

RAF/92/G32 - POLLUTION CONTROL AND OTHER MEASURES TO
PROTECT BIODIVERSITY IN LAKE TANGANYIKA

Progress Report No. 16

December 1999 - February 2000

1. Project Co-ordination Unit

1.1 Project Co-ordinator and Scientific Liaison Officer

1.1.1 Introduction

In spite of the holiday period interrupting this quarter there has been a spate of activity with a number of important meetings and workshops taking place. First, the fifth Project Regional Steering Committee took place in early December. This was followed by a Strategic Action Programme drafting workshop in the first week of January, followed almost immediately by a meeting in Malawi of the African Great Lakes projects under the auspices of the GEF Scientific & Technical Advisory Panel. Later in the month the Scientific Liaison Officer received special dispensation from UNDP to return to Burundi and had meetings with our Burundian and Congolese affiliates. February was also a hyper-active month that included visit from the Training and Environmental Education consultants to work with the national TECCs and their teams; a regional meeting in Kigoma of pollution specialists; an intensive GIS training exercise in Dar es Salaam and a biodiversity SS data analysis workshop in Kigoma. Finally the Project Co-ordinator visited UNOPS, GEF secretariat and UNDP/GEF to discuss the way forward toward future projects, in preparation for the next meeting of the project Steering Committee to be held in May.

This quarter also saw the completion of the Biodiversity, Fishing Practices and Sediments special studies and the Legal component of the project.

1.1.2 General summary

The quarter began with a Regional Steering Committee Meeting in Arusha, Tanzania on 2-3 December. The meeting was chaired by DR Congo and attended by delegations from Tanganyika's four riparian nations, the Project Co-ordinator and Scientific Liaison Officer, representatives from UNOPS (also representing GEF), the Strategic Action Programme facilitator and NRI project financial manager. Highlights of the meeting included: detailed discussions of both the NRI held and UNOPS held project budgets; possible future phases of UN-funded intervention in Lake Tanganyika and a presentation of project achievements to date. Full minutes have been distributed and a summary of the main conclusions and recommendations is given at Appendix 1.

One month later, LTBP opened the new year in Arusha, for the first Strategic Action Programme drafting workshop, on 4-7 January. The meeting was attended by participants from the four riparian countries who form the SAP/TDA planning group; Mr. Nick Hodgson (anglophone facilitator), Mr. Jean-Paul Ledant (francophone facilitator), the Project Co-ordinator and the Scientific Liaison Officer as additional resource persons. The meeting agreed a document structure and crucially a structure and role for an interim lake management body. A revised SAP Outline document was subsequently prepared and distributed. Comments on this document are expected to be discussed at the next meeting of the group to be held in late March.

The following week, the Scientific Technical Advisory Panel (STAP) to the GEF held a meeting at Club Makokola, Mangochi on Lake Malawi from 13-14 January. The objectives of this meeting were to assemble scientific, government and donor

communities to review GEF interventions on the three African Great Lakes (Victoria, Tanganyika and Malawi). Lake Tanganyika was represented by its National Co-ordinators from Burundi, Congo and Zambia, a scientist from each riparian country, the sediments SS co-ordinator who was present owing to a previous meeting, the Project Co-ordinator and Scientific Liaison Officer. Each Great Lakes Project gave a presentation. The LTBP presentation summarised the technical special studies and their achievements as well as the Strategic Action Programme and Legal Convention. Our presentation was well-received by our colleagues in the other lakes and by the donor community. The delegates also divided up into working groups to discuss the scientific and management needs of the African Great Lakes and the shape and form of future interventions. STAP have circulated a draft report for comment and the final report is awaited.

Thanks to a special dispensation from UNDP the Scientific Liaison Officer returned to Burundi for a visit from 20 January – 5 February to sort out her personal effects. She took added advantage of her time there to meet with all the scientific team leaders for Burundi and DR Congo to discuss their results and progress.

Ms. Rachel Roland and Ms. Monique Trudel the TECC consultants visited the region to discuss progress and support the Training and Environmental Education teams. Ms. Roland visited Kigoma and Mpulungu and worked with the Tanzanian and Zambian TECCs and their teams, respectively. Owing to security restrictions for the francophone countries, Ms. Trudel visited Kigoma Station and the Burundian and Congolese TECCs each with an associate, travelled to Kigoma to work with her there. Ms. Roland and Ms. Trudel were able to focus the teams' activities with the riparian communities, and review their budgets and workplans to the end of the project.

Two members of each national Pollution Special Study team gathered in Kigoma from 1-5 February for a bilingual regional workshop on Industrial Pollutants in Lake Tanganyika. In the upcoming months the teams will work to establish an inventory of industrial pollutants in Lake Tanganyika. During this workshop, the teams established a questionnaire that they will use in interviewing local industries to establish the kinds and quantities of wastes which are being discharged into the lake.

A bilingual regional workshop for Geographical Information Systems (GIS) and Metadatabase Management was held at University College of Lands and Architectural Studies (UCLAS) in Dar es Salaam from the 14-18 February. Seven participants from the riparian countries attended, along with Mr. Alan Mills and Ms. Valerie Obsomer, GIS specialists from NRI. Ms. Rosemarie Kidude from Burundi and Mr. Simon Mwasasu from Tanzania attended an additional metadatabase training session the following week. 20 copies of the TANGIS CD containing the database, metadatabase and Arcview GIS interface were distributed to the region during the visit. Training in installation was given to the seven workshop participants.

From the 14 February to the 3 March, Kigoma hosted a bilingual regional working group session for the Biodiversity Special Study. Members from the four riparian

BIOSS teams met to analyse data, familiarise themselves with the BIOSS survey and literature databases, and draft the final reports for the Biodiversity Special Study.

This quarter the Socio-economic teams and facilitators have successfully completed a substantial amount of field work with detailed socio-economic studies of lakeshore communities undertaken in all four countries at a total of nine sites. A large body of data has been collected, and analysis is progressing well. First drafts of site reports from all four countries have been submitted

In early February 2000, at the invitation of UNOPS the Project Co-ordinator visited their headquarters in New York to discuss project progress and wind-up. During the same visit he met with senior officials from the GEF secretariat in Washington and UNDP/GEF in New York. Owing to the favourable impression that the LTBP currently has within GEF the discussions centred around how funding could be found for the development of a new project without losing the momentum generated by LTBP. Prior to this visit it had been assumed, based on GEF advice that GEF Project Development Funds (PDF) block B would be the most appropriate, although this only provides for funding up to a maximum of \$350,000. It was suggested by GEF officials that given the advanced state of the Strategic Action Programme and the Convention, funding under Block C would be more appropriate. Block C provides for up to \$750,000 and is specifically for detailed technical project development. If an application could be submitted in the next two or three months it is possible that funds could be available before or shortly after the end of the current project.

It was agreed that the quickest way for the application to proceed would be for NRI to draft an application based on previous applications provided by GEF and for the draft to be reviewed by National Co-ordinators at the forthcoming TDA workshop. Following that the proposal would be vetted by UNDP/GEF personnel to ensure that it complies with the strict requirements of a PDF-C application. A final draft would then be circulated to the countries discussed at the next meeting of the Steering Committee and if agreement was reached a final application submitted to GEF.

The Scientific Liaison Officer took three weeks leave in December.

1.2 Strategic Action Programme

1.2.1 The Draft Outline Strategic Action Programme.

French and English versions of the draft outline SAP document, were distributed at the Steering Committee Meeting that was held in Arusha on 2-3 December. This meeting also confirmed the dates for the first SAP Drafting Workshop and subsequent meetings for the remaining SAP process. Since that time there have been some minor changes and these are reflected in the following table.

Meeting	Venue	Dates
SAP Drafting Workshop	Arusha	Jan 4-7
Final TDA Workshop	Arusha	Mar 27-30
Final SAP Drafting Workshop	Lusaka	May 1-3
SCM 6	Lusaka	May 4-5
State of the Lake Conference	Arusha	July 3-4
Final SCM and TPR	Arusha	July 5

The first SAP Drafting Workshop was held in Arusha from January 4 - 6, 2000. The meeting was attended by the SAP/TDA Planning Group with representation from all countries. The meeting was also supported by Dr Menz and Dr West, and facilitated by Nicholas Hodgson and Jean-Paul Ledant.

The specific objectives of the workshop were:

- To review the outline document structure and to agree to a final outline structure for the Strategic Action Programme document and to propose specific wording for sections within the SAP
- To propose an interim arrangement for a lake basin management body – pending the formal institution of a body under the Convention, and to propose planning and reporting duties for this body

The meeting agreed on a three part document structure: Introduction; A Lake Management Authority; and A Prioritised Programme of Actions.

The meeting also agreed on the structure and contents of the subheadings and provided specific text where necessary.

The meeting agreed on an appropriate structure and role for an interim lake management body. This body would have a narrower set of objectives than the one envisaged in the Convention for the final legal body. However, it would have the specific tasks of initiating the implementation of the SAP and promoting the signing of the convention that will establish the permanent management authority, This will involve preparing and negotiating detailed costed regional project component proposals and supporting the preparation and negotiating of national components.

Drafting Workshop Participants

Burundi	
Mr. Boniface Nyakageni	Director- Institut pour l'Environnement et Conservation de la Nature/ Nat. Co-ordinator
Mr. Roger Kanyaru	Director- Department of Fisheries and Fish Farming c
Mr. Benoit Bihimiriza	Director- Legal Affairs and Settlement of Disputes.
Dr. Gaspard Ntakimazi	Lecturer- University of Burundi
DRC	
Mr. Mady Amule	Director- Ministry of Environment/ Nat. Coord
Prof. Palata Kabudi	Lecturer- University of Kinshasa
Prof. Takoy Lomema	Lecturer- University of Kinshasa
Dr. Nshombo Mudherwa	Director- Centre de Recherche Hydrobiologique-UVIRA
Tanzania	
Mr. Rawson Yonazi	Assistant Director-Division of Environment, Vice President's Office/ Nat. Co-ordinator
Mr. W.V. Haule	Assistant Director- Fisheries Division
Dr. Hudson Nkotagu	Senior Lecturer- University of Dar es Salaam
Mr. Faustin Masanja	Hydrologist- Ministry of Water
Zambia	
Mr. George.M. Chitalu	Assistant National Co-ordinator- Environmental Council of Zambia
Mr. Shadreck Nsongela	Senior Inspector, Environmental Impact Assessment, Environmental Council of Zambia
Ms. Georgina Zulu	Senior Planning Officer, Ministry of Environment and Natural Resources
Mr. Leonard Mwape	Senior Fisheries Officer- Fisheries Department.

On the basis of this workshop, a revised SAP Outline document was subsequently prepared and distributed. The participating countries have been requested to distribute this document for in-country consultation, and to collate comments that can then be raised at the TDA meeting, scheduled for the end of March.

1.2.2 Funding for a Second Phase

Following further discussions with UNOPS and the GEF, the project has been asked to prepare a proposal for funding for consideration by the PDF (Project Preparation and Development Facility). The purpose of this facility is to support the careful preparation and development of project proposals, in full consultation with the regional and recipient country operational focal points.

Given the investment that the four countries and the GEF have already made in the SAP and the Convention, it is clear that there is a sound basis for developing the existing outline project components into detailed and costed investment proposals. The interim lake management body will require funding to support preparation, negotiation and revision of project proposals, if the overall package is to contain elements acceptable to the GEF, other multilateral agencies, bilateral donors and the private sector.

The project has been instructed to go for Level C funding which is, "to provide additional finance, where required for large projects, to complete technical design and feasibility work." The level of this funding is set at up to \$750,000.

On the basis of this work the GEF could then consider going into a fully operational second phase of the project.

1.2.3 Goals for the Next Quarter

- The next quarter will see the completion of the final project TDA and the SAP.
- The first input will be the completion of the Special Studies reports for the TDA, to be finished by the Special Studies teams by March 11. This is then followed by the TDA workshop scheduled for 27 to 30 March. This workshop will revise the matrix and priority analysis on the basis of the latest information from the special studies and other sources.
- This will be followed by the preparation of the final TDA report, documenting the conclusions of the SAP/TDA planning team.
- Meanwhile, the outline draft SAP will be reviewed in-country and the result brought to the TDA. Following this the outline document will be modified for discussion at the final SAP Workshop, scheduled to be held in Lusaka at the beginning of May.
- Finally, following this workshop, a final SAP will be prepared, reflecting the changes in the body of the text agreed by the regional meeting, and reflecting the final prioritisation of the TDA.

2. Reports of Special Study groups

2.1 Progress Report: December 1999 – February 2000 for "Biodiversity" Special Study and "Conservation Activities"

2.1.1 Overall Summary of Progress

This quarter saw the culmination of the Biodiversity Special Study. In December, all the national dive teams took the opportunity to sample the sites provisionally selected for joint long-term monitoring in consultation with the other special study teams. The SLO and special study facilitators will be meeting in early March to agree final confirmation of these sites. Additionally the Zambian team conducted a short expedition to sample Cameron Bay and continued provide support to the SEDSS habitat manipulation experiment off Mbita Island. All BioSS fieldwork ended as programmed on 31st December.

During January and the first half of February the emphasis shifted from data collection to data input and report writing. Team members from each country completed the major task of entering all the data from the BioSS field programme into the Survey Database. At the same time, the Burundian national team continued the ongoing task of extracting information from the extensive literature on the biota of Lake Tanganyika and entering it in the Literature Database. The teams also finished their contributions to the reports for Mahale Mountains and Nsumbu National Parks surveys. These have been submitted to the BIOSS Facilitator for collation and final editing.

In mid February two representatives from each riparian country gathered in Kigoma for the final BIOSS Working Group meeting, which was facilitated by Dr Edward Allison, the BIOSS Co-ordinator. Also participating were Vicki Cowan, Kelly West, Richard Paley and M. Pierre Ndamama (an IT specialist from Burundi). During a three week period, all the national data were merged into a single regional dataset and a wide variety of analysis techniques were then employed to validate the data and the sampling techniques, as well as compare the species richness and levels diversity between survey areas. As analysis was completed the relevant sections of the final technical report and advice to the SAP were drafted. Draft versions of these documents are being distributed to all participants for their comments before finalisation.

The success of the working group owed much to the hard work and dedication displayed by all participants. It also benefited greatly from the wide range of experiences and expertise found within the regional BIOSS team, whose members include representatives from fisheries departments and parks management authorities, as well as academic and research institutions. Their breadth of knowledge enhanced the process of translating the technical findings into practical recommendations for the management of the lake.

On the dispersion of the Working Group, each national team took with them a full version of the Survey and Literature databases complete with additional analysis queries which had been developed during the meeting. The databases and datafiles have also been forwarded to Mr Alan Mills (NRI) for incorporation into the TANGIS system and it is expected that GIS outputs will feature in the BIOSS final reports.

2.1.2 Chronology of Activities

- Dec: Zambian team carry out survey work in Cameron Bay.
- Dec: All national teams carry out provisional round of quarterly monitoring. In Burundi this is severely limited by the security situation.

- Dec: Additional technical work completed on ensuring the databases were operational.
- Dec: BIOSS fieldwork ends in all four riparian countries.
- Dec – Feb: Two personnel from each country complete data entry in the BIOSS Survey Database in preparation for the BIOSS Working Group meeting.
- Jan – Feb: Burundian team continue data entry into the BIOSS Literature Database.
- Feb – Mar: BIOSS Working Group meeting. Representatives from each national team gather under the direction of the BIOSS Co-ordinator to complete analysis of the BIOSS data and draft the final special study reports.

2.1.3 Staffing Schedule

Burundi

Dr Gaspard NTAKIMAZI, Burundian Co-ordinator
M. Pierre NDAMAMA, IT Specialist

DR Congo

Dr Muderhwa NSHOMBO, Directeur Général, C.R.H. – Uvira

Regional Dive Team:

Burundi	Celestin	BIGIRIMANA	Kamnyosha School	Secondary	PADI	Advanced	open water
	Terence	HAKIZIMANA	Cibitoka School	Secondary	PADI	Advanced	open water
	Libére	NDAYISENGA	LTBP – Bujumbura			BSAC-sport	
Congo	Félix	NICAYENZI	DEPP – Bujumbura			BSAC-sport	
	Albéric	RUGIRABIRO	IECN – Bujumbura			BSAC-sport	
		RI					
	Bernard	SINUNGUKA	Univ Bu – Bujumbura			BSAC-sport	
	Constantin	AMUNDALA	CRH – Uvira			BSAC-sport	
	Byeragi	BAHANE	CRH – Uvira			PADI	Open water
	Alexis	BASHONGA	CRH – Uvira			BSAC-sport	
	Patrick	BUDA	CRH – Uvira			BSAC-sport	
Tanzania	Donatien	MUZUMANI	CRH – Uvira			BSAC-sport	
	Igundji	WATUNA	CRH – Uvira			PADI	Advanced open water
Zambia	Robert	KAYANDA	TAFIRI – Kigoma			PADI	Advanced open water
	Bakari	MNAYA	TANAPA – Gombe			PADI	Advanced open water
Zambia	Robert	WAKAFUMBE	TAFIRI – Kigoma			BSAC-sport	
	Charles	LUKWESA	DoF – Mpulungu			BSAC-sport	
	Maybin	MWENDA	DoF – Mpulungu			BSAC-sport	
	Reuben	SHAPOLA	DoF – Mpulungu			BSAC-sport	
	Robert	SINYINZA	DoF – Mpulungu			PADI	Open water
	Isaac	ZULU	DoF – Mpulungu			PADI	Advanced open water

International

Dr Ian Payne, MRAG Ltd, BIOSS Director
Dr Eddie Allison, MRAG Ltd, BIOSS Co-ordinator
Vicki Cowan, MRAG Ltd, BIOSS Management
Richard Paley MRAG Ltd, BIOSS Facilitator
John Pearce, Crag Jones, MRAG Ltd, BIOSS IT specialists

2.1.4 Main Outputs and Achievements

- Conduct of the first quarterly monitoring in all riparian countries.
- Final versions of Literature and Survey Databases installed in each of the field stations and data input completed.
- Outstanding protected area surveys technical reports drafted.
- BIOSS Working Group meeting, data analysis completed, BIOSS advice to SAP and draft final special study reports produced.

2.1.5 Main Objectives for the Next Quarter

- Completion of final technical report
- Completion of all technical reports from teams
- Final production of standing operating procedures
- Final “cleaning up” of the two BIOSS databases (taxonomic inconsistencies and analysis queries rationalised after intense period of analysis)

2.2 Progress Report: December 1999 – February 2000 for Fishing Practices Special Study

2.2.1 Overall Summary of Progress

This quarter signals the conclusion of field based activities for FPSS, final visits to key sites and sampling programmes were completed. Outstanding activities now are interpretation of the data and completion of reports.

In Burundi, Antoine Kiyuku completed a survey of the coastline of Burundi from Southern Bujumbura to the Congo border. Due to the security situation activities were somewhat curtailed and the survey did not reveal as many gears as were expected. However Mr Kiyuku did a thorough survey of Kibenga village, visiting the fishermen in their houses, and the results clearly demonstrated that previous beach surveys had underestimated the numbers of gears considerably. An estimation of catch per unit effort was included in the work: data were taken from both the Department of Fisheries records, and work done by FPSS. Of immense interest is that the number of traps found in Gatumba village (now a North Western suburb of Bujumbura and reportedly with a population of close to 100,000) was estimated as more than 1200. Over the border in Kilomoni Village in Congo a similar number of traps are found, so the fishing effort in the Rusizi area near Gatumba with traps is very significant. A survey of gear prices in Bujumbura town was completed. Mr Bernard Sinunguka was added to the FPSS team in January, and he is involved in mesh selectivity work. A report on the capabilities of the Department of Fisheries to monitor and control the fishery is nearing completion.

In Congo the FPSS team at CRH in Uvira finished its field work.

- Weekly sampling at the 2 fish markets of Uvira to ascertain the species and numbers of littoral fish entering the commercial fish trade
- Sampling of the catch of various common gears to ascertain the species mix and maturity of the species caught by the gears
- A beach survey of the coast of Congo from the Burundi frontier to 3°30'S to ascertain the numbers and types of gears being used.

In addition to these programmes, the Congo National Co-ordinator of the investigated the fisheries monitoring and enforcement capability of the relevant authorities in Congo.

In Tanzania the data from two years of catch sampling has been entered into a database and a spreadsheet. This has been further analysed to give the lengths of various species of the catch of different gears. Unfortunately data on the weight of the individual fish was not recorded. However, the figures on gross weights captured by various gears gives average total captures by them. A survey of gear prices in Kigoma was done in November.

A visit to Mahale Mountains National Park by the FPSS Co-ordinator, the FPSS facilitator and the FPSS team in February was made to look at fishing in the National Park. It confirmed to the team that there is little poaching, the park's remoteness and TANAPA monitoring provides protection for its aquatic zone. The survey of the fishing gears in the Kigoma region was completed with the last fieldwork being complete on the 3rd December 1999. The team are now concentrating on dealing with the data collected and reporting responsibilities. The facilitator is now based in Kigoma and so is on-hand to provide training as necessary with these tasks.

The survey of the gears in Zambia was completed, with a few final visits to the field in December 1999 and January 2000. The Director of Mpulungu Fisheries Station (Mr Mwape) completed a report on the capabilities of the DoF to monitor and control the fisheries in the Zambian section of the lake. Visits to the Nsumbu National Park were

made by the FPSS team to assess fishing in the area. Poaching seems to be reducing, and the fishermen appear resigned to total exclusion from the parks waters. The Zambian team completed a situation report on fishing in Nsumbu and are finalising their assessment of monitoring capacity of DoF

Due to the security situation, FPSS's Regional Facilitator left Bujumbura and travelled to Mpulungu in early December. Mr Lindley relocated to Kigoma at the beginning of February. The security situation in Burundi and DR Congo has placed serious constraints on the FPSS field programmes in these two countries. The facilitator is unable to provide the required level of support in person and communicating by email is a very poor substitute when managing and monitoring field programmes. The Burundian co-ordinator was able to travel to Kigoma and spend a short time reviewing progress and agreeing outstanding tasks with the facilitator in February. Plans for a similar trip for the Congolese facilitator are under review as the quarter closes.

2.2.2 Chronology of Activities

December	FPSS Facilitator visits Dar-es-Salaam, travels to Mpulungu Trip to Lufubu River Trip to Kalambo River Most of Congo programme stops (end of Year)
January	FPSS revisits Kalambo. Field work in Nsumbu National Park. Visit Musende, Chizena Mr Bernard Sinunguka recruited in Burundi to FPSS Zambia programme finishes Burundi Beach surveys, and village surveys complete.
February	Vicki Cowan, FPSS co-ordinator to Tanzania Burundi Programmes ongoing Tanzanian FPSS team visit to Mahale National Park Burundian co-ordinator to Kigoma

2.2.3 Staffing Schedule

Tanzanian Team

Mr Omari Kashushu (TAFIRI, Kigoma)
Mr Hamza Maboche (Community Development)

Zambian Team

Mr Leonard Mwape - Director of Mpulungu Fisheries, Department of Fisheries
Mr Whiteford Chumba – Fisheries Officer, Department of Fisheries
Mr Robert Sinyinza - Research Officer, Department of Fisheries

Burundian Team

Ir Antoine Kiyuku, National Co-ordinator, LTBP
Mr Bernard SINUNGUKA Univ Bu – Bujumbura

Congolese Team

Mr Mulimbwa, National Co-ordinator, CRH	
Gear and beach survey	MWENDANABABO MKILA MUYENGA WADMBO MILENGE MAYEMBE
Market survey	BAHANE BYERAGI MATESO NYIRINGABI
Gear selectivity and species maturity	BASHONGO BISHOBIBIRI

International team

Dr Ian Payne, MRAG Ltd, FPSS Director
Mr Robert Lindley, MRAG Ltd, Regional Facilitator
Ms Vicki Cowan, MRAG Ltd, FPSS Co-ordinator

2.2.4 Main Outputs and Achievements

FPSS field work completed all four stations
Interpretation of catch and effort data in Tanzania finished
Survey of fishing gears in use in all 4 riparian countries completed. Preparation of final technical report well underway.
National Park field work completed and situation reports being written for each park
Reports from each of the field stations on monitoring capacity are being sent to the facilitator for collation
FPSS contribution to the SAP drafted
Burundian co-ordinator visited facilitator in Kigoma to report on progress and to agree outstanding tasks.

2.2.5 Main Objectives for the Next Quarter

All data interpretation and technical reports finalised
Submission of the FPSS advice to the SAP
Facilitator to attend TDA meeting
Successful conclusion of FPSS regional facilitator's contract

2.3 Progress Report: December 1999 – February 2000 for Legal and Institutional Component

2.3.1 Summary of Progress

The working draft (version 4) of the convention, reflecting the conclusions of the November regional workshop, was finalised and issued to the participants for comment early in this quarter. Preparations for presentation to the SCM scheduled for May 2000 include production of a short briefing paper on the steps to be taken to finalise the Convention. Mr Cormac Cullinan, one of the international lawyers will present this at the SCM.

The international lawyers have also drafted a document entitled “How The Draft Convention On The Sustainable Management Of Lake Tanganyika Was Developed”. The intention is to illustrate the process that produced the draft Convention (working draft 4) for the benefit of decision-makers and advisers in the riparian countries and donors who were not involved throughout the process. It discusses the context in which the process took place, the key players and the issues that had to be addressed, the approach taken and the philosophy underlying the first draft of the Convention, and the discussions that shaped the subsequent drafts.

This ‘process’ document is also intended to have wider application as it should:

- (a) provide a case-study and record some of the strengths and weaknesses of the process that will be of benefit to others engaged in similar processes elsewhere; and
- (b) facilitate any future interpretation of the Convention (assuming that it is ratified by the riparian countries in a form that is substantially similar to draft 4) since it incorporates most of the preparatory work undertaken thus far.

As the project comes to a close, concern over the fate of the draft convention post-LTBP deserves urgent attention to ensure a successful outcome for this important document. The production of a commentary on the draft has been suggested to provide additional support beyond the current project and as information for those who have not been directly involved in the process of drafting the treaty. The commentary would draw attention to:

- the rationale and philosophy behind the draft Convention;
- other international legal instruments that have a bearing on the draft including treaties to which the parties have already agreed and which contain provisions similar to those in the current draft Convention;
- the implications of each article, and in particular, the relationship between different articles;
- substantive matters raised in connection with particular articles (including objections) either during the course of the development of the draft or on the final draft itself, where this is relevant to an understanding of the draft Convention as a whole..

The quarter ended with discussions with UNOPS about authorising this work, which falls outside of the original terms of reference.

2.3.2 Chronology of Activities

December	Legal consultants complete the production of working draft (version 4) of the convention as agreed at workshop in November.
January	Version 4 sent to PCU for distribution to participants so they can confirm this as the true record of the workshop
January	LTBP colleagues submit comments on the convention document.

February Discussions with UNOPS about the need for a briefing paper for the SCM and the value of a commentary.

2.3.3 Current Staffing Schedule

See earlier schedules for regional participants at workshops held under this component of the project.

International

Dr Ian Payne, MRAG Ltd, Component Director

Mr Cormac Cullinan, MRAG Ltd (Legal Specialist, Anglophone)

Mr Stephen Hodgson, MRAG Ltd (Legal Specialist, Bilingual)

Ms Vicki Cowan, Component Manager

2.3.4 Main Outputs and Achievements

- Version 4 of draft convention (as agreed at ‘final’ LTBP regional workshop) distributed for comment.
- Briefing paper on the convention prepared for next Steering Committee
- Draft report on the process of developing the draft convention has been prepared by the lawyers.

2.3.5 Main Objectives Next Quarter

- Send Terms of reference to UNOPS for production of a commentary on the draft
- Complete commentary (if approved)
- Attend SCM (Mr Cullinan)
- Comment on the requirements for legal components in the Block C funding proposal being prepared as a follow-up to LTBP.

2.4 Progress Report: December 1999 – February 2000 for Special Study on Sediment Discharge and Its Consequences

2.4.1 Overall Summary of Progress

A preliminary report 'Sedimentation Special Study - summary of findings for the Strategic Action Programme (SAP)' was produced by GP early December 1999 for incorporation into the SAP during the SAP workshop in January 2000. This document summarises all the findings available in December 1999 and also some initial findings from the teams who have not yet completed their study. This document has been circulated and comments incorporated. A number of additional technical reports were also submitted since the first version was produced and an updated version of the document will be available in early March for consideration at the TDA meeting scheduled for March 27 2000.

Due principally to financial constraints (but also the non-availability of some participants of the SedSS) the SedSS final workshop has been cancelled; the wider 'State of the Lake Conference' in early July 2000 will be an opportunity for principal SedSS participants to meet.

Zambia : Dr Sichingabula (National Sedimentation Special Study Co-ordinator for Zambia, UNZA), Mr Sikazwe (Department of Water Affairs, Lusaka) and the Water Affairs technical team in Kasama have completed successfully the 5 month extension field programme at the end of December 1999.

Dr Sichingabula has compiled an Annex Report to the Zambian Sedimentation final draft report to incorporate analysis of the data collected since August 1999. For various reasons, this document has not been received yet but it is expected very early in the next quarter.

As part of the contract with the Water Affairs Department and with Mr Hussen's decision to have the vehicle attached to the Kasama office, the Water Affairs vehicle (GRZ 429 BE), rehabilitated by the project, was formally handed over to Mr Mwansa (Provincial Water Engineer, Kasama) early January 2000.

At the end of December 1999, the gauge readers at the hydrometric stations stopped their activities on behalf of the project. The gauge reader at Kalambo river station has expressed his willingness to continue with his duties unpaid.

Regarding the transfer of the gauge readers from LTBP to the Water Affairs Department, Olivier Drieu (OD) SSS facilitator, was informed by Mr Mwansa (Provincial Water Engineer, Kasama) early January that due to financial constraints and annual budget that it was unlikely to get a decision before April 2000.

In early February, the Permanent Secretary of the Ministry of Energy and Water Development sent a letter to Mr Hussen and Mr Mwansa on the same issue. (unfortunately a copy of the letter has not yet (as of 3 March 2000) reached our project office in Mpulungu).

During this quarter, the SedSS team at Department of Fisheries, Mpulungu has continued their work on suspended matters and granulometry analysis and impacts of sediments on biota (especially invertebrates).

As the final elements of the SedSS comes to an end at the end of March, and due to reduced field work activities, the SedSS team at Department of Fisheries, Mpulungu has

been reduced to 3 members (Mr Sinyinza, Mr Chomba and Mr Syapila) since beginning of January 2000.

Dr Ken Irvine and Peter Strafford (University of Dublin, Ireland) visited Mpulungu for three weeks in January to work on the impact of excess of sediments on biota, especially invertebrates. They worked closely with the SedSS team, trained them on data analysis, completed the final settings of the aquaria facility and initiated some experimental study with this facility (impact of sediment on ostrocodae and snails). Some more experimental work will be done in March.

The monitoring of the field experiment site (off Mbita island) is carried out once a month by the SedSS team and with the help of divers from the BioSS team. It is hoped external funding may be secured for the monitoring of this site in the near future.

Burundi : DGGM - IGEBU teams have successfully completed their work programme during this quarter by producing the draft of the final report for Burundi in January and submitting it to GP.

The report is of high technical quality in general, however in order to compare some characteristics of the various rivers studied in Burundi to others in the catchment, some additional hydrological data analysis were asked to the team by GP and OD.

IGEBU have confirmed that the 6 hydrometric stations installed by LTBP remain operational as the gauge readers are employed directly by their institution and that the stations will be incorporated into the national hydrometric network they are in charge of.

Tanzania : For various reasons, Dr Nkotagu (National Sedimentation Special Study Co-ordinator for Tanzania, University of Dar es Salaam) has not yet completed and submitted the draft of the Tanzanian final report. However, he assured us that the report was at its final stage and that it will be submitted very early in the next quarter.

The 2 gauge readers contracted by the project to record water levels on Mitumba stream (Gombe National Park) and Mwongogo village stream have stopped their activities at the end of December. The monitoring of the Luiche river station is going on as the gauge reader is employed by the Water Department, Kigoma.

Mr Mpyalimi (officer in charge of Water Department, Kigoma) confirmed that Luiche station will remain operational, however due to lack of funds the Water Dept can not keep operational the 2 other stations. A possibility is to have at least the station located in Gombe National Park under the responsibility of TANAPA. Discussions have started with the Warden in charge of the park.

DR Congo : As the security situation around Uvira permitted field work during the whole of this quarter, the SedSS team at CRH Uvira continues the monitoring of the 3 rivers and river mouths and carried out analysis in the labs according to the work programme. Bombi Kakogozo (National Sedimentation Special Study Co-ordinator) and the team produced monthly reports for December 1999 and January 2000.

The installation of the 3 hydrometric stations was completed early in this quarter and daily records of water levels carried out by the team members. Bicycles have been provided to the team to facilitate the transport to the stations. The team received the additional necessary equipment to fulfil field work and labs analysis. It is hoped that CRH will maintain this river gauging activity beyond the end of March 2000 when project support ceases.

Bombi Kakogozo attended the regional GIS training in Dar es Salaam

2.4.2 Chronology of Activities

7 Dec : OD attended the Zambian National Working group meeting in Lusaka.

9 Dec : OD met Dr Sichingabula (UNZA) to review the work done and to finalise the end of the LoAs with Water Affairs Dept and with him.

13 Dec - 4 Jan : OD on leave.

31 Dec : End of the LoA between the project and the Dept of Water Affairs, Zambia. That day was also the end date of the LoA between the project and DGGM – IGEBU, Burundi.

Early Jan : DGGM and IGEBU submitted the draft of the Burundian final report.

6 Jan : formal hand over of the Water Affairs vehicle (GRZ 429 BE) from LTBP to Mr Mwansa (Provincial Water Engineer, Kasama).

6 Jan - 21 Jan : Dr Ken Irvine and Peter Strafford (University of Dublin, Ireland) visited Mpulungu station.

14 Jan – 15 Jan : Dr Sichingabula travelled to Malawi to represent with Mr J. Phiri (Zambian National Co-ordinator) Zambia at the Scientific and Technical Advisory Panel (STAP) workshop on review of the East African Lakes.

31 Jan : end of the LoA between the project and Dr Sichingabula (UNZA), Zambia.

28 Jan – 11 Feb : OD travelled to Kigoma to co-facilitate with Dr Chris Foxall (Univ. of East Anglia) the Pollution inventory workshop and to meet with Mr Mpyalimi.

7 – 8 Feb : OD attended the facilitator meeting organised and managed by Dr Kelly West (SLO). (Struck by malaria, OD was only able to attend the first day).

15 – 19 Feb : Bombi Kakogozo attended the GIS training workshop, Dar es Salaam.

19 Feb : OD attended the Zambian National Working group meeting, Mpulungu.
End of Feb : OD completed the Zambian GIS gazetteer and sent the data to Alan Mills (GIS component) for incorporation into TANGIS.

18 Feb – 3 March : Mr Sinyinza attended the BioSS final workshop in Kigoma.

2.4.3 Staffing Schedule

As the SedSS is close to completion many staffing changes occurred during this quarter with the end of participation in the Special Study.

The complete list of local staff remaining active in the SS at the end of this quarter is given below with institutional affiliation.

Person	Institutional affiliation (or project direct employee)
M. Bombi Kakogozo	Project (DRC)
M. N'djunga Kahindo	CRH (DRC)
M. Banamwezi Mwenyemali	CRH (DRC)
Mrs Mujinga	CRH (DRC)
Mr. Robert Sinyinza	Zam Fisheries Dept.
Mr. Mutanga Syapila	Zam Fisheries Dept.
Mr Whiteford Chomba	Zam Fisheries Dept.

2.4.4 Main Outputs and Achievements

The main objectives for this quarter were given in the previous quarterly report (September 1999 – December 1999) as follows :

Dr Ken Irvine to visit Mpulungu station (Jan 2000) to work on the impact of excess of sediments on biota, to initiate the experimental study with the aquarium facility and to discuss possible future monitoring programme to be carried out by the SedSS team at Department of Fisheries.

Dr Sichingabula and Mr Sikazwe to produce (end of January 2000) the final report for the sediment monitoring activities in the Southern Lake Tanganyika basin, including analysis of the data collected during the extension period and annexes of all data collected during the work period, and research proposal for further work on sediment monitoring in the Zambian catchment.

The Water Affairs vehicle (GRZ 429 BE) to be handed over to the Department of Water Affairs, Kasama at the end of Dec. 99.

Mr Mwansa to formally provide an answer regarding the transfer of the 6 gauge readers from LTBP to the Department of Water Affairs.

OD to finalise with Dr Ken Irvine future monitoring programme for the SedSS team, and to liaise with Dr Kelly West and the other regional facilitators for the future monitoring programmes for the teams.

Dr Nkotagu to produce the draft of the Tanzanian final report early during the next quarter.

DGGM - IGEBU team to produce the draft of the Burundian final report by end of Dec. 99.

OD to travel to Kigoma with members of the Congolese team to train them on data analysis security permitting.

OD to complete the river monitoring database for its incorporation into TANGIS, in collaboration with Alan Mills

9-12 Jan : GP to attend IDEAL meeting in Malawi to discuss wider issues of African Great Lake conservation

Final reports of all SS groups to be circulated as soon as possible (target for last reports end of April 2000)

13 Dec 99 - 4 Jan : OD will be on leave.

All the objectives for this quarter were achieved though the Tanzanian draft of the final report is still expected soon from Dr Hudson Nkotagu, University of Dar es Salaam. OD has not yet completed the river monitoring database which will be a priority for next quarter. OD will meet and work with Kakogozo (National Sedimentation Special Study Co-ordinator for Dr Congo) in Kigoma early in the next quarter.

Due to the security difficulties occurring in the two Francophone countries, OD was not able to travel to Bujumbura nor Uvira during this quarter.

2.4.5 Main Objectives for the next quarter

Latest SS report for the SAP due to be completed by 5 March 2000.

OD to finalise the river monitoring database for its incorporation into TANGIS, in collaboration with Alan Mills.

6 – 13 March : OD and Kakogozo to travel to Kigoma to discuss and work together on the draft of the Congolese final report.

Kakogozo and the SedSS team at CRH, Uvira to produce the draft of the Congolese final report in the last week of March.

Dr Ken Irvine to produce the draft of the final report for the work on the impact of sedimentation on biota (with input from Mr Sinyinza from Dept of Fisheries, Mpulungu) by end of March.

OD to keep liaising with the Dept of Water Affairs, Zambia regarding the transfer of the gauge readers.

OD to attend the TDA meeting 27-30 March on behalf of SedSS.

OD to finalise with TANAPA (Gombe National Park) the possible transfer of 2 hydrometric stations.

OD to finalise with Dr Kelly West and the other regional facilitators the regional future monitoring programme for SedSS and the other SS.

Final reports of all SedSS groups to be circulated as soon as possible (target for last reports end of April 2000).

SedSS findings to be incorporated into draft joint document with other SSs.

End of May 2000: end of OD's contract with the project.

2.5 Progress Report: September 1999 – November 1999 & December 1999 – February 2000 for Special Study on Pollution and its Effects on Biodiversity.

Sept – Nov 1999

2.5.1 Overall summary of progress

The Pollution Special Study (PSS) continues to maintain its focus on 'ascertaining the nature and (where possible) the extent of pollution on biodiversity, and develop the human and equipment resources that will allow the work to be sustained after the end of this particular Project'.

This report summarises the progress made by the PSS teams co-ordinated by Mr Lyoba (following the resignation of Dr Francis Chale) in Kigoma, Mr Mwape and Mr Makassa in Mpulungu, and Mr Gabriel Hakizimana in Bujumbura. All have generated more limnological information including aspects phytoplankton as well as of chemical aspects water quality; this has provided valuable information which will be incorporated into the Strategic Action Programme on the future management of the lake. The greater focus of the work still relates to eutrophication but the Bujumbura team has analysed water samples for lead and cadmium for example.

Otherwise, during this quarter, the PSS Co-ordinator and Mr Kirika in particular, were very heavily occupied with the design and standardisation of the three countries' datasets. Progress in that for the Bujumbura team has been encouraging. We finalised Gantt charts covering the remainder of the life of the Project as far as the PSS is concerned. A prominent feature of this was the prospect of Mr Kirika visiting the Francophone laboratories. Unfortunately however, UN embargoes on visits to that part of the region meant that this could not go ahead as planned. The PSS Co-ordinator produces a short document on the 'Highlights' of the PSS: elevated levels of chlorophyll_a in Kigoma Bay compared with waters far off-shore; some of the first data on heavy metals in lake biota; and finally the growing database generated by the regional teams, covering 30 sampling sites at each of which some 10 or more probe readings are recorded, or samples for chemical and algal analyses are collected. Good progress has also been made on a text titled 'Field and laboratory methods' adopted by the Anglophone teams. The Co-ordinator also produced text on an outline sampling and recording programme that the Uvira PSS team could embark on.

The PSS database has not been finalised as anticipated in the last report. This short-coming is partly due to the Co-ordinator under-estimating the time that still needs to be spent on the database. In addition, the regional teams have still transmitted new data and results. A third factor contributing to the delays was the need to concentrate on text for the SAP. As a consequence, the technical reports and the accounts to be written for policy-makers and administrators, are far from finalised. We have also added little information to the NRI TANGIS system, as well as (hopefully) the University of East Anglia's system.

2.5.2 Chronology of activities

Dr Kelly West visited Dr Bailey-Watts and Mr Kirika in Edinburgh on 2nd September

2.5.3 Current staffing schedule

The staff complement is as reported in the previous quarterly report as follows:

In Burundi: Mr Hakizimana, Mrs Aline Irimbere (INECN), Ms Consolate Musanisoni and Mr Wilondja Kamalebo.

In Uvira, DRoC: Dr Tshibangu Kalala (PSS Co-ordinator in Congo) and Mukungilwa Kamalebo, Mbemba Mavula, Bwebwa Diamani, Kangele Bin Kazembe, Mbilize Ndalozibwa (Boatsman) and Wilondja (Driver).

In Kigoma, Tanzania: Dr Chale (PSS Co-ordinator in Tanzania) and Ms Lyoba, D (50% of her time), Messrs Lyoba, Mfilinge, Muhoza (90%), Tegulilwa, Kadula (80%), Wakafumbe (75%).

In Mpulungu, Zambia: Messrs Mwape, Chimanga, Kaweme, Makassa and Zulu. Messrs Sinyinza, Shapola and others contributing to the Biodiversity and Sediment Pollution Special Studies are associated with the PSS for the purposes of synchronising sampling activities. In ECZ, Lusaka, Zambia: Shadreck Nsongela (the PSS Co-ordinator in Zambia) is now the sole facilitator for the PSS..

2.5.4 Main objectives for next quarter

- Complete the design of the PSS database.
- Advance considerably the input of the remaining physical, chemical and algological information into the database.
- Embark on the design of data templates for displaying the ranges of values for the physical, chemical and - if time permits - those for the algal information.
- Consequent on 2 and 3 above, update the PSS contribution to the SAP document.
- Incorporate the information where appropriate, into the NRI TANGIS system.

Dec 1999 – Feb 2000

2.5.5 Overall summary of progress

The Pollution Special Study (PSS) continues to maintain its focus on 'ascertaining the nature and (where possible) the extent of pollution on biodiversity, and develop the human and equipment resources that will allow the work to be sustained after the end of this particular Project'.

This report summarises the very significant progress made by the PSS teams co-ordinated by Mr Lyoba in Kigoma, Mr Mwape and Mr Makassa in Mpulungu, and Mr Gabriel Hakizimana in Bujumbura. This is due largely to the fact that while skeleton monitoring continues, the PSS Co-ordinator and Mr Kirika have sorted the vast majority of the data accrued. Albeit on the basis of just the ranges in values recorded for the suites of determinands in (to date) Burundi, Tanzania and Zambia), a further contribution to the Strategic Action Programme on the future management of the lake has been sent to NRI. The main impression from the data so far, suggests that there are few extensive areas of other than very good water clarity and low nutrient concentrations etc. In any event, these 'hot-spots' of e.g. of nitrate in the Rusizi, can be viewed as niches somewhat richer than the vast majority of the lake and thus, a refuges of biota adding to species diversity. Templates for the graphing of time series information are complete. The database now comprises the following:

information from the Burundian PSS team (4) headed by Mr Gabriel Hakizimana, on Cadmium, nitrate-nitrogen, nitrite-nitrogen, water temperature, ammonium-nitrogen, Lead, pH, phosphate-phosphorus, salinity, sulphate, sulphate, silica, total dissolved solids, electrical conductivity and dissolved oxygen. The total number of field observations and probe recordings, and chemical analyses is 1,170.

information produced by the Tanzanian team (8) headed for much of the time by Dr Francis Chale, on carbonate alkalinity, bi-carbonate alkalinity, water clarity, ammonium-nitrogen, nitrate-nitrogen, nitrite-nitrogen, air temperature, water temperature, suspended solids, electrical conductivity, dissolved oxygen, total phosphorus, phosphate-phosphorus, dissolved silica, chlorophyll_a and pH. The total number of analyses/recordings carried out is 1,170.

information generated by the Zambian team (6) headed by Mr Makassa on carbonate alkalinity, bi-carbonate alkalinity, suspended solids, phosphate-phosphorus, total phosphorus, silica, chlorophyll_a, dissolved oxygen, water temperature, pH, electrical conductivity and water clarity. The total number of analyses/recordings is 2,300.

The grand total of determinations is thus approximately 5,800.

This number does not include (i) many series of transect recordings of probe-generated information (water temperature, electrical conductivity, pH and % dissolved oxygen) between Kigoma and Gombe, Tanzania, (ii) extensive arrays of the sizes and generic identity of net phytoplankton in the Tanzania and Zambia, and (iii) a host of information on algal population densities at various sites in Bujumbura and its environs, as well as some data from Burundi on industrial effluents discharged into the lake there.

Dr Foxall has initiated an inventory of industrial pollutants, and held a workshop in Kigoma on this. All four countries were represented. The workshop ran from 1st to the 5th of February and covered the following aspects:

- overview and country-based discussion
- the nature levels, impacts and control of pollutants
- the inventory *per se* such as purpose, design and planning; practicalities, problems and implementation; data handling and collation - and interpretation.

Otherwise, during this quarter, the PSS Co-ordinator and Mr Kirika in particular, have made great strides in the handling of the data.

2.5.6 Chronology of activities

In addition to Dr Foxall's visit to Kigoma, Dr Kelly West visited Dr Bailey-Watts and Mr Kirika in Edinburgh on 2nd September. Drs Foxall and Bailey-Watts attended an LTBP Steering Committee Meeting on 9th January 2000 at the Headquarters of MRAG, London.

2.5.7 Current staffing schedule

The staff complement is as set out in the previous quarterly report as follows:

In Burundi: Mr Hakizimana, Mrs Aline Irimbere (INECN), Ms Consolate Musanisoni and Mr Wilondja Kamalebo.

In Uvira, DRoC: Dr Tshibangu Kalala (PSS Co-ordinator in Congo) and Mukungilwa Kamalebo, Mbemba Mavula, Bwebwa Diamani, Kangele Bin Kazembe, Mbilize Ndalozi (Boatsman) and Wilondja (Driver).

In Kigoma, Tanzania: Dr Chale (PSS Co-ordinator in Tanzania) and Ms Lyoba, D (50% of her time), Messrs Lyoba, Mfilinge, Muhoza (90%), Tegulilwa, Kadula (80%), Wakafumbe (75%).

In Mpulungu, Zambia: Messrs Mwape, Chimanga, Makassa and Zulu. Messrs Sinyinza, Shapola and others contributing to the Biodiversity and Sediment Pollution Special Studies are associated with the PSS for the purposes of synchronising sampling activities. In ECZ, Lusaka, Zambia: Shadreck Nsongela (the PSS Co-ordinator in Zambia) is now the sole facilitator for the PSS..

2.5.8 Main objectives for next quarter (March-May 2000)

- To plot and interpret the time-series data produced and assess spatial variation in the dynamics of each of the factors mentioned above.
- Interpret the information with special reference to issues relevant to the Strategic Action Programme.
- Start to graph the transect, probe-generated and algal information mentioned above - and explore relationships between the microscopic algae and their physical and chemical environment.
- Incorporate as appropriate, any findings from 4 above, into the SAP.
- With Dr Foxall's help - review the of the countries' findings on industrial effluents and - highlight issues of potential relevance to the SAP, and avail Dr Hodgson of these findings.
- Add to the existing NRI TANGIS system, any outstanding information sampling site co-ordinates and data.

3.6 Progress report: December 1999 – February 2000 for Socio-Economics Special Study

3.6.1 Overall summary of progress

This quarter has produced the majority of the field work for this second phase of the SESS, with detailed socio-economic studies of lakeshore communities undertaken in all four countries at a total of nine sites. A large body of data has been collected, and analysis is progressing well. First drafts of site reports from all four countries have been submitted. These and preliminary results from further survey work informed the SESS recommendations to the SAP, which were completed at the end of the quarter.

Burundi

Data collection started in Gatumba, near the border with Congo. PRA tools were used in conjunction with approximately 80 household interviews. Gatumba is a large community in the peri-urban zone surrounding the city of Bujumbura showing both urban and rural characteristics, with most households undertaking a range of activities as a part of their survival strategies. Unfortunately the team was unable to conduct field work out of Bujumbura Province due to security constraints, but they were able to move to both Kibenga, and Kinnindo, furthering their studies of the peri-urban zone. A draft report of the work in Gatumba was produced; reports from the other two are due early next quarter.

Congo

Data collection continued in Kilomoni near the border with Burundi. Seventy-five household interviews were conducted, along with others with village leaders, fishermen, and fish processors and traders. The NSEC visited Kigoma in January to work with the Facilitator on data analysis and the first site reports. The visit was extremely successful, and an excellent draft of report of the work in Kigoma (in the previous quarter) was produced after the NSECs return. The team then moved to Makobola, south of Uvira. Work was disturbed by a general strike in the Uvira area, but the team persevered. Reports from both of these are due early next quarter.

Tanzania

Despite travel delays, data collection continued in Sunuka, just south of the Malagarasi delta. PRA tools were used in conjunction with household interviews. Further institutional links were forged with the Kigoma based TACARE Project and local Department of Health staff. The report is due early next quarter.

Zambia

Data collection continued in Lupiri on the north-western portion of the Zambian lakeshore. Lupiri is a relatively large town bordering the Nsumbu National Park. The presence of the park causes land shortages, so there is little farming, but it is an important centre for fish processing and trade. The team then moved further up the coast for a short survey at Munshi, a small fishing village. Further institutional links

were forged with the Department of Community Development and the Department of Wildlife. Unfortunately the final study site, Fundiamali, in the upper reaches of the Lufubu River, was inaccessible due to flooding, but the team was able to work at another site, Kabayolwe, at the mouth of the river. Kabayolwe is also close to the Nsumbu National Park, but there is more suitable land for farming along the river, and hence this plays an important role in livelihood strategies. At all three sites the teams used a mix of PRA tools and household interviews. Reports from all three of these are due early next quarter.

3.6.2 Brief chronology of activities and visits

29 Nov – 31 Dec	Data collection in Gatumba, Bujumbura Province, Burundi
10 – 14 Dec	Data collection in Kilomoni, Territoire d’Uvira, DR Congo
13 – 16 Dec	Data collection in Lupiri, Kapata District, Zambia
17 – 19 Dec	Data collection in Munshi, Kapata District, Zambia
12 – 15 Jan	Data collection in Sunuka, Kigoma Rural District, Tanzania
17 – 21 Jan	Visit of Gérard Kitungano, Congolese NSEC, to Kigoma
17 Jan – 4 Feb	Data collection in Kibenga, Bujumbura Province, Burundi
7 – 10 Feb	Data collection in Makobola, Territoire d’Uvira, DR Congo
13 – 16 Feb	Data collection in Kabayolwe, Mpulungu District, Zambia
21 – 26 Feb	Data collection in Kinnindo, Bujumbura Province, Burundi

3.6.3 Current staffing schedule

The national teams in each of the four riparian nations are made up of officials from relevant government departments, national universities and research institutions, and local NGOs, and are primarily lakeshore based.

Burundi

Dr Oda Sindayizeruka	CURDES	NSEC
Dr Sr Christine Ngendakuriyo	CURDES	
M Sc Prudence Ndayishimiye	CURDES	
M Mattias Kinezero	CURDES	
M Ferdinand Bararuzunza	CURDES	
xx plus two others		

Congo

M Gerard Kitungano	CRH	NSEC
M Kwibe Assanji	CRH	
M Byaya Kalondji	CRH	
M Mukirania Muke	CRH	
M Olivier Nshombo	CRH	
M Bulambo Mutete	CRH	

Tanzania

Dr Claude Mung’ong’o	IRA	NSEC
Mr Omari Kashushu	TAFIRI	
Mr Hamza Mabochi	DoCD	

Mrs Esther xx	DoH
Mr Moshi Sanze	TACARE
Mr Mfanga xx	TACARE

Zambia

Mr George Mushimbwe Chitalu	ECZ	NSEC
Mr Frighton Ng'andu	DoF	Survey Co-ordinator
Mr Joseph Chimanga	DoF	
Mr Muyangwa	DoF, Nsumbu	
Mrs Lilian Mofya	DoCD	
Mrs D Mlutula	DoE	
Mr Aliani Mugala	DoE	
Mr Thomas Miti	DoW	

International

Dr Kate Meadows	NRI	SESS Co-ordinator
Ms Karen Zwick	LTBP	SESS Facilitator

3.6.4 Main outputs and achievements

- Data collection in each of the four countries at a total of nine sites
- Analysis of data in all four countries
- First drafts of site reports from all four countries (Gatumba, Kigongo, Mwamgongo, Chisanza)
- SESS recommendations to the SAP

3.6.5 Main objectives for next quarter

- Completion of data analysis and site reports
- Institutional appraisals in each of the four countries
- Preparation of final national SS reports
- Preparation of small scale proposals, as appropriate
- NSEC consultation on the SESS recommendations to the SAP
- Representation at the TDA/SAP meeting
- Preparation of final SS report and recommendations to the SAP
- Updating of SESS page on the project website and electronic document archives
- Archiving of all data

3.6.6 SESS Facilitator activities

1 – 8 Dec	KGM	administration, preparation and planning of Zambian survey work
10 – 17 Dec	MPU	data collection in Zambia
21 – 24 Dec	KGM	administration
3 – 10 Jan	"	administration, preparation and planning of Tanzanian survey work
11 – 13 Jan	"	data collection in Tanzania
14 – 16 Jan	"	administration, debrief of Tanzanian team

17 – 21 Jan	"	visit of Gérard Kitungano, Congolese NSEC, for report writing
22 – 26 Jan	"	administration, preparation and planning of Zambian survey work
28 Jan – 4 Feb	MPU	support to Zambian NSEC and Survey Co-ordinator
7 – 8 Feb	KGM	Facilitator meeting
9 – 13 Feb	"	administration
14 – 28 Feb	"	review of report drafts, submission to the SESS recommendations to the SAP

2.6 Progress report: December 1999 – February 2000 for Training and Environmental Education Components

2.6.1 Overall summary of progress

Over the past quarter all four national teams have completed their plans for Training, Education and Communications (TEC) programmes. These have concentrated on activities at the Lakeshore. The Tanzania and Zambia TEC Teams have put their programmes into effect. The TECC Consultants completed a support visit to the region, where the Zambian and Tanzanian lake stations and sites were visited and the programmes to date were evaluated and planning for the rest of the project took place. The R.D. Congo and Burundi teams met the Consultant at the Tanzania Lake Station to complete detailed proposals, elaboration of draft materials and work plans up to the end of the project.

2.6.2 Chronology of activities

Through Dec -	Agreement by International Consultants and PCU of TEC programme plans for Zambia, Tanzania, R.D. Congo. Planning in TEC teams
17-22 Jan -	Training course in EE at Kigoma Town for village leaders and Fisheries Extension Officers
23-28 Jan -	Training course in EE at Kirando ward, Rukwa Region, Tanzania for same, above
25 January - 13 Feb	Visit of TECC International Consultants
2 -3 Feb -	Workshop conducted by Zambia TEC team on the Role of the Village Conservation and Development Committees at Chipwa Village
4-5 Feb	Workshop conducted by Zambia TEC team on the Role of the Village Conservation and Development Committees at Chisanza Village
10-11 Feb	Workshop conducted by Zambia TEC team on the Role of the Village Conservation and Development Committees at Stratum One village
end February	Workshop conducted by Zambia TEC team on the Role of the Village Conservation and Development Committees at Stratum One village
29 Jan - 4 th Feb	DR Congo TEC team worked with International Consultant in Kigoma- Tanzania (on the job training)
5 th – 11 th Feb	Burundi TEC team worked with International Consultant in Kigoma- Tanzania
28 th Jan - 2 nd Feb	Tanzania TEC team worked with International Consultant in Kigoma - Tanzania
4 th - 8 th Feb	Zambia TEC team worked with International Consultant in Mpulungu - Zambia

2.6.3 Staffing schedule

The national teams in each of the four riparian nations are made up of officials from relevant government departments, Institutions, and local NGOs, and are primarily lakeshore based. The international consultants are from the Centre for Rural Development and Training of the University of Wolverhampton.

Burundi

Mme Cecile Gakima	INECN	TECC
Mme Fellississima Nzomahabonimana	INECN	Lake shore contact person

Congo

Mr Assumani Kimanuka	CADIC	TECC
Mr Ireng Bahizire	NOPTA	

Tanzania

Mr Bartholomew Tarimo	NEMC	TECC
Mr Omari Kashushu	TAFIRI	
Mr Dominic Kweka	DoF	
Mr Frederick Malisa	TANAPA	
Mr Emmanuel Mtiti	TACARE	

Zambia

Ms Kwali Mfuni	ECZ	TECC
Mr Frighton Ng'andu	DoF	Lakeshore contact person
Mr George Munshimbwe Chitalu	ECZ	
Mrs Mulutula	DoE	
Mr Mugala	DoE	

International

Ms Rachel Roland	CRDT	Training Co-ordinator
Ms Monique Trudel	CRDT	Environmental Edu. Co-ordinator

2.6.4 Main outputs and achievements

- TEC preparation in all four countries
- Successful completion of first phase of TEC programme plans in Tanzania and Zambia
- Detailed plans for first phase of TEC programmes in R.D.Congo and Burundi and work plan up to the end of the project
- Detailed plans for second phase of TEC programmes in Tanzania and Zambia as for Burundi and DR Congo

2.6.5 Main objectives for the next quarter

- Successful printing of 2 posters in Tanzania TEC plans
- Successful execution of 7 workshops to disseminate EE participant-designed posters
- Successful undertaking of all stratum 2-5 workshops in Zambia EE plans
- Successful implementation of fishermen and farmer workshops in R.D.Congo TEC plans and production of Posters for distribution during field visits as follow up workshops
- Successful completion of Burundi TEC plans
- Final Report data collection completed

3.7 Progress Report: December 1999 – February 2000 for GIS and database management.

3.7.1 Overall Summary of Progress

The major achievement in this quarter was a successful GIS workshop in Dar es Salaam 14th -18th February. This exposed GIS experts from around the region to the use of GIS for LTBP, understanding some of the key project datasets, training in the TANGIS interface and supporting decision-making processes. Seven participants, two each from Burundi, Tanzania and Zambia, and one from D.R. Congo, attended the workshop at the University College of Lands And Architectural Studies (UCLAS) Environmental Information Systems Capability Project (EISCAP) training centre. Two specially prepared training courses were created, one aimed at managers using the TANGIS interface to visualise and interrogate lakeside datasets, and one giving background GIS theory and application for research and scientific staff. Both courses were taught mainly from the angle of training the participants how to train others in their respective countries.

An open session discussed the relative levels of expertise and usage of GIS across the region, and how the different institutes could assist post-project in feeding information and supporting GIS activity to the proposed Lake Management Body. Manuals and training datasets were passed to participants to use again.

20 copies of the TANGIS CD containing the database, metadatabase and Arcview GIS interface were distributed to the region during the visit. Training in installation was given to the seven workshop participants.

From the workshop, an informal network of GIS specialists was created. Four national spatial data co-ordinators will assist the regional metadatabase manager in gathering and distributing spatial data. These are IGEBU (Burundi), TANRIC (Tanzania), CRH (DR Congo) and ECZ (Zambia). Other participants were identified as having information, training or utilisation capabilities in the network.

One Francophone (Ms Kidudu, MINATE, Burundi) and one Anglophone (Mr Mwansasu, TANRIC, Tanzania) remained for a second week to have comprehensive training in the metadatabase management, web page and implementation. It was agreed that the new metadatabase manager (Ms Kidudu) should have a two month transition period before taking over full responsibility for the system. NRI still continues to manage the metadatabase till then. Ms Kidudu now has the TANGIS portable PC to continue her familiarisation.

Datasets

- Assistance has been given in the development of the Pollution database.
- The substrate dataset for Biodiversity has been extended to Burundi and DR Congo.

Programming.

Based on the experience at the workshop a few small adjustments have been made to the TANGIS program and distributed.

3.7.2 Chronology of Activities

December - Final preparation of the manuals

January - Creation and publishing of CD

February - GIS workshop at UCLAS - 14-18th February

February - GIS workshop for Metadatabase management - 21-25 February

3.7.3 Staffing Schedule

UK (NRI)

Alan Mills, Geographer; GIS developer

Anne Jackson, Data liaison officer

Valerie Obsomer, GIS specialist and trainer

Rupert Loftie – LARST co-ordinator

3.7.4 Main Outputs and Achievements

TANGIS CD created and distributed

Training of 7 participants in use of GIS for LTBP activities, including use of TANGIS.

Creation of a GIS network across the region, with National spatial data co-ordinators in each country.

Training of metadatabase manager(s)

3.7.5 Main Objectives for the next quarter (March - May 2000)

1. Full hand over of responsibility for metadatabase management to MINATE, Burundi
2. Final integration of SS databases into system
3. Assistance to SAP process by creating pertinent maps.
4. Transfer of main GIS PC and peripherals to Burundi.

Appendix 1.

***MINUTES OF THE FIFTH MEETING OF THE REGIONAL STEERING
COMMITTEE***

Arusha, 2-3 December 1999

Summary of the main Conclusions and Recommendations

1. The Committee adopted the minutes of the fourth meeting of the Steering Committee with some modifications. (Section 4.3 & 4.4)
2. It was decided not to pursue the recruitment of a Regional Training, Education, and Communication's Co-ordinator. Given the current travel constraints and possible language limitations it was felt it would be better for the current National TECCs to operate as a co-ordinated team. rather than selecting one to co-ordinate the others. (Section 4.4 last para.)
3. The Committee agreed that UNOPS should approach the consultants who carried out the Mid-Term Evaluation, for a second time and ask if they would consider amending their report to incorporate riparian country's and NRI's responses in order to produce a consolidated report. If they declined the UNOPS would send GEF separate documents with cover note explanations. (Section 4.5 last para.)
4. UNDP informed the Committee that under the current UN security ratings it was forbidden for non-national project staff to visit Burundi and eastern DRC without explicit exemption. (Section 4.6)
5. It was agreed that UNOPS would retain \$87,960 from the budget presented by NRI to be used for preparatory activities for the next phase, bridging activities between phases and PR. (Section 4.7 and 4.9)
6. The Committee approved the summary of project progress, achievements and final phase work programme presented by the Project Co-ordinator. (Section 4.8)
7. The Committee approved and appreciated the progress being made with the Strategic Action Programme. (Section 4.8)
8. All delegations firmly supported the continuing development of the Convention, noting that it would be a unique instrument for the management of Lake Tanganyika and something that no other project on lake had so far attempted. (Section 4.11, para 7)
9. Regarding concern by UNOPS with respect to the possible future inclusion of Rwanda in the Convention, all delegations agreed that the Convention should have provision for the inclusion of "other states" in the future. (Section 4.11, para. 9)
10. It was recommend by UNOPS that managers and scientists from the project countries should be present at the forthcoming STAP meeting in Malawi (Section 4.12, para 3)
11. UNOPS expressed its hope that by the next SCM there would be available a PDF request for a next phase (4.12, para 8)
12. The Committee agreed on dates and venues for all regional meetings up to the end of the project. (Section 4.13).