

Review of the First Phase of the Fisheries Institutional Strengthening, Research and Training Components of the ICRAFD Programme

Project Title:
Integrated Caribbean Regional Agriculture
and Fisheries Development Programme
- Fisheries Component

Country: CARIFORUM

Project No. 7: ACP:RPR:385

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Final Report
December 2001

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ACRONYMS AND ABBREVIATIONS

CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum of ACP States
CFRAMP	CARICOM Fisheries Resource Assessment & Management Programme
CFU	CARICOM Fisheries Unit
COTED	CARICOM Council for Trade and Economic Development
CRFM	Caribbean Regional Fisheries Mechanism
EC	European Commission
EDF	European Development Fund
EU	European Union
FAC	Fisheries Advisory Committee
FAO	Food and Agriculture Organization of the United Nation
FMP	Fisheries Management Plan
ICRAFD	Integrated Caribbean Regional Agriculture & Fisheries Development Programme
LRS	Licensing and Registration System (Data collection software package)
NRM	Natural Resource Management Programme (UWI)
RAU	Resource Assessment Unit
TCDC	Technical Cooperation among Developing Countries
TIP	Trip Interview Program (Data collection software package)
TOR	Terms of Reference
UWI	University of the West Indies
UASD	Universidad Autonoma de Santo Domingo
WBS	Work Breakdown Structure

INTRODUCTION

The ICRAFD Fisheries Project and Objectives

The Fisheries Component of the Integrated Caribbean Regional Agriculture and Fisheries Development Programme (ICRAFD), which is being funded by the European Union through the European Development Fund (EDF) and implemented by the CARICOM Fisheries Unit (CFU) in Belize, has as its overall objective to assist the CARIFORUM countries in achieving sustainable management and use of the region's fishery resources. Towards this end, the three specific objectives of the ICRAFD Fisheries Project are:

- i) to strengthen the fisheries planning and management capacity of national fisheries departments/directorates in the CARIFORUM countries, that are responsible for formulating fishery policies, elaborating plans and implementing programmes to achieve sustainable development and management of fisheries resources;
- ii) to enhance the effective participation and support of the fishers' communities in the planning and management process of the fishing industries for the sustainable use of the coastal and marine resources; and
- iii) to conduct studies and reviews, and provide training to improve the information base, utilization and management of fisheries resources in the CARIFORUM region.

The target countries for the major part of this ICRAFD Fisheries Project are four ACP/CARIFORUM countries in the Caribbean region which did not directly benefit from the now concluding 10 year CARICOM Fisheries Resource Assessment and Management Programme (CFRAMP). These four countries are the Commonwealth of the Bahamas, the Dominican Republic, Haiti and Suriname. In addition, the other 12 CARIFORUM countries which did benefit directly from CFRAMP (Antigua & Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Lucia, St. Kitts & Nevis, St. Vincent & the Grenadines and Trinidad & Tobago) are still expected to benefit directly and indirectly from this ICRAFD Fisheries Project, even though they are not the focus countries.

One of the key aims of the Project is therefore to bring the four target countries in line with the other 12 CARIFORUM countries in terms of their capacity to develop and manage their fisheries resources in a sustainable manner. Another key aim is to facilitate all of the CARIFORUM countries to move forward together in developing and implementing a Caribbean Regional Fisheries Mechanism (CRFM) to sustain efforts to manage and maintain fishery yields over the long-term. The approach being taken by the ICRAFD Fisheries Project follows along the lines of the CFRAMP, with activities organised under five main categories (WBS100 - WBS500) and implemented by defined short-term (in this case 2-yr) country specific Work Plan cycles.

History of Project Initiation

The history of the ICRAFD Fisheries Project deserves some mention and clarification, since there was considerable delay beyond the original proposed start-up date. As a result, the initial work programme and implementation strategy has undergone a metamorphosis and realignment

during the first phase of implementation, in order that the project would provide a more meaningful and efficient follow-on from CFRAMP, rather than serve only as a companion to it, as originally planned.

A Financing Agreement between the Commission of the European Union and CARIFORUM member states was signed in 1995. This set out the provisions for implementation of the Fisheries Component (subsequently referred to here as the ICRAFD Fisheries Project). The International Agriculture Centre of Wageningen in the Netherlands was then awarded the contract to familiarize itself with the conditions in the CARIFORUM countries and prepare a comprehensive Work Plan and Cost Estimates for the first phase (18 months) of implementation. This contract was undertaken between November 1997 and April 1998. There was then considerable delay before a comprehensive Work Programme and Cost Estimates document was finally approved for funding by the EC in February 1999. Following this, the first tranche of funds was released to the CFU in August 1999, allowing the Administrative Offices at CFU to be set up, and new staff to be recruited by April 2000. Thereafter, work began in earnest to refine and implement the country specific work plans. A request for an extension of the time for implementing the activities funded in the First 18-month Phase was also approved in May 2001, such that this First Phase of funding and implementation is now due to end on October 31, 2001.

This Review

This review covers the ICRAFD Fishery Project activities during the First Phase (March 1999 - October 2001) of implementation (extended from 18 months to 33 months), and is focussed on activities which began in earnest 18 months ago (in April 2000). The purpose of this review is threefold. Firstly the review is to determine the progress which has been made since commencement of the Project in terms of its achievements, benefits and impacts on the national and regional fisheries. Secondly, the review is to determine the constraints and bottlenecks which have been encountered to date in implementing the Project, and to assess the capacity and level of commitment of the countries to undertake the Project work plans. Thirdly, the review is to identify the current needs and priorities in the focus countries, and recommend refinements in the activities and other adjustments that may be needed to improve delivery of the project to ensure that the benefits and positive impacts of the ICRAFD Fisheries Project are maximized. The specific Terms of Reference for the review are given in Appendix I.

APPROACH

Project documents (listed in Appendix II) received from the CFU in Belize and obtained during site visits to three of the four CARIFORUM countries (Commonwealth of the Bahamas, Dominican Republic and Suriname) were reviewed. This allowed for an evaluation of the scope of the entire project and the progress made in the participating countries since the Project's inception. Site visits to three of the four focus countries (Bahamas, Suriname and the Dominican Republic) to meet with staff of the Fisheries Departments and other stakeholders associated with the fisheries sector were made to obtain their views on the achievements, constraints and impacts of the Project at the national and regional levels, as well as to obtain a general sense of the

capacity and commitment of countries to participate fully in the ICRAFD Fisheries Project. A site visit to Belize was also made to examine additional project documents and to have a more detailed discussion and assessment of various aspects of the Project, including its management by the implementing agency. Additional discussions were held with several other persons directly involved in the ICRAFD and/or other regional programmes related to fisheries. A list of all persons with whom discussion were held is given in Appendix III.

BENEFITS, ACHIEVEMENTS AND IMPACTS OF THE ICRAFD PROJECT

Project Scope and Design

Whilst it is recognised that the ICRAFD Fisheries Project does not have the resources to solve all of the problems facing the CARIFORUM countries in trying to sustainably manage their fisheries, the scope and design of the Project are consistent with priority needs in the region for improving the stewardship of valuable marine fishery resources.

Most of the Project activities are focussed in four countries which did not benefit from the CFRAMP initiative (1992-2001) and are therefore behind in their ability to sustainably manage their fishery resources. It is therefore appropriate that the focus of the current Project is to bring the fisheries management capacity and effectiveness of these countries in line with their CARICOM partners. This will ensure a more effective and equitable partnership in the extremely important regional initiative to implement a Caribbean Regional Fishery Mechanism (CRFM). Assisting CFRAMP in making the CRFM a reality is also an important objective of the ICRAFD Fisheries Project.

The fisheries of the CARIFORUM countries and the species and habitats which support them are close to crisis. The region's fisheries are characterised by: declining stocks; a deteriorating marine environment which is negatively impacting the habitats; ineffectively managed and still expanding fishing effort by fishers who have traditionally had free access; increasing levels of conflict both within and between artisanal and industrial fisheries, as well as between fishers and other resource users (particularly in the nearshore and in countries with expanding tourism sectors). There is generally poor recognition within government administrations of the importance of the fishery sector and especially of fishery divisions that are charged with management and conservation responsibilities of marine resources. This has generally resulted in a lack of clear policy, and of appropriate legal and institutional arrangements for sustainable fisheries management. This has in turn translated into a history of poor levels of funding by governments to fishery departments and a subsequent low level of management capacity.

The need for effective management within the fishery sectors of the region is urgent and critical if the natural resource base (fish and habitats) and the human resource base (fisherfolk) on which the fisheries depend are to survive, such that valuable harvests may be sustained far into the future. The ICRAFD Project is certainly addressing this urgent need for effective fisheries management by focussing its efforts in the key areas of weakness and priority needs within the region and within each of the four focus countries. The Project has three main impact areas

addressing the issues of:

- ❑ human and institutional capacity to effectively manage fisheries (WBS 500 Fisheries Resource Management),
- ❑ an inadequate data base on which to assess and monitor the socio-economic and biological status of the fisheries (WBS 300 Fisheries Data Collection and Management), and
- ❑ a general lack of research and analysis on which to base and refine management (WBS 400 Fisheries Resource Assessment)

There is concern among several persons familiar with the CFRAMP that the design of the ICRAFD Project is too similar to that of CFRAMP and therefore the same problems will arise and the same mistakes will be made. In this regard it is perhaps unfortunate that the same WBS headings and order have been adopted, as this has tended to mask important differences between the two programmes, from the outside observer. It should be noted that despite the very similar appearance of the work plan formats (particularly the earlier versions) and common titles and numbering schemes used by the two programmes, there are important differences which show that at least some of the major problems with the CFRAMP have been addressed here. Some of the key improvements where lessons learnt have been heeded are given below.

One of the key improvements has been the use of a multi-disciplinary team approach to collecting base line survey data for a needs assessment, and to designing work programmes for each country separately. The teams comprised both local fisheries personnel and CFU personnel with a broad spectrum of skills. This has resulted in a Project that is much more relevant to the individual needs of each focus country, and has avoided the “one-size-fits-all” approach taken by CFRAMP. Perhaps even more important, is that this team approach and attention to priority needs of individual countries has resulted in a real sense of ownership of the Project by the recipient countries. This very different attitude has had a positive impact on the level of commitment to the ICRAFD Fisheries Project apparent in at least three of the four focus countries, compared with that shown by many recipients of CFRAMP. This is extremely important if the Project is going to realise its goals and result in permanent changes in the way the region’s fisheries are managed.

Another important improvement over the CFRAMP is the early emphasis on stakeholder involvement not only for collection of data, but in the design of the Project activities and in training opportunities. For example, among the first Project activities to be implemented within the focus countries has been a National Fisheries Workshop and the formation of a National Fisheries Dialogue group comprising a broad spectrum of stakeholders (including user groups and administrators) from the fisheries sector. This has had an enormously positive impact on the general public attitude towards the ICRAFD Fisheries Project and has served to make an important and much needed connection between fishery administrators/managers and fisherfolk.

An important addition in this Project has been the early implementation of a Strategic Review of

the Fisheries Departments within the focus countries, in recognition of the very real need to help governments realise the true importance of their fisheries sector, of new international agreements related to fishing and marine conservation, and the importance of their own fisheries divisions. Typically the fishery divisions of the region are ill-equipped and poorly funded to meet the increasing demands of managing the region's fisheries.

Likewise, attention to economic sustainability of the fisheries through improving the value of fishery products, accessing new markets and understanding the impacts of market globalization on fisheries is an important area not previously covered by the CFRAMP. There is a healthy recognition by the Project that fisheries management needs to pay attention to both biologically and economically sustainable practices and that the region must move away from economic development and strive for economic sustainability.

Attention to the examination and analysis of historical data is also an important change in the attitude of many new projects. There is recognition by the ICRAFD Fisheries Project that in many cases good data exist but have never been properly analysed. It is important that this Project builds on knowledge and information that is already available, rather than waste resources re-creating information and databases. This process is also often very informative and gives important recognition to the previous efforts of persons and projects.

Project Management and Implementation

The implementing agency CFU must be complimented for its competence and success in managing and implementing the First Phase of the ICRAFD Fisheries Project which is for the most part on schedule and within the budget according to the Realigned Work Programme and Cost Estimates. This has been achieved despite many obstacles. These include: changing administrations in three of the four focus countries (Dominican Republic, Suriname and Haiti) which have resulted in a change of senior fisheries staff within the Fisheries Departments/Directorates (and in the case of Haiti a period of political instability when no Project work was possible); the need to work in four languages (English, Dutch, French, Spanish); a declining exchange rate between donor funds (EUROs) and project funds (based in US \$); several significant tropical storms/hurricanes affecting communications and infrastructure at the headquarters in Belize; and most recently the disruption in airline transport and freedom of movement (as a result of the terrorist attacks in the US) on which many of the sub-projects depend heavily for bringing participants to regional workshops, and for provision of training and technical assistance from CFU staff based in Belize and St. Vincent and the Grenadines.

The implementing agency (CFU) has successfully altered the design and implementation of the initial Project to better address the changing priority needs as a result of the substantial delay in the intended date of start-up. This realignment will ensure that the Project and thus the regional fisheries will benefit from an increased use of skilled persons from within the CARIFORUM region, including the reassignment of CFU technical staff (with considerable knowledge of regional fisheries and experience in implementing fisheries projects) to the ICRAFD Project full-time, the use of local students to undertake some of the research project work, and the use of locally-based consultants. This practise will also contribute to the improvement of regional

human capacity for fisheries management.

The savings resulting from restructuring of the program and a reduction in the proposed use of external consultants, have been channelled into an important area (WBS 400 Fisheries Resource Assessment), which was not adequately covered in the original Work Plan and Cost Estimates for the ICRAFD Fisheries Project. This has meant that the region is benefiting from a continuation of research initiatives that started under CFRAMP and are still considered to be relevant priority needs.

A change in the funding arrangements for individual project activities, compared with the system used in CFRAMP is also benefiting their more efficient implementation. Funds are now released on a sub-project by sub-project basis including direct payments to suppliers and fishery divisions based on pro-forma invoices, such that large sums of money are not absorbed into government consolidated funds and subsequently diverted to other activities. Furthermore the practise of governments bonding ICRAFD Project scholarship students (increasing their probability of return on completion of their studies) and the requirement of recipient scholars to agree to conduct their research in key areas of need identified by the countries, is also likely to increase the impact of improving the level of training of fisheries department personnel.

The CFU has shown a high level of timely reporting on Project activities, such that progress is relatively easy to track and transparent. They must be commended for this and for a change in style of the quarterly Progress Reports that now track past progress as well as report progress in the current quarter, such that they are useful stand-alone documents, and reduce the amount of previous reports that have to be read. The importance of having very clear and specific work plans whilst at the same time allowing flexibility so that changes can be made as needs change, has been clearly recognised by the Project management. This is particularly important, along with the involvement of stakeholders, in an environment with a high turn-over of senior fisheries administrators/personnel.

Without exception, fisheries personnel from the three focus countries visited were all very satisfied with the competence and personable manner of the Technical Staff of the CFU, and were particularly complimentary about the speed and helpfulness of their responses (by phone or e-mail) when asking for assistance and/or clarification. The Bahamas and Suriname were also very satisfied with the Administrative Staff of the CFU and were particularly impressed with the willingness of the CFU to accept (and/or negotiate with the donor) suggested changes to the work plans or funding arrangements. They felt that this level of transparency and flexibility is very important to achieve efficiency and remain relevant in a dynamic sector with changing priorities.

Work Programmes

During this First Phase of the ICRAFD Fisheries Project, ambitious individual 5-year Work Programmes and Cost Estimates (April 2000-March 2005), and more detailed 2-year Work Plans (April 2000-March 2002) have been prepared and finalised for all four of the focus countries, as well as a single one for the other CARIFORUM countries. These present a series of sub-

projects/activities under each of the main technical work breakdown sections (WBS 300, 400 and 500) and are considered here in more detail.

WBS 300 Fisheries Data Collection and Management Systems : Substantial progress has been made with sub-projects under this main grouping. This includes the conclusion by two consultants of substantive reviews of the catch, effort, biological, socio-economic and licensing & registration data collection and data management systems of the marine fisheries of the Bahamas (Draft, September 2001), Dominican Republic (Draft, September 2001) and Suriname (July 2001). These documents have only just been completed or are still under review, so that it is rather early to expect substantial impacts. However, focussing attention on the data collection and management systems and the discussions between fisheries department staff and the consultant were reported to have been very useful. It is also anticipated that the recommendations will have an important contribution to improving the systems during the coming months.

In Suriname two extra data collectors have been employed with ICRAFD support, and all data collectors and control inspectors have already benefited from specific training in data collection (Fisheries Data Collection and Management Training Workshop, May 2001), from the production of a training manual written in Dutch, from the negotiation for an additional stipend for data collectors, and from an enhanced data collection plan. This has apparently resulted in substantially more and better quality data being recorded by these field data collectors, and a much improved work ethic. This will be further improved with the imminent purchase of two motorcycles allowing more landing sites to be covered by the sampling programme. In the Dominican Republic, a data collectors training manual has been translated into Spanish, and a data collectors training workshop was held in October 2001. In the Bahamas, the training is scheduled for early in the New Year.

Progress has also been made with upgrading the TIP and LRS software programmes introduced into the CFRAMP beneficiary countries and the new Windows version is expected to be ready by early in the New Year. Staff from The Bahamas, Suriname, Jamaica, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago supported by staff from the OECS NRMU, the CFU and a British Consultant have so far attended two regional Workshop of Experts to develop, test and discuss the upgrades. The new countries appear to be happy to switch over from their current systems to the upgraded windows version of the TIP and LRS systems, and thus join the other CARIFORUM countries in using a standard system. This will certainly benefit any future attempts by the CRFM to work with a regional database.

The Bahamas, Dominican Republic and Suriname are all extremely happy with the provision of additional computers and accessories to improve their data handling and analysis capabilities. This has of course had an immediate benefit in all of the recipient countries.

The Planning Missions combined with National Fisheries Surveys by multi-disciplinary teams comprising staff from the CFU and the recipient country have been successfully completed in all of the four focus countries, and made efficient use of time and funding. These missions have been extremely useful in establishing good working relationships between CFU staff and fishery

administrators, and in gathering detailed information on the fisheries sectors of each country which have allowed the development of country specific work plans, and contributed to the improvement of data sampling plans. The detailed Multi-disciplinary Survey Reports (which have been completed for the Bahamas in May 2001, the Dominican Republic in June 2001, and Suriname in July 2001) have been extremely useful for gathering a large amount of information on all aspects of the fisheries sectors, and on issues of concern for the stakeholders, and for providing recommendations for improvements to management. The fieldwork for the multi-disciplinary survey in Haiti has been completed and the report should be available early in 2002. A very important follow-up activity in each country (so far completed in the Bahamas in July 2001, Dominican Republic in July 2001, and Suriname in August 2001) has been the presentation and discussion of these reports and their recommendations with a broad cross section of stakeholders at a National Fisheries Workshop. This kind of feed-back to the industry is very important and has been greatly appreciated by stakeholders. It has served to give the ICRAFD Fisheries Project credibility in the public eye and will certainly increase the benefits and impacts of the sub-project activities and ultimately must increase the chances that the Project will achieve its goals. The information gathered and recorded in these reports will also act as a baseline on the status of the fisheries at the start of the ICRAFD Fisheries Project and will therefore be a useful benchmark against which to measure future successes.

WBS 400 Fisheries Resource Assessment: Most of the sub-projects outlined under this group were not intended for completion or even implementation during this First Phase of the Project. As such progress has been much less impressive than with the WBS 300 and WBS 500 sub-projects. Many of the assessment activities will be relying on data collected by the improved systems that are only now being put in place. Furthermore, it is hoped that much of the specific research work will be done by students (including ICRAFD Fisheries Project scholarship recipients), and as such the timing of the fieldwork must fit into their study schedules. As a result, most of the progress has been focussed on drawing up terms of references for the specific sub-projects.

Initial work has begun in several areas, and appears to be most advanced in the Dominican Republic. Towards the review of historical fisheries data in the Dominican Republic, two BSc. students from the Universidad Autonoma de Santo Domingo (UASD) (who are required to undertake a reasonably substantive piece of research and write a research report as a part of their degree), have already been selected and have prepared research proposals for their studies. One will work on "A review of the night-light fishing in Barahona" and the other will work on "A review of the parrotfish fishery within the Parque Nacional Jaragua". Furthermore, preparations are well underway for underwater surveys of conch and lobster in the Parque Jaragua. To this end, personnel who will undertake the fieldwork have been identified, a training manual for conch and lobster surveys has been developed, and training of the technical personnel who will assist with the field work has been completed. There has also been some action towards proposed studies on the shrimp fishery, with TORs being produced for a census of the shrimp fishery, and for a biological study on the shrimps. At least one student from the UASD has shown an interest so far.

In the Bahamas a member of staff in the Fisheries Department has been identified to work with the Senior Biologist on a review of the historical data. A staff member of the Fisheries Division has been awarded a scholarship to conduct research leading to a M. Phil. degree at the UWI, Jamaica. The candidate has already commenced her project which is focused on development of recommendations for management of the Nassau Grouper spawning aggregations in the Bahamas. In addition a lecturer from the college of the Bahamas (who intends to return to UWI in January 2002 to complete an MSc within the Natural Resource Management (NRM) programme) has agreed to conduct her research project on the "Sport Fisheries of the Bahamas" and is expected to start data collection very soon, whilst a member of the Fisheries Division staff who is hoping to take up a higher degree within the next 2-3 years has shown a strong interest in conducting his research in the area of "Conflict Management in the Bahamian Fisheries". The TOR for a literature review of the Marine Reserves in the Bahamas has also been drawn up. Furthermore, the Bahamas was sponsored to attend and provide data at the CFRAMP Conch and Lobster Terminal Workshop (Dominican Republic, July 2001), the CFRAMP Reef and Pelagic Terminal Workshop (Barbados, June 2000), and the CFRAMP Data and Information Systems Terminal Workshop (St. Lucia, November 2000).

There has been a small amount of progress in Haiti with the preparation of the TOR for the bibliographic review of the fisheries of Haiti, and recruitment of a resource person to undertake the work.

The CFRAMP initiative to get representation at the ICCAT meetings and be involved in other ICCAT activities is continuing and is now including the four focus countries with ICRAFD support. This vital activity has included *inter alia* the revision, finalisation and presentation of a regional position paper on ICCAT allocation criteria, and is keeping all countries informed of all ICCAT meetings and feedback. This promotion of the need for a regional presence in ICCAT has been an important impact and should strengthen the commitment to a CRFM.

Another CFRAMP initiative to establish a fish aging laboratory at IMA to assist the region's fishery departments with biological assessments has been evaluated and suggestions put forward on how best the ICRAFD Fisheries Project could contribute to its continued work over the next few years.

WBS 500 Fisheries Resource Management: The sub-projects within this Fisheries Resource Management component are absolutely central to the key goals of the ICRAFD Fisheries Project, and are focussed on institutional strengthening and building human capacity, formulation of appropriate policy and national fishery management plans. Substantial progress has been made in several areas with transparent benefits to the fisheries administration as well as to the stakeholders.

One of the early activities has been to engage locally-based consultants in a Strategic Review of the Organisational Structure of the Fisheries Departments. These reviews together with recommendations for improvements have been completed for Suriname (Final Report, February 2001) and Guyana (Final Report, August 2001). A draft report has been prepared for the Dominican Republic and should be finalized by December 2001. The review for The Bahamas is

underway and the first draft report is expected in December 2001. The review of the Fisheries Department in Haiti will be conducted in January/February 2002. These reviews have been welcomed by the Fisheries Divisions as an important lever to obtain better recognition, funding, organisational structure and operational arrangements from their national governments. Although this activity is behind in the Bahamas, they too eagerly anticipate the results and recommendations of the strategic review.

Progress with mobilizing and strengthening community involvement in fisheries management has been impressive during this First Phase and the importance of bringing the stakeholders on board from the beginning is already reaping benefits for improved management. The National Fisheries Workshops held in the Bahamas, Dominican Republic, and Suriname for stakeholders have been extremely important (see comments in WBS 300 above) and have resulted in the establishment of a National Dialogue Group within each country as well as several regional groups representing the different fisheries administrative zones (as in the case of the Dominican Republic and the Bahamas). These will be key to the success of follow-on activities to develop Fisheries Management Plans (FMPs) to which fisherfolk are committed. Several fishers in leadership roles have so far benefited from a regional training workshop (involving all participating CARIFORUM countries) in Guyana. Those attending have been extremely positive about the knowledge gained and all stressed the importance of meeting and networking with other fishers from the region. Fisheries Extension Officers in the Bahamas, the Dominican Republic and Suriname have also benefited from a 2-day seminar on "Capacity Building" to prepare them for assisting fisher groups. Attention has also been paid to assessing the needs of fisheries divisions as regards their ability to produce educational material in a relevant format for fisherfolk. Accordingly, computer hardware (including printers), software and accessories, and other audio-visual equipment have been purchased for the Bahamas, Dominican Republic and Suriname.

Scholarships for medium-term training (MSc or MPhil) have been awarded to eight applicants from within the fishery divisions of the CARIFORUM countries, and all except one scholar (from Haiti) have now begun their training. The scholar from Haiti will begin a masters degree programme in Natural Resource Management at UWI, Barbados in January 2002. Two scholars have completed their masters degrees in fisheries at the University of Hull in the UK and have returned to their respective fisheries divisions. A two-week training workshop on Fisheries Management for fisheries division personnel was conducted in Dominica and attended by participants from all CARIFORUM countries.

Substantial progress has been made through the efforts of this Project and CFRAMP for all CARIFORUM countries in making the Caribbean Regional Fisheries Mechanism (CRFM) a reality. A number of technical workshops on the CRFM have now produced a proposal for the establishment of the CRFM, for a member states contribution formula, and for contributions required for the first 3 years of operation. All of these have now been approved by the CARICOM Council for Trade and Economic Development (COTED). The legal text has been finalized by a regional drafting committee and approved by the CARICOM Legal Affairs Committee (Regional Attorneys General). The document is now ready for signing by the regional governments.

CONSTRAINTS TO IMPLEMENTATION OF THE PROJECT

Project Design and Management

The ICRAFD Fisheries Project Work Programme covering multiple activities in four focus countries as well as substantive action in the other CARIFORUM countries is overly ambitious given the small complement of core technical staff at CFU assigned full-time to the project (just four persons), and the very limited human capacity available within the fishery departments of the new focus countries. This opinion is widely shared, and the problem appears to be a repeat of the same mistake made by the CFRAMP, where there was a general lack of appreciation of the technical difficulties involved in undertaking much of the research.

Notwithstanding the high level of competence and commitment of the CFU technical staff and of the fishery department staff, the problem is certainly exacerbated in this case by the fact that each of the four new countries speaks a different language (Dutch, English, Spanish and French). This is having a substantial impact on the ability of the CFU staff to communicate freely with all stakeholders, particularly junior staff and fisherfolk, and is demanding significantly more time to prepare and translate documents into the working language of the country as well as in English. The lack of multiple linguistic skills amongst the CFU support staff is critical, and is placing an additional burden on the technical staff, one that they can ill afford the time to handle. This has already lead to high levels of frustration by the fishery administrators of the Dominican Republic, who report that there is often no response or very slow response to communications with CFU administrators, and again they rely heavily on bilingual technical staff (in particular Jeanette Mateo) to intervene on their behalf.

Furthermore, there is wide disparity among the four focus countries in the economic conditions within the country as well as the political stability and levels of political interference with fisheries administration. This means that an approach which works at one site is unlikely to be appropriate for all, and results again in a much higher work load for the staff charged with implementation.

In summary, the technical staff in particular all carry an unrealistically high workload, conducting, supporting and overseeing implementation of multiple projects in the field, travelling and report writing. Meeting such demands constantly over the long-term is stressful and not likely to be sustainable, and it seems likely that the programme will suffer from a compromise in the quantity and quality of the Project outputs, or loose good staff. Impacts of this are already evident in the editing quality of many of the Project documents. Furthermore, the elevated levels of stress caused by the high work load are contributing to strained working relationships among CFU staff, which in turn are constraining the full potential of an effective team. This and a lack of opportunity for professional development (for example through attending and presenting project results at international scientific meetings) is leading to lowered morale amongst technical staff.

There is a huge volume of documents being produced by the ICRAFD Fisheries Project, many of which are excellent technical documents that will serve a useful purpose long beyond the life of the Project. Under the current system of document filing and storage, access to the final approved versions of many of these documents is proving a burden on support staff. Furthermore, the photocopying facilities appear inadequate to handle the volume of copying required, especially for training workshops.

Work Programmes

Commonwealth of the Bahamas : Probably the most critical constraints for implementing the full package of proposed sub-projects in the Bahamas is firstly the centralised nature of the fisheries administration and the decentralised nature of the fisheries (which are spread over a huge shelf area far from the centres of human population, and based on multiple islands), and secondly the lack of qualified personnel currently within the Fisheries Department. This latter issue is exacerbated by the fact that two persons are currently away receiving long-term training (MSc degrees), that the Government of the Bahamas has put a freeze on employment in the civil service (such that vacant positions that have been hard to fill are now being lost), that the Government offers poor incentives to join the Fisheries Department compared with the private sector, and that the process of hiring professionals is so long and drawn out that good people are frequently lost to the private sector during the waiting period. Furthermore, the cost of well qualified extension officers is prohibitive given the high levels of salary expected in the Bahamas and the need to provide housing in distant sites.

The transport allowance intended to assist with data collection has not been activated since the low number of data collectors (not lack of transport) is the key constraint at this time. The aquaculture sub-project that appeared in the earlier work plans has also been dropped as this is no longer considered a priority need at this time.

The Strategic Review of the Organisational Structure of the Fisheries Department (under WBS 500) was eagerly anticipated but was delayed by the fact that local consultants require higher rates than are being offered by the ICRAFD Fisheries Project. The CFU eventually recruited two regional consultants who are now undertaking this assignment.

The community management training provided to a fisher from the Montague Fishermen's Association (who attended the 2-week workshop in Guyana) has enormously increased his personal knowledge, but his efforts to train or transfer lessons to his colleagues are being significantly constrained by a lack of support of the Association by its members. This stems from past failures of the Association to obtain Government attention in key areas of concern, and thus a lingering apathy among its members to pay attention to its current activities.

Dominican Republic : The key constraints in the Dominican Republic for implementing the ICRAFD Fisheries Project have been the difficult organisational structure and operational arrangements within the fisheries administration, including a high level of political involvement. However, considerable improvements are expected under the new Government which came into

power a year ago and shares a common vision with the ICRAFD Project of the need for sustainable management and for a system involving collaboration between the Government and the fisheries stakeholders.

A further constraint for the Dominican Republic is that the language issue has not been adequately addressed. For example relevant regional workshops - particularly training workshops - are being held in English, sometimes without translation into Spanish. This has significantly limited the personnel who can benefit from this training, and has meant in several cases that inappropriate persons have been sent for training, simply because they have a knowledge of English rather than because they would benefit directly from the training. This has obviously had a serious constraint on the potential positive impacts of the training. The language barrier has also affected the level of satisfaction with communications and response time when dealing with CFU administration which has often translated into delays in implementing sub-projects.

Suriname : Again, a serious shortage of qualified personnel within the Fisheries Department resulting from poor salaries and incentives to join the civil service (despite the fact the fisheries sector is now the primary earner of foreign exchange in Suriname) is one of the key constraints to implementing many of the sub-projects outlined in the Work Programme. Again this is exacerbated by the temporary loss of a key staff member undergoing long-term training. This has certainly constrained progress with the research projects outlined under WBS 400 and has resulted in a failure to recruit the two additional Fisheries Officers (a Community Organising Officer and a Communications Officer) to be supported by the ICRAFD Fisheries Project to implement much of the community-based work planned under WBS 500.

A poor history of past performance and political interference with fisherfolk groups/cooperatives is also constraining progress and commitment by the Fisheries Department in this area. There is also some resistance apparent in forming a bi-national group with Guyana through which data on the shelf fisheries will be shared. This is a particularly sensitive issue for Suriname, whose important artisanal fisheries sector is dominated by Guyanese fishers.

Haiti : Significant constraints are apparent in Haiti affecting almost all areas of implementation of the ICRAFD Fisheries Project. For example, progress has been considerably delayed as a result of elections in November 2000 and a long period of political instability when no attempts were made to work there. Although there are well qualified and competent staff within the Fisheries Department, there is no appropriate infrastructure (e.g. the Fisheries Department building lacks electricity, water and basic office furniture and equipment), and the system is openly corrupt, making it very difficult to effectively implement sub-projects, especially those providing capital assets. International communication with Haiti is very difficult due to poor local infrastructure. Internal communication is also very difficult and this problem is made worse by language barriers. The official language is French however most of the fisherfolk and resource users speak Creole. Workshops and information documents, (for example the multi-disciplinary survey instruments) involving resource users must therefore be translated into both French and Creole. For these reasons activities in Haiti are lagging behind the other countries.

RECOMMENDED ADJUSTMENTS

In recognition of current needs and priorities of the region's fisheries sectors, and of the lessons learnt from the constraints so far encountered in the implementation of this ICRAFD Fisheries Project, the following recommendations for adjustment are made. However, it must be stressed that the order in which they are presented does not attempt to reflect any level of priority, but instead loosely follows the organisational structure of the Project Work Programmes and of this review. It should also be made quite clear that the most substantive recommendation coming out of this review is that the Project should continue for the most part exactly as it has been doing. As such the recommended adjustments are relatively few and may dwell on issues that seem petty in comparison to the entire Project. This should therefore be taken as an indication of the general level of success and the positive impacts that the ICRAFD Fisheries Project is having on the national and regional fisheries of CARIFORUM. As such the CFU implementing agency should be highly commended for its work to date.

1. The work programme for the second phase of the project is ambitious. The CFU should pay very careful attention to ensuring that the required human resources are available in a timely manner to support implementation of the planned activities. These include short-term Consultants, Fisheries Department staff and students who have been identified to assist with delivery of the work plan activities. The CFU should also explore whether there is a need to hire additional technical staff to help co-ordinate and implement the work programmes in each of the four focus countries as well as in the other 12 CARIFORUM countries.
2. Urgent attention needs to be given to the issue of multiple languages. Bi-lingual (English-Spanish) or preferably tri-lingual (English-Spanish-French) capability is needed amongst the support staff to avoid communication breakdowns between the CFU and the focus countries and to relieve the burden of translating from the already over stretched technical staff. Obviously the ability to operate in Dutch would also be a benefit, but less critical than Spanish and French since a reasonably high proportion of fisheries personnel in Suriname can manage in English and stakeholders (many of which are Guyanese fishers) can also manage quite well.
3. Furthermore, serious consideration needs to be given to the provision of simultaneous translation services at regional workshops if they are to benefit personnel from Haiti and the Dominican Republic. Whilst it is recognised that the working language of CARICOM is English, it is unreasonable to expect junior fisheries personnel and other stakeholders from non-English speaking members to manage in English.
4. It is recommended that staff be encouraged to present Project research results at regional and international conferences. This will serve to heighten awareness of the ICRAFD

Fisheries Project and is likely to attract scientific collaboration, which would perhaps help to deliver more of the proposed research projects within the four focus countries. This should help to address the current lack of awareness of this Project outside the direct recipients, and perhaps allow Project funds to be used more effectively in tackling research issues. Training opportunities to enhance the skills of existing staff should also be used.

5. Communication facilities at the CFU should be improved by optimising the computer server to prevent frequent breakdowns in the e-mail service, and a less cumbersome arrangement for overseas calls by junior technical staff would increase their levels of efficiency. Likewise a more efficient and consistent mechanism for internal handling of requests for funds, particularly when CFU staff are travelling, would improve the smooth running of operations.
6. It is recommended that an improved system of document/information management (storage and retrieval) be implemented to ensure that outputs are preserved and freely accessible. Some consideration should be given to setting up a virtual library through the CFU website where key documents, particularly technical reports could be made available in an electronic downloadable 'pdf' format. More attention should also be paid to identifying final versions of reports, and to editing. Several important documents have suffered from erroneous cut-and-paste editing, and have a confusing array of sub-title formats and numbering schemes, which makes them very hard to follow. The print production facilities at the CFU would certainly benefit from a photocopier with automatic feed and double-sided printing capabilities to cut down on the enormous amount of time and paper that is currently wasted.
7. Many of the key constraints at the country level are much harder to deal with in the short-term, given that they concern issues such as government employment policy, political instability, and poor levels of funding for fisheries administration. However, a continuing focus on alternative fisheries management strategies which rely less heavily on government intervention is recommended. This should include continued efforts towards stakeholder community involvement, education and strengthening. It is also recommended that a greater emphasis should be placed on the establishment of marine protected areas, not only as a potential means of enhancing adjacent fisheries yield (which they may not always do) but as a tangible insurance policy against fisheries management failure. It is further recommended that some attention be given to investigating the power of the market in influencing fisheries management within the CARIFORUM region. Such an approach is gaining credence in Europe (for example through the efforts of the Marine Stewardship Council) and North America (e.g. the Consumers' Choice Council), where eco-labelling of fishery products, product and fishery accreditation, and support from major retailers of fish products is now having a positive impact on responsible fishery practises.

8. The involvement of university level students in applied fishery research is commended and it is recommended that further ties with the region's academic institutions should be actively encouraged as a cost effective means of conducting relevant research, whilst at the same time training regional personnel.

APPENDICES

Appendix I - Terms of Reference

CARICOM FISHERIES UNIT

P.O. Box 642, Princess Margaret Dr., Belize City, Belize C.A.

Terms of Reference for review of the Fisheries Institutional Strengthening and Research and Training Components of the ICRAFD Project

1.0 Introduction

Following a financing agreement between the Commission of the European Union and Member States of CARIFORUM, the technical and administrative provisions for the implementation of the Fisheries Component of the Integrated Caribbean Regional Agriculture and Fisheries Development Programme (ICRAFD) was set up. The CARICOM Fisheries Unit (CFU) is the implementing agency for the Fisheries Component of the ICRAFD Project which has as its overall objective the following:

- a) To strengthen fisheries planning and management capacity of national fisheries departments/directorates in the CARIFORUM countries. These Departments/Directorates are responsible for formulating fishery policies, elaborating plans and implementing programmes to achieve sustainable development and management of the fisheries resources.
- b) To enhance the effective participation and support of fishers' communities in the planning and management process of the fishing industries for the sustainable use of the coastal and marine resources

3.0 Purpose

The purpose of this assignment is to review the institutional strengthening, research and training activities of the Fisheries component of the ICRAFD Project to:

- determine the progress made since the commencement of the Project;
- identify the current needs and priorities in the countries, and
- recommend refinements in the activities and other adjustments that may be needed to improve delivery of the project. Specifically, the Consultant will:

3.1. Conduct a comprehensive review of the of financing agreement, work plans and cost estimates, and reports produced by the project.

3.2. Document the progress made, constraints encountered and prepare recommendations for improved delivery of the activities to realize the planned outputs.

4.0 Approach and Work Plan

The consultant is required to review the project documents such as the Financing Agreement, The Approved 18 Month Work Plan, National Work Plans, Progress Reports, Baseline Survey Reports, and other technical reports produced by the Project, to get a clear sense of the achievements and constraints, and identify the current needs and priorities which should be addressed in the future. The consultant will also visit a number of the Participating States to meet with staff of the Fisheries Departments and other stakeholders associated with the fisheries sector to obtain their views on the achievements and impact of the Project at the national and regional levels.

Without limiting the generality of the foregoing, the scope of work of the Consultant shall be as follows:

- 4.1. Under the general direction of the Project Manager, the Consultant will be contracted for 15 person days to undertake the assignment, including: visiting the countries specified below; conducting the necessary consultations and research; preparation of the necessary reports; and if necessary, presentation of the report of the study at a regional workshop of fisheries officials.
- 4.2. The assignment shall be undertaken between September 1-30, 2001.
- 4.3. The Consultant will work in close collaboration with the Scientific Director and other technical staff of the CFU to conduct the assignment. Although the Consultant will work in close collaboration with the above mentioned personnel, it is understood that the Consultant is responsible for producing the outputs and reports of this assignment.

- 4.4. The Consultant will also use the technical reports and other background documents provided by the CFU and the countries as a means of evaluating the progress made in the countries since the inception of the Project.
- 4.5. The Consultant will visit: Belize, Bahamas, Dominican Republic, and Suriname and meet with as many stakeholders as possible, including but not limited to the following: the Fisheries Department staff, senior officials of the ministries responsible for fisheries, officials of other government departments associated with the fisheries sector, representatives of fishers organisations, representatives of the national fisheries advisory committees, NGOs involved in fisheries, research and training institution with an interest in fisheries, representatives of the processing and marketing companies, and other organisations with an interest in the fisheries sector. The purpose of these meetings and consultations is to obtain the opinion of the stakeholders regarding the benefits, achievements and interventions at both the national and regional levels. The Consultant will also determine the capacity and level of commitment of the country and identify the constraints and bottlenecks in implementing the planned activities and identify the current needs and priorities that should be addressed in the future.
- 4.6. The Consultant may contact stakeholders in the countries not visited, by email and/or telephone, to obtain their input.
- 4.7. Based on the findings of the research conducted, the consultations with stakeholders and review of the background documents, the Consultant will identify and document:
 - the benefits, achievements and impact of the project on the fisheries of the region,
 - the constraints encountered,
 - important lessons for the future,
 - the current needs and priorities that should be addressed in the future and
 - on the basis of the above, recommend concrete adjustments to the current activities that should be pursued to ensure sustainable development of the region's fisheries.
- 4.8. Time is of the essence in the conduct of this assignment. The Draft Report must be completed and submitted to reach CFU by September 30, 2001
- 4.9. The Consultant will revise and finalise the report and recommendations in light of comments received from the CFU, and submit the final document to the CFU by October 15, 2001

5.0 Outputs

The outputs of this Consultancy will be:

- 5.1. A comprehensive report documenting the findings and recommendations of the study. The report and recommendations should focus on the institutional strengthening research and training activities undertaken by the project to enhance national and regional institutional capability and availability of basic information for fishery resource management.
Notwithstanding the foregoing, the report should also make recommendation for future activities that are considered necessary for sustainable development and management of the region's fisheries.
- 5.2. A brief mission report describing the work undertaken, the places visited, the persons met, achievements and constraints encountered in the execution of the assignment.

6.0. Qualification and Experience This assignment shall be conducted by a fisheries expert with an advance degree and substantial and varied experience in fisheries development and management in developing countries. The Consultant should have a minimum of 15 years practical experience fisheries project management, fisheries research, fisheries development and fisheries policy, preferably in the Caribbean.

Appendix II - List of Documents Reviewed

- Brown, D. (2000). Report of the multidisciplinary survey of the fisheries of Suriname. CFU, 43pp.
- Brown, D. (2001). Report of the multidisciplinary survey of the fisheries of the Commonwealth of The Bahamas. CFU, 99pp.
- Brown, D. (2001). Report of the multidisciplinary survey of the fisheries of the Dominican Republic. CFU, 85pp.
- Caddy, J.F. (2001). Review of the CFRAMP Project: Progress and achievements of the CFRAMP Project and some perspectives for the future in fisheries management for CARICOM/CARIFORUM countries under a common Caribbean Fisheries Mechanism. CFU, 72pp.
- CFU (2000). Five-year work programme for the Dominican Republic (April 2000-March 2005). CFU, 35pp.
- CFU (2000). Proposal for the establishment of the Caribbean Regional Fisheries Mechanism (CRFM). CFU, 47pp.
- CFU (2000). Work plan for the Dominican Republic (April 2000- March 2002). CFU, 54pp.
- CFU (2000). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 1 (April 1999 – March, 2000). CFU, 17pp.
- CFU (2000). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 2 (April 1 – June 30, 2000). CFU, 36pp.
- CFU (2000). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 3 (July 1 – September 30, 2000). CFU, 41pp.
- CFU (2001). Five-year work programme for the Bahamas (April 2000-March 2005). CFU, 43pp.
- CFU (2001). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 4 (October 1 – December 31, 2000). CFU, 42pp.
- CFU (2001). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 5 (January 1 – March 31, 2001). CFU, 50pp.
- CFU (2001). Integrated Caribbean Regional Agriculture and Fisheries Development Programme – Fisheries Component: Progress and financial report # 6 (April – June, 2001). CFU, 42pp.
- CFU (2001). Two-year work programme for the Bahamas (April 2000-March 2002). CFU, 40pp.
- CFU (2001). Work programme for CFRAMP countries (April 2000-March 2003). CFU, 33pp.
- CFU (undated). Work programme for Suriname (April 2000-March 2005). CFU, 28pp.
- Charles, R., P. McConney and A. Mills (2001). Strategic review for upgrading the organizational and institutional arrangements and capabilities of the fisheries department in Suriname. CFU, 108 pp.

- Department of Fisheries (2001). National fisheries workshop: Final report. DOF, Nassau, Bahamas, 23pp.
- Fisheries Department of Haiti and CFU (2001). Two-year work programme for Haiti (April 2000-March 2002). CFU, 29pp.
- Fisheries Department of Haiti and CFU (2001). Work programme for Haiti (April 2000-March 2005). CFU, 39pp.
- Fisheries Department of Suriname and CFU (2000). Two year work programme for Suriname (April 2000-March 2002). CFU, unpag.
- Fisheries Department of Suriname and CFU (2001). Five years work programme for Suriname (April 2000-March 2005). CFU, 29 pp.
- Government of Belize and CFU (2001). Work programme and cost estimate (realigned): February 1999-March 2002. CFU, 18pp.
- Hemmings, M. (2001). First workshop of regional experts to review and upgrade TIP and LRS software programs: Workshop working document. CFU, 37pp.
- Mahon, R. (2001). Review of the data collection and management systems of the marine fisheries in Suriname. CFU, 53 pp.
- Medley, P. (2001). Review of the data collection and management systems of the marine fisheries in the Dominican Republic. CFU, 53pp.
- Medley, P. (2001). Review of the data collection and management systems of the marine fisheries in the Bahamas. CFU, 57pp.
- Rodriguez, L. and A. Herrera (2001). Strategic review and update of the organizational and operative structure of the National Commission for Fishery Resources in the Dominican Republic. CFU, 73pp.
- Silva, M. (2000). Work plan for the Dominican Republic Fisheries Department strengthening: a proposal. CFU, unpag.
- Torres, R.E. (undated). Training module: Tecnicas de muestreo de comunidades de lambi (*Strombus gigas*) para la evaluacion de la distribucion y la densidad por tipo de comunidad natural. CFU, 6pp.

Appendix III - List of Persons with whom Discussions were Held

NASSAU, NEW PROVIDENCE, BAHAMAS (9 - 10 September, 2001)

Name	Position	Organization
Father Hastie	Fish Vendor	Potters Cay, Nassau
Michael Braynen	Director	Department of Fisheries
Edison Deleveaux	Deputy Director	Department of Fisheries
Gregory Bethel	Senior Economist	Department of Fisheries
Colin Higgs	Permanent Secretary	Ministry of Agriculture & Fisheries
J. Anthony McKinney	Deputy Permanent Secretary	Ministry of Agriculture & Fisheries
Jacklyn Chisholm	Lecturer, Natural Sciences	College of Bahamas
Allan Brown	Fisher	Montague Fishermen's Association

PARAMARIBO, SURINAME (25 September, 2001)

Name	Position	Organization
Ir. M. P. Mahadew	Director	Department of Fisheries
Henk M. Madarie	Head	Artisanal Fisheries Unit
Ravin Changoer	Head	Economic & Analysis Unit
Miss J. Collis (?)	Head	Quality Control Unit
Tania Chin-A-Lin	Research & Statistics	Department of Fisheries
Mario Yspol	Data Entry & Manager	Department of Fisheries
Z. Arjune	Manager	Japanese Artisanal Fisheries Complex

BELIZE CITY, BELIZE (1 October, 2001)

Name	Position	Organization
Hugh Saul	Project Director	CARICOM Fisheries Unit (CFU)
Milton Haughton	Scientific Director	CFU
Anthony Mills	Programme Administrator	CFU
David Brown	Senior Sociologist	CFU
Jeanette Mateo	Biologist	CFU
Merline Hemmings	Data Manager/Analyst	CFU
Beverley Wade	Chief Fishery Officer	Department of Fisheries

MIAMI, USA (29 September, 3-5 October, 2001)

Name	Position	Organization
Susan Singh-Renton	Senior Biologist	CARICOM Fisheries Unit (CFU)
Eleanor Phillips	Marine Parks Officer	Department of Fisheries, Bahamas
Georgina Bustamante	Senior Project Officer	The Nature Conservancy (TNC), Washington DC
Patricia Almada Villela	Environmental Monitoring	Mesoamerican Barrier Reef Systems Project, Belize
Janet Gibson	Director	Coastal Zone Management Unit, Belize

SANTO DOMINGO, DOMINICAN REPUBLIC (8 October, 2001)

Name	Position	Organization
Cecilio Diaz Carela	Vice Minister	Sub-Ministry of Coastal & Marine Resources
Ramona Rosa Nolasco	Director	Directorate of Fisheries
Benjamin Rosario	Assistant	Directorate of Fisheries
Nelson Ruiz	Director	Department of Fisheries
Carlos Hamilton	Director	Department of Aquaculture
Buenaventura Gonzalez	Director	Propesca-Sur
Dionisio Feliz	Director	Fisheries Admin. Office, Barahona & Pedernales
Jose Tapia	Director	Fisheries Sub-station, San Pedro de Macoris
Estanislao Balbuena	Deputy Director	Department of Fisheries
Antonio Fernandez	Auditor	Sub-Ministry of Coastal & Marine Resources
Victor Anglero Felipe	Surveillance/enforcement officer	Navy/Sub-Ministry of Coastal & Marine Resources
Jose E. Megia M.	Surveillance/enforcement officer	Navy/Sub-Ministry of Coastal & Marine Resources
Jorge Sanchez	Driver	Propesca-Sur
Tarsis Alcantara	Technician	Department of Fisheries
Jose Gomez	Fisher	
Maritza Feliz	Administrator	Sub-Ministry of Coastal & Marine Resources
Cristion Jonathon Ziz	Driver	Department of Fisheries
Miguel A. Feliz S.	Technician	Department of Fisheries
Juan B. Segura	Driver	Department of Fisheries?
Cristobalina Feliz M.	Statistician	Department of Fisheries
Alfredo Benjamin	Boat Captain/Fisher	Samana District
Miguel Rivera	Technician	Department of Fisheries
Rafael Castellana	Research vessel Captain	Propesca-Sur
Joselin Gomez	Technician	Department of Fisheries
Randolph Paulino	Student	Univeridad Autonoma de Santo Domingo (UASD)
Kennida Palanco	Student	Univeridad Autonoma de Santo Domingo (UASD)

BARBADOS (10-12 October, 2001)

Name	Position	Organization
Patrick McConney	Project Director	CaMMP, c/o CCA, St. Michael
Robin Mahon	Consultant	Fisheries & Environmental Consulting, St James