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

Progress Report

March to May 1997

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# 1. Introduction

Owing to Project Co-ordinator's leave intervening in the production of this report activities occurring in June and early July are also mentioned to ensure that recipients are as up to date as possible with project activities.

In spite of the unfortunate need to postpone the planned Tripartite Review (TPR) and the Steering Committee meeting (SCM) the project continues to convert plans based on the mandate from the first SCM into action at an increasing rate.

In particular socio-economic group activities are starting to make good progress in developing awareness and local ownership of the project at grass roots level in Tanzania and Zambia. In Zambia a workshop was attended by more than 50 participants from all stakeholder groups and generated a great deal of interest and useful recommendations to guide project activities. Identification and assignation of individuals to the project under Letters of Agreement with the multiple institutions involved furthers the process of building project ownership at the institutional level. It is hoped to extent such activities will be extended to the francophone countries in the near future now that the security situation has improved (July).

From 30/5 to 2/6 Mr Schuetz-Muller of UNOPS paid a regrettably brief visit to Dar es Salaam and Kigoma but it nevertheless provided a most useful opportunity to discuss the project with particular reference to re-initiating project activities in francophone countries and the role that UNDP offices might play in this.

A consultation document which is the first step toward the development of a rational Preliminary Strategic Action Plan has been prepared and distributed.

Similarly work-plans for all the special studies have been taken a stage further in terms of specific detail of sampling programmes etc. and the institutions/individuals who will undertake the work. The work-plans have been distributed for comment.

Training in Scuba diving and underwater survey techniques has begun in Kigoma (July), and will be followed by a training course in data collection and handling with particular reference to the sediment/ pollution/ biodiversity special studies. Reconnaissance trips by socio-economic and fishing practices groups have been made to Rukwa region, Tanzania, in preparation for the start of more intensive work in August.

# 2. Project coordination unit

# 2.1. Tripartite Review/Steering Committee Meeting.

Owing to civil unrest and travel difficulties in former Zaire<sup>1</sup> and Burundi at the time of the proposed Tripartite Review that would have resulted in great difficulty in obtaining full participation of all delegations at the meeting, UNDP decided to postponed the meeting until conditions improved. It is now expected that the review will take place in the last quarter of 1997. The SCM which was to have followed immediately after the TPR was also postponed for the same reasons.

Although the postponement of the SCM represents a temporary setback to the development of an integrated regional overview of the project and the development of the lake management body it was felt by all parties that this should not be allowed to delay the implementation of project activities. Consequently it has been agreed to hold a workshop as soon as possible in each of the four countries separately. These will be attended by members of the National Working Groups and the co-ordinators of the Special Studies. The principal agenda items would be the Preliminary Strategic Action Plan and the special study work plans for the next eighteen months and beyond. This is intended to ensure that the national programmes are clearly defined and tailored to the differing requirements and constraints in each of the four countries and thus engender a stronger sense of national ownership in the project.

The project will collate the outcome of each workshop and circulate throughout the region, but in the mean time work will continue in the four countries as practicable within the prevailing conditions. At the first opportunity a regional SCM will be convened.

# 2.2. Preliminary Strategic Action Plan (PSAP)

A "consultation document" has been prepared and distributed that is intended to inform the development of the proposed Preliminary Strategic Action Plan (PSAP) later this year. The PSAP is a vital output from the project as it will direct activities in terms of developing an effective and sustainable environmental management strategy for the remainder of the project and beyond. The document is currently being reviewed in the region and will be developed into a PSAP at the proposed workshops mentioned above.

# 2.3. Work-plans

Detailed Work plans for the next 18 months and in some cases beyond, have now been submitted for all the special studies and have been distributed to National Coordinators (June-July). The work-plans are essentially developments of the strategies given in the Inception Report but with considerable refinement based on discussions in the region during visits by SS coordinators and others. There is still

<sup>&</sup>lt;sup>1</sup> now Democratic Republic of Congo and henceforth referred to as Congo, should the need arise the

some work to be done in terms of precise defining of the individuals to be involved especially for the francophone countries, but it is expected that this process will be largely complete by the end of the next quarter.

# 2.4. Burundi/Congo

The civil unrest in Congo during most of the period prohibited activity in that country but now that normality has returned plans to re-initiate activities are in hand. Similarly in Burundi where the security situation is now such that project activities can be carried out within Bujumbura and nearby fishing villages. It had been intended that the project coordinator would visit Bujumbura in early June to have discussion with both Burundian and Congolese colleagues; unfortunately this fell through owing to difficulties with flights. Nevertheless some advance was made regarding Burundi, as the project coordinator was able to meet with the National Co-ordinator in Harare. It is now planned that the visit will take place on August 11 to 18. An earlier date was not possible because of prior commitments, however, the new SLO Dr Kelly West who took up post in Kigoma on June 23 will go to Bujumbura 18 to 28 July accompanied by Dr Philippe Petit from the Fishing Practices special study team. The visit will include meetings with Congolese colleagues and a trip to Uvira.

# 2.5. Letters of Agreement.

Now that a formulae acceptable to all has been established and more detail is available from the work-plans regarding personnel requirements, it has been possible to draw up Letters of Agreement with the following institutions for their collaboration in terms of staff and facilities they will be contributing to the project.

#### Burundi

Institut National pour l'Environnement et la Conservation de la Nature

#### Congo

Min of Congo

Tanzania

Division of Environment Tanzanian National Parks Tanzanian Fisheries Research Institute National Environment Management Council

#### Zambia

Environmental Council for Zambia Department of Fisheries Department for Water Affairs

Others are being developed as required.

# 2.6. Kigoma station (activities not mentioned above or in SS reports)

The RV Explorer completed the second leg of its cruise and the large number of core samples were eventually shipped out.

Dr Kelly West, replacement SLO, stayed in Kigoma for a few days to familiarise herself with the local conditions and meet some of the people. Dr Phillipe Petit, Fishing Practices SS arrived here from Mpulungu.

In consultation with the director of Tafiri, designs were drawn up for the refurbishment of the laboratories.

Ken Stride arrived at the start of April to refit the TAFIRI research vessel R/V Echo.

Dattomax Sellanyika (of Gombe Park) and James Wakibara (Mahale National Park) were prepared for their involvement in the ICCE course to be held in the UK in June. This coincided with the visit of Laisha Said (NEMC) and Paul Vare (ICCE) who undertook an Environmental Education exploration mission in the region. Meetings were arranged with all the local stakeholders and their visit culminated in a most valuable round table seminar leaving all participants fully informed about the nature and intent of future EE activities and the extent of local involvement.

LTR (FAO/FINNIDA) project held a socio-economic workshop with which the EE team and the SLO worked and participated in the joint final seminar. Plans were made in an attempt to eliminate overlap in resources and activities from the LTBP and the LTR socio-economic programmes.

There were delays in the arrival of heavy equipment for the scientific programme and supplies for the Echo, sent by train from Dar Es Salaam. These finally arrived and rooms at Tafiri were rearranged to store these items and to prepare for the occupation of offices there by LTBP.

At the end of this period Mr Schuetz-Muller of UNOPS paid a brief visit to Kigoma and constructive discussions followed a hurried tour of the area.

George Hanek, LTR coordinator visited Kigoma.

# 2.7. Mpulungu station (activities not mentioned above or in SS reports)

The project office within the Department of Fisheries office at Mpulungu (Zambia) has been rehabilitated and is now fully operational, except for an email connection. Laboratory refurbishment is underway.

The DoF research vessel was surveyed and a number of recommendations for improvements made which will be carried out by the project. If possible this will be done under the guidance of Ken Stride currently completing the refit of the R/V Echo. A mould for the construction of GRP hulls (8-10m) has been located on the lake shore in Zambia and provides the potential for the production of craft suitable for use in all project bases, current and proposed.

Most encouragingly, following on from the local stakeholders workshop mentioned above a number of participants have presented themselves to the Mpulungu office for further discussions. Prominent amongst these was the representative of Senior Chief Tafuna, who is very keen to work with the project.

A visit was made to Chief Chitimbwa in connection with fishing in the aquatic area of Nsumbu National Park and he declared himself strongly in support of the project and its activities which coincide with his own previous attempts to reduce poaching and respect the traditional holy area of Kapembwa.

# 3. Progress reports of special study groups

# 3.1. Progress Report: March 1997 - May 1997 for "Biodiversity" Special Study and "Conservation Activities"

# 3.1.1. Overall Summary of Progress

Activities in this quarter have focused on planning field-based training and revising the work plan after technical comments from SIAL team. A mission for Dr E Allison in the next quarter has also been planned alongside developments to the work plan.

# 3.1.2. Chronology of Activities

April-May: plans made for training activities in next quarter. Terms of reference prepared for training in scuba diving (June/July), underwater survey methods (August) and habitat mapping (September/October).

Procurement and delivery of scuba equipment to Kigoma (by 15 June) included in the ToR. Training team to include two UK based divers and two Tanzanian divers (Dar Es Salaam)

March: Meeting with Dr Koen Martens (Royal Belgian Institute of Natural Sciences) on biodiversity work plan and potential involvement of SIAL colleagues in BIOSS.

April: comments received from Dr Martens and colleagues on technical aspects of biodiversity work plan. Technical aspects of work plan modified in light of comments.

May: joint special study meeting to discuss integration of work plans.

#### 3.1.3. Staffing Schedule

Special Study Director Dr Ian Payne, MRAG Ltd

Field Team Leaders Dr E Allison, MRAG Ltd Dr P Petit, MRAG Ltd

Special Advisor

Dr Rosemary Lowe-McConnell (Independent) Dr George Coulter (Independent)

UK

Ms Vicki Cowan (MRAG) Project support Mr John Pearce (MRAG) Data base specialist Mr Nicholas Kotschoubey (MRAG) Research assistant

# 3.1.4. Main Outputs and Achievements

Work plan developed. Technical aspects of work plan reviewed. Work plan sent to PCU.

Finalisation of plans for training in scuba diving and underwater surveying and mapping.

Consulting on the technical aspects of the BIOSS work plan and responding to those comments where appropriate given the ultimate aim of informing the strategic action plan on how to assess and manage Lake Tanganyika's biodiversity.

# 3.1.5. Main Objectives for the Next Quarter

Regional teams will be involved in an intensive training programme. Field programme will be initiated during a mission planned for Dr E Allison (July-Sept).

Recommendations

# 3.2. Progress Report: March 1997 - May 1997 for "Fishing Practices" Special Study

### 3.2.1. Overall Summary of Progress

Following the intensive field work of the previous quarter, the Tanzanian field team have since concentrated on writing up reports and the Zambian teams have contributed to a workshop planned by the socio-economic special study (SESS). In addition to the links between SESS and FPSS, the connection this special study has to environmental education was an important outcome of the mission. The work plan has been modified in light of Dr Petit's mission and has been discussed with other special study group leaders for areas of integration and timing. The links To ensure that we maintain the momentum of the FPSS field programme, another mission has been planned for Dr Petit. On his return to Africa in May the field teams continued to develop the field programme.

# 3.2.2. Chronology of Activities

March: completion of Dr Petit's mission in Zambia and Tanzania, followed by debriefing in London (MRAG).

March: finalisation of mission technical report and distribution of report to collaborators (TAFIRI, PCU, DoF(Mpulungu) and socio-economic special study).

March/April: modifications of the work plan in light of work completed by regional teams in previous quarter.

March-May: Tanzanian field teams working on writing up their contributions to field work documentation of previous quarter.

May: joint special study meeting to discuss integration of work plans.

May: Zambian FPSS field team attended a joint FPSS and SESS workshop in Mpulungu. The output was a set of recommendations for fisheries management and the role of the project.

May: preparations made for next mission. Dr Petit returned to Africa and the field programme continues with his support.

# 3.2.3. Staffing Schedule

Special Study Director Dr Ian Payne, MRAG Ltd

Field Team Leaders
Dr E Allison, MRAG Ltd
Dr P Petit, MRAG Ltd

Tanzanian Team

Mr Melchior Kissaka (TAFIRI, Kigoma) Mr Omari Kashushu (TAFIRI, Kigoma) Mr Juma Hamisi (DoF, Kigoma) Mr Charly Mambona (of CRH, Uvira)

Zambian Team

Mr Joseph Chimanga (DoF, Mpulungu) Mr Whiteford Chumba (DoF, Mpulungu) Mr Charles Lukwesa (DoF, Mpulungu) Mr Isaac Zulu (DoF, Mpulungu)

UK

Mr Mark Aeron-Thomas, MRAG Ltd Ms Vicki Cowan, MRAG Ltd

Special Advisor

Dr Rosemary Lowe-McConnell (Independent) Dr George Coulter (Independent)

#### 3.2.4. Main Outputs and Achievements

Work plan modified as a result of the field experience of last quarter and discussions with other SS leaders. Work plan sent to PCU.

Zambian field teams' contribution to the workshop in Mpulungu.

Planning ensured that the FPSS field programme continues with minimal delay.

# 3.2.5. Main Objectives for the next quarter

Field programme further developed. In particular the teams will: take part in more joint SESS+FPSS village appraisals (Tanzania and Zambia); carry out test fishing and establish regular catch sampling at key sites; continue to develop the technical and logistical overlaps with the BIOSS.

Regional teams will be continuing to develop skills and confidence in all areas of field work, analysis of information and report writing.

Zambian field teams to be trained in fish identification by Mr Mboko (Zambian PhD student with Japanese researchers).

Field teams and Dr Petit to work on the two papers they plan to present at the "Interstate Lakes and Rivers of Africa" symposium in Nairobi, December 1997.

#### 3.2.6. Recommendations

Contracts with organisations/institutions to be established as soon as possible.

# 3.3. Progress Report: March 1997 - May 1997 for Legal Component

# 3.3.1. Summary of Activities

Materials for legal work shop (July97) continue to be prepared. The joint work shop is now under some uncertainty due to difficulties in the region.

The mission planned around the July work shop will continue but may involve individual country visits by legal specialists instead. The logistics of this mission remain to be finalised, communication between MRAG and PCU continues.

# 3.3.2. Chronology of Activities

March-May: preparation of materials for legal workshop

# 3.3.3. Current Staffing Schedule

Special Study Director Dr Ian Payne, MRAG Ltd

Legal Specialist (Anglophone) Mr Cormac Cullinan, MRAG Ltd

Legal Specialist (Francophone) Mr Stephen Hodgson, MRAG Ltd

Legal Specialist (Conservation/Community) Mrs Dorothy Muzurewa (Independent)

#### 3.3.4. Main Outputs and Achievements

Materials for workshop have been drafted. Circulation is postponed until clarification from the PUC/region regarding the workshop.

#### 3.3.5. Main Objectives Next Quarter

Plans for Mission in July to be

# 3.4. Progress Report March - May 1997: Socio-economics (SE) and Environmental Education (EE)

# 3.4.1. Overall summary of progress

Progress has been made this quarter in both Tanzania and Zambia, where national teams working on socio-economic studies and environmental education are now in place.

Progress has been particularly good in Zambia, where a local stakeholder workshop in Mpulungu has helped build local awareness and national ownership of the project. The national project officer is now involved in supporting SE and EE work, including liaison with traditional authorities in the project area who are working to promote local participation, and improved lake management. Improved decentralised fisheries regulation, conflict resolution, economic diversification, catch monitoring / improved regulation in the area of Nsumbu national Park and support to local fisheries development committees are now all on the project agenda.

For the time being equivalent work has not been possible in Burundi and the Democratic Republic of the Congo.

In terms of overall planning an eighteen month work plan for SESS has been finalised harmonised with other special study work plans, and an overall framework agreed within which the work plans can integrate Burundi and former Zaire while keeping the development of the overall SAP in view.

A two year contract with ICCE has now been signed for overall development and monitoring of the EE project component socio-economic studies, and with EE coordinators now in post in both Tanzania and Zambia practical work is now underway. Close contact with these national staff, and with ICCE is still maintained by the NRI SE/EE component manager.

# 3.4.2. Brief chronology of activities and visits

March 1997

- The circumstances of Ms Laisha Said (NEMC Tanzania) have now been clarified and she was confirmed as project EE coordinator for Tanzania
- Dr Martin Walsh (NRI Social Anthropologist) complete his final input to the project, and the Tanzania workplan together with Dr Chris Lwoga, national Social Science consultant

# April 1997

- Tanzania EE monitoring visit, by Mr Paul Vare, covering Dar, Kigoma, Gombe and Mahale NPs and adjacent areas
- Preparations for Zambia national project workshop Mpulungu

 Final visit report and recommendations for Tanzania received from Dr Martin Walsh.

#### May 1997

- Monitoring visit report received from Paul Vare ICCE
- Staff from Gombe and Mahale NPs, Tanzania, attend ICCE Environmental Education course "Vision to Visuals", in UK
- Zambia national workshop, Mpulungu.
- Planning and TOR for Tanzania preliminary assessment mission to Rukwa region, to inform local stakeholders and plan lakeshore PRA work

# 3.4.3. Current staffing schedule

International

Julian Quan, NRI Socio-economics and Environmental Education Coordinator Martin Walsh, NRI (Social Anthropologist) Field advisor on Social Science and EE Paul Vare, ICCE Technical Advisors, Environment Education

#### National

*National project posts / secondees:* 

Shadrick Nsongela, ECZ: National EE coordinator, Zambia

Laisha Said, NEMC: National EE coordinator / project Information Officer, Tanzania

Mlotha Damaseke, MAFF: national social science advisor, Zambia

Beatrice Marwa, (Kigoma Region Fisheries Department) Local Environment

Education Coordinator, Kigoma, Tanzania

Dattamax Selanyika (Gombe )and James Wakibara (Mahale): TANAPA collaborators with project EE activities

#### Consultants:

Dr Christopher Lwoga: lead national social science consultant

Beatrice Marwa: Kigoma Region Fisheries Department local EE, fisheries and

Women-in-Development consultant, Tanzania

Dr Patrick Chipungu consultant, Zambia

#### 3.4.4. Main objectives and achievements (list outputs)

- Contractual agreement for EE coordination concluded with ICCE
- Finalisation of 18 month SE / EE work-plans for Tanzania and Zambia; harmonisation with other project work-plans
- EE training for TANAPA staff initiated
- National EE coordinator Tanzania confirmed in post following earlier delays
- First EE monitoring visit by ICCE to Tanzania, accompanied by National EE coordinator

 Project local stakeholder workshop meeting, Mpulungu Zambia, 6 -8 May; full report received from EE coordinator

# 3.4.5. Main objectives next quarter (June - August)

- SESS / EE / FPSS Assessment visit to Rukwa region, to inform local stakeholders, gather background information and plan village PRAs, incorporating local participant institutions (June)
- Rukwa PRA training and PRAs; Visit by ICCE EE / PRA consultant to assist with training and coordination (July /August)
- Continuation of village PRAs, Zambia: (P.Chipungu / S. Nsongela / M. Damaseke to coordinate as per plan in P. Townsley's report)
- ICCE monitoring mission to Zambia
- · Development and Initiation of EE workplan for Zambia
- Draft TOR and workplan for interdisciplinary land use / catchment degradation desk /field study, to begin in Tanzania
- Recruitment of Social science consultant from IRA Dar es Salaam University to assist with above and other project work
- Initiation of Tanzania EE programme (NGO collaboration)
- Clarification of way forward for implementing national SE / EE work for Burundi, and Zaire

#### 3.4.6. Recommendations/conclusions

- Zambia national team to press on with programme of village PRAs and develop draft EE working plan including local activities (drama group, chief's representative's village vistas, catch monitoring etc ) as discussed in Mpulungu
- International EE / SE Monitoring visits needed for Zambia as practicable to help ensure that national team build effectively on excellent progress with initial PRAs, stakeholder workshop and ideas for EE action / local institution building.
- Tanzania PRA work around Mahale NP to be postponed until quarter after next (Oct / Nov) to await return of local fishing fleet; meanwhile preparation and initiation of field study work in Rukwa region to proceed
- Preparation of land use / catchment degradation and management study to begin, involving IRA as Tanzania institutional partner, but with incremental brief to continue work in other 3 nations. TORs to be finalised and work to begin quarter after next (September / October)
- Finalise contractual arrangements and work-plans for national SE consultants Tanzania (Lwoga / Mung'ong'o)

# 3.5. Progress Report: March - May 1997 for Special Study on "Sediment Discharge and Its Consequences"

# 3.5.1. Overall Summary of Progress

The main objectives for this quarter were given in the previous quarterly report as follows:

- Completion of the cruise commenced in February 1997
- To continue work towards the development of a river monitoring system in all four countries.
- To make preparations for the training workshop in August 1997
- To prepare a contract for C. O'Reilly to commence field work in May 1997 (under supervision of A. Cohen at University of Arizona)
- To produce special study workplan to be attached to PPER and presented at next Steering Committee
- To continue to develop river monitoring work-plans with authorities in region

Overall progress on these activities throughout the quarter was satisfactory. More detail is provided in Section 3.1.4

#### 3.5.2. Chronology of Activities

20/2/97 - 13/3/97 G. Patterson and Kelly West (replacement SLO due to commence on June 1st 1997) travelled to Dar es Salaam on 20 February 1997 and remained in the region till 13 March 1997). GP visited Dar, Kigoma and Mpulungu.

9/3/97 - Cruise of Tanganyika Explorer ends successfully.

K. West in Europe from 17/3/97 to 23/3/97 including visit to Brussels of GP on 25-26 March (Back to office report produced). Possibility of collaboration with major Belgian Project on Lake Tang. exists.

11/4/97 Workplan of Special Study submitted to PCU for translation and discussion at steering. Further Workplan refinement made as result of co-ordination meeting on 30/4/97.

22/4/97 Meeting with P. Coveliers to discuss proposals for work on sediment cycling in the lake.

13/5/97 Contract agreed with K. Irvine of Trinity College, Dublin to participate on scientific sampling work with special study.

16/5/97 Dr C. Foxall of the University of East Anglia, UK has been appointed to oversee the training course scheduled for August 1997 in Kigoma.

27/5/97 Major shipment of laboratory equipment sent to Dar es Salaam. A further package awaiting shipment to Zambia in June.

28/5/1997 C. O'Reilly arrives UK for briefing prior to long-term period in Kigoma (departing for Dar on 3/6/97). Meeting held with R. Duck of University of Dundee.

# 3.5.3. Staffing Schedule

The principal investigators remain as stated in the previous quarterly reports. Drs. Nkotagu of University of Dar es Salaam and Sichingabula of University of Lusaka are both being prepared contracts to conduct aspects of the work. Other regional staff are being identified for the August training course where their suitability for project activity will be assessed.

Drs Nkotagu, Nyandwi and Kapilima of the University of Dar as well as Mr Chitamwebwe of TAFIRI all took part in the cruise of the Explorer.

Ms C. O'Reilly travelled out to Africa for the start of her period in Kigoma. Her first destination is the Lake Malawi GEF project where she will be observing methods for measuring primary productivity used there in order to adopt similar methods for Lake Tanganyika.

#### 3.5.4. Main Outputs and Achievements

The cruise of the Tanganyika Explorer returned to Kigoma on 9 March 1997. The cruise plan and objectives are reported elsewhere. The cruise has met all objectives with over 70 cores and 2,000 km of acoustic data collected. Unfortunately the Hendrick Marrs corer and CTD purchased by the project was not available to the cruise due to a problem of getting it released from Tanzanian customs. This is not, however, seen as a major problem as a large amount of material has thus far been collected. Another cruise with the objective of taking these shorter cores to look more closely at recent sedimentary events will be planned for later in 1997 or early 1998.

The contract for investigation of river monitoring in Zambia is being prepared and should be completed during the PC's visit to Zambia in June 1997. Similar ToRs have been submitted to the Departments responsible for river monitoring in Tanzania and Burundi though there has been no positive response so far.

Again the idea of a major task force has been deferred and a series of smaller meetings has taken place (Section 3.1.2)

The bilingual baseline reviews have been edited and translated and are with the publications department of NRI.

A draft of the sediment study workplan has been passed to the PCU for submission to the regional scientific committees

# 3.5.5. Main Objectives for the next quarter

- To facilitate the training workshop in August 1997
- To commence a number of fieldwork activities in the region throughout the quarter.
- GP to travel to the field with Ken Irvine to initiate work on impacts of sediments on biota
- A programme to look at data archives to be initiated with R. Duck of University of Dundee in conjunction with regional departments responsible for river monitoring.
- To move towards a major exercise in assessment of land use and co-ordination of this with the river monitoring and lakeshore sediment work.
- To establish a coring programme for the lake with the other special studies to look at sedimentation rates, sediment type and the distribution of extant and fossil organisms.

#### Remote sensing and GIS

# 3.5.6. Overall Summary Of Progress

Further preparatory work has continued in line with progress towards meeting the remote sensing and GIS requirements of each of the Special Studies. The NOAA equipment has been shipped to Kigoma and is ready for installation. As noted in the previous quarter, installation has been delayed due to changes in TAFIRI staffing and the consequent need to identify a suitable counterpart for training. A recent (separately funded) visit to the region by Ms. Copley resulted in the Tanzania Meteorological Service offering to provide personnel to man the NOAA station at Kigoma. These personnel may be sourced from Dar es Salaam or from the Meteorology School at Kigoma. Feedback from Special Study team leaders is assisting the detailed design and population of the GIS and Project database. Acquisition of archive satellite data is being progressed. Contact has been re-established with the Project Director of the Tanzania Forest Inventory and Management Project (T-FIMP) to obtain permission to use recent Landsat image data and land cover maps of the Tanzania portion of the Tanganyika catchment.

#### Brief chronology of activities and visits

- Opportunity visit (separately funded) by Ms. V. Copley to the region.
- Attendance at regular Project Management Meetings.
- Internal technical meetings and consultation to develop database design and remote sensing inputs.
- Selection of archive satellite data

#### 3.5.7. Current staffing schedule

NRI MRAG IFE
I Downey Vicki Cowan T Bailey-Watts
G Patterson J Pearce
V. Copley (GIS map generation)
R Loftie (NOAA installation)
J. (GIS, ID representation)

#### Main objectives and achievements

The NOAA equipment has been shipped to Kigoma and installation can go ahead as soon as a suitable counterpart is identified. Production of a suitable map in support of the Project leaflet and to increase awareness of the GIS element of the Project.

#### 3.5.8. Main objectives for next quarter

- Procurement of archive NOAA, Landsat and T-FIMP satellite information.
- Identification and training of suitable counterpart for NOAA operations.
- Installation of NOAA system and equipment at Kigoma.

- Further analysis of feedback from Special Study Groups on Remote Sensing and GIS requirements.
- Continued acquisition, cataloguing and input of suitable data into the GIS and Project database.
- Procurement of initial GIS equipment for database preparation and development.

#### 3.5.9. Recommendations

- The NOAA installation phase should include a short training programme on data acquisition and analysis.
- Ongoing consultative meetings will be required to ensure requirements from discussions and the questionnaire survey achieve consensus compromise on inputs, analysis and products required of the GIS and project database.