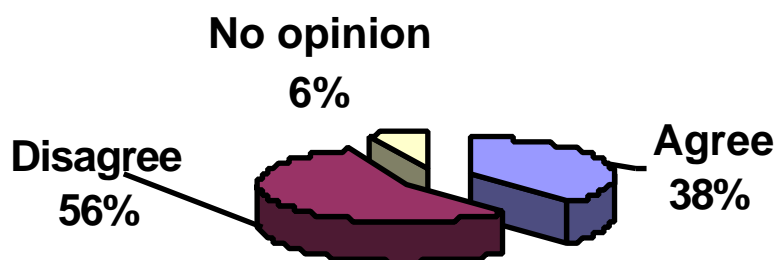
Lift net/Beach seine fishers--ZAMBIA



Gillnet/Longline fishers--ZAMBIA



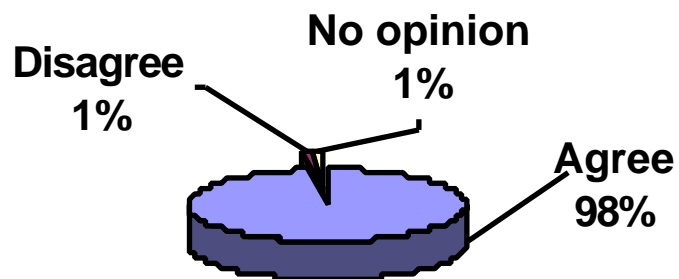
Processors/Traders--ZAMBIA



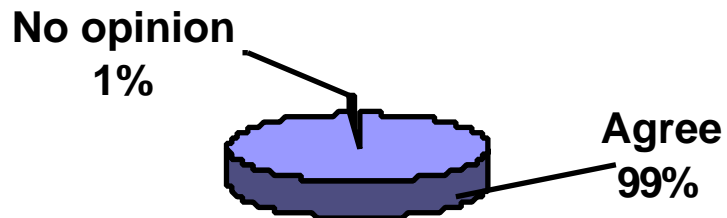
MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (5)

✳ EXAMPLE 4: ‘NET MESH SIZES SHOULD BE RESTRICTED.’

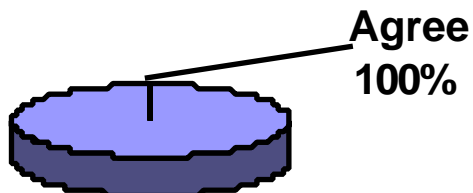
LIFT NET/BEACH SEINE FISHERS--ZAMBIA



GILLNET/LONGLINE FISHERS--ZAMBIA



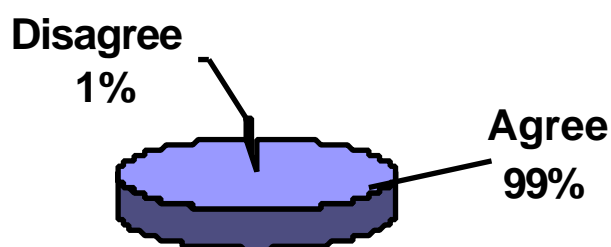
PROCESSORS/TRADERS--ZAMBIA



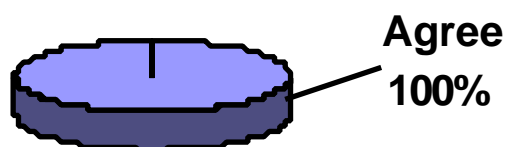
MAJOR RESEARCH FINDINGS: FISHING COMMUNITIES (6)

* **EXAMPLE 5:** ‘PEOPLE WHO VIOLATE FISHING RULES SHOULD BE PUNISHED.’

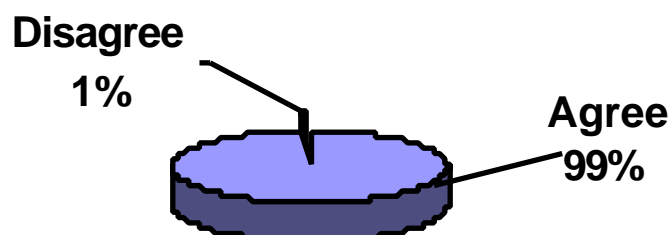
LIFT NET/BEACH SEINE FISHERS--ZAMBIA



GILLNET/LOONGLINE FISHERS--ZAMBIA



PROCESSORS/TRADERS--ZAMBIA



PLANNING FOR THE FUTURE (1)

- * USING FISH STUDIES & INFORMATION GATHERED FROM PEOPLE OF THE LAKE, LTR HAS PREPARED SOME SUGGESTIONS FOR THE FUTURE.**
- * A PLAN FOR THE FUTURE OF FISHING ACROSS THE WHOLE LAKE WILL TAKE TIME TO BUILD.**
- * FISHERS, TRADERS, & OTHERS INVOLVED WITH FISHERIES-RELATED WORK WILL ALL BE ABLE TO MAKE ADDITIONAL SUGGESTIONS.**
- * THE IMPORTANT THING FOR NOW IS TO MAKE A BEGINNING.**
- * WE THEREFORE ASK FOR YOUR VIEWS ON THIS FIRST LIST OF SIX SUGGESTIONS.**
- * DO YOU AGREE, DISAGREE, OR HAVE NO OPINION?**

PLANNING FOR THE FUTURE (2)

- 1) FISHING & CONSERVATION.** ‘People around the lake who want to fish should be allowed to do so, but within limits ...’
- 2) LOCAL COMMUNITY PARTICIPATION.** ‘Residents of local communities should take part in deciding on fisheries rules and in making sure that they are followed in their community areas.’
- 3) FISHERIES MANAGEMENT GROUPS.** ‘There should be a system of advisory groups made up of members elected from lakeside communities as well as fisheries officials, running from the local landing beach level to one covering the entire lake...’
- 4) LICENSING & CONTROL OF ACCESS.** ‘In order to help conserve fish stocks, there should be a system of licenses to control the number of fishers and boats allowed to operate along each section of the shoreline.’
- 5) RESTRICTION ON PURSE SEINES.** ‘In order to conserve fish stocks, there should be areas where purse seiners are not allowed.’
- 6) RESTRICTION ON BEACH SEINES.** ‘In order to conserve fish stocks, there should be areas where beach seines are not allowed.’

ANNEX 2

POLLING FORM USED DURING COMMUNITY MEETINGS (SAMPLE, ENGLISH TRANSLATION)

SECTION A. SITE/RESPONDENT I.D.	Site Name: _____	Visit Date: _____	Team Enumerator: _____
	Tot. No. Attending Meeting: _____	Tot. Male: _____	Tot. Female: _____
Group Interview Category: Fishing unit Owner/Part Owner Crew Member/Labourer Processor/Trader Other (Specify): _____			
Tot. No. in Group: _____ Tot. Male: _____ Tot. Female: _____			
Sampling Method: Total Enumeration Quota Tot. Interviewed = _____			

SECTION B. VIEWS ON MANAGEMENT PROPOSALS

PROPOSITION:	AGREE	DISAGREE	NO OPINION
1) Fishing and conservation. [Text: 'People around the lake who want to fish should be allowed to do so, but within limits, because their children and grandchildren should always be able to catch enough of all the kinds of fish that we have now.']			
2) Local community participation in fisheries management. [Text: 'Fishers, traders, and other residents of local communities involved in fisheries-related activities should be able to take part along with government officials in deciding on fisheries rules and in making sure that they are followed in their community areas.']			
3) Fisheries management groups. [Text: 'There should be a system of fisheries advisory groups made up of members elected from lakeside communities as well as fisheries officials, running from the local landing beach level to one covering the entire lake (local, region/province, national, lakewide). At each level, group members would monitor or keep watch on the fisheries activities within their areas of responsibility, and give advice and recommendations on how they should be controlled or improved.']			
4) Licensing and control of access to fishing. [Text: 'In order to help conserve fish stocks, there should be a system of licenses for individuals and fishing boats, to control the number of fishers and boats allowed to operate along each section of the shoreline.']			
5) Restriction on purse seine units. [Text: 'In order to help conserve fish stocks, there should be areas of the lake where purse seine units are not allowed to operate at all.']			
6) Restriction on beach seining. [Text: 'In order to help conserve fish stocks, there should be places along the shoreline of the lake where no beach seining is allowed at all.']			